STAFF MEMORANDUM

TO: COMMISSIONERS AND ADVISORS

FROM: JOSEPH REZAC & KRISTEN EDWARDS

RE: **EL18-043 - IN THE MATTER OF THE APPLICATION OF BLACK HILLS POWER, INC. DBA BLACK HILLS ENERGY FOR APPROVAL OF REVISIONS TO THE ENERGY EFFICIENCY SOLUTIONS ADJUSTMENT RATES**

DATE: **November 26, 2018**

1.0 OVERVIEW

On October 16, 2018, Black Hills Power, Inc. dba Black Hills Energy (BHE) filed an application for commission approval to adjust its Energy Efficiency Solutions Adjustment (EESA) rates. Included in the application were results from Program Year (PY) 2017, revised tariff pages to reflect BHE's proposed Energy Efficiency Solutions Adjustment (EESA) rates, and other supporting data. Updated EESA rate was filed with its responses to Staff's data request on November 11, 2018. A Revised Status Report was provided on November 26, 2018.

Specifically, BHE seeks commission approval of the proposed EESA rates. Currently the EESA rates are $0.0003/kWh for residential customers and $0.0012/kWh for commercial and industrial customers. BHE's proposed EESA rates to be implemented on December 1, 2018, are $0.0005/kWh for residential customers and $0.0010/kWh for commercial and industrial customers.

The Commission approved an extension to BHE's Energy Efficiency Plan for Program Years 2017 through 2019 in docket EL17-026. In this filing, BHE does not propose any changes to that recently approved plan.

2.0 DISCUSSION

2.1 PY 2017 Spending

In PY2017, BHE came in under budget (Table 1). More specifically, BHE spent 85% of the approved budget. The residential programs experienced less participation than forecasted for many of the program's measures, which resulted in BHE spending only 61% of the approved budget. The commercial and industrial programs experienced strong participation and came slightly under budget.

Table 1. EESP Budget to Actuals (PY 2017)			
Program	Budget	Actual	% Achieved
Residential Lighting	$ 33,550	$ 7,645	23%
Appliance Recycling	$ 13,104	$ 11,960	91%
High Efficiency HVAC	$ 19,086	$ 3,540	19%
Whole House Efficiency	$ 10,350	$ 5,045	49%
School-Based Education	$ 63,150	$ 72,182	114%
Total Residential Programs	**$ 139,239**	**$ 100,372**	**72%**
C&I Prescriptive	$ 97,049	$ 76,345	79%
C&I Custom	$ 439,854	$ 412,770	94%
Total C&I Programs	**$ 536,903**	**$ 489,114**	**91%**
Cross Marketing and Training	**$ 116,514**	**$ 86,649**	**74%**
General Administration	**$ 57,841**	**$ 64,209**	**111%**
Total Portfolio	**$ 850,496**	**$ 740,345**	**87%**

2.2 PY 2017 Energy Savings

Table 2 provides the energy savings that occurred in PY2017. Similar to program costs, the energy savings for PY2017 were lower than forecasted as a result of less actual participation and the mix of technology types rebated during the year.

Table 2. PY 2017 Energy Savings (kWh)			
Program	Goal	Actual	% Achieved
Residential Lighting	162,335	52,067	32%
Appliance Recycling	105,515	95,941	91%
High Efficiency HVAC	103,883	23,632	23%
Whole House Efficiency	31,406	19,408	62%
School-Based Education	476,400	437,097	92%
Total Residential Programs	**879,538**	**628,145**	**71%**
C&I Prescriptive	1,369,360	857,026	63%
C&I Custom	2,851,145	2,669,925	94%
Total C&I Programs	**4,220,505**	**3,526,951**	**84%**
Total Portfolio	**5,100,043**	**4,155,096**	**81%**

2.3 PY 2017 Benefit/Cost Tests

In the initial filing, Staff had concern regarding the Residential Lighting program as it had a poor TRC accompanying it. Staff investigated why the programs TRC was so low and found that the incremental costs of the LED bulbs was likely outdated and no longer reflective of the current market. BHP in the past has used the Minnesota Technical Reference Manual to estimate the incremental cost associated with the LEDs. The MN manual has not been recently updated regarding the incremental costs of LEDs and lies in contrast when you compare it to the likes of

the Technical Reference Manuals from Iowa or Illinois. BHP in its revised PY2017 Status Report incorporates the incremental costs based on Version 6 of the Illinois TRM[1]. The Benefit/Costs Tests shown below in Table 3 incorporate the change in incremental costs as well as the actual expenditures incurred that were inadvertently omitted in the original filing.

Actual energy efficiency spending for PY2017 proved to be cost effective even while coming in under budget and with lower than expected participation. As shown in table 3, the total portfolio had a TRC score of 1.02. The Residential Program reported a TRC of 0.89 and had some programs overachieve when compared to their expectations. The Commercial and Industrial Programs provided strong results as well with a TRC of 1.21.

Table 3. Benefit/Cost Tests for PY2017

Program	TRC	Utility	Societal	Part	RIM
Residential Lighting	0.90	1.55	1.23	5.18	0.19
Appliance Recycling	1.23	1.59	1.69	12.46	0.19
High Efficiency HVAC	0.81	2.15	1.09	4.10	0.20
Whole House Efficiency	1.01	1.01	1.37	N/A	0.18
School-Based Education	0.82	0.82	1.12	N/A	0.17
Total Residential Programs	0.89	1.02	1.22	16.95	0.18
C&I Prescriptive	1.33	2.63	1.78	5.35	0.28
C&I Custom	1.22	2.18	1.62	5.09	0.27
Total C&I Programs	1.21	2.17	1.61	5.09	0.27
Total Portfolio	**1.02**	**1.57**	**1.36**	**5.52**	**0.25**

The residential program results for PY2017 were better than anticipated when compared to the expectations when the EESP Plan was modified and extended in EL17-026. Although the Residential Lighting TRC fell below 1.00, the Company believes the Lighting program is an important component to the overall energy efficiency portfolio. The Company is aware that the TRC falls below 1.0 and will continue to monitor the overall performance of the lighting program on a monthly basis throughout 2019. BHE feels there are many customers that have yet to adopt the new technology and install LED's within their home. BHE would like to continue this program through August of 2019 and then present the results and make a determination regarding this program moving forward.

Staff supports BHE's continued offering of the Residential Lighting program with one revision. Staff feels that is would be appropriate to eliminate the Energy Star Fixture portion of the program. With this measure coming in at a 0.38 TRC for PY2017, Staff believes eliminating this measure will push the Residential Lighting Program to be more cost effective.

[1] Illinois TRM Version 6: http://ilsagfiles.org/SAG_files/Technical_Reference_Manual/Version_6/Final/IL-TRM_Effective_010118_v6.0_Vol_3_Res_020817_Final.pdf

Staff believes that an LED lighting program is one of the best options for renters and low-income residents to participate in a program in which they pay rates towards.

One other program Staff has concerns with is the School-Based Education Program. The initial Status Report reported a TRC of 1.03 but with the revised Status Report reporting a new TRC of 0.82, Black Hills should search out a solution to make this program cost effective. Staff will defer to the Commission should they wish to make changes to this program.

At a total portfolio level, BHE continues to have a cost-effective portfolio for its customers.

2.4 Energy Efficiency Solutions Adjustment Rates

In its initial filing, BHE proposed to reduce the commercial and industrial customer EESA rate and leave the residential customer EESA rate the same. Upon review of the proposed EESA rate submitted to support the proposed rates, Staff found that BHE had mistakenly included actual spent dollars for PY2017 instead of the forecasted PY2018 budget dollars.

As such, BHE submitted a revised balancing account, rate calculation sheet, and tariffs. The rates before the Commission for approval are $0.0005/kWh for residential and $0.0010/kWh for commercial and industrial. This results in a slight increase for residential customer and a slight decrease for commercial and industrial customers from the currently effective rates.

Black Hills Power, Inc. d/b/a Black Hills Energy
Energy Efficiency Solutions Adjustment ("EESA") Rate
PY2017

Line No.	Description	Reference	Residential (SDEES1)	C & I (SDEES2)
1	Balancing Account as of 8/31/18		$ 48,105	$ (13,453)
2	Estimated EESA Revenues (9/1/2018 to 11/30/2018)		$ (33,764)	$ (188,545)
3	PY2018 Budgeted Program Expenditures		$ 181,721	$ 682,004
4	PY2018 Budgeted Fixed Percentage Incentive	Line 3 x 30%	$ 54,516	$ 204,601
5	Total Estimated Recoverable Costs		$ 250,578	$ 684,607
6				
7	Forecasted kWh Sales (12/1/2018 to 11/30/2019)		514,662,497	658,203,855
8				
9	Proposed EESA Rate (Effective 12/1/2018)		$ 0.0005	$ 0.0010
10				
11	Current EESA Rate (Effective 12/1/2017)		$ 0.0003	$ 0.0012

Staff reviewed the balancing account and found that the BHE properly accounted for the PY2017 fixed percentage incentive of $221,050. It should also be noted that the PY2018 budget included in the proposed EESA rates was approved in docket EL17-026 and is reflected in calculation.

Should the Commission choose to eliminate the Energy Star Light Fixture per Staff's recommendation or make any another revision, the PY2018 Budgeted Program Expenditures and rates shown above would have to be revised. Elimination of only the Energy Star Light Fixtures would likely not affect the proposed rates as shown above.

3.0 STAFF RECOMMENDATION

Staff makes the following recommendations to the Commission:

1) Approve the Updated PY2017 Status Report;

2) Approve the PY2017 fixed percentage incentive of $221,050;

3) Revise the Portfolio to eliminate the Energy Star LED Fixtures; and

4) Approve the proposed EESA rates of $0.0005/kWh for residential customers and $0.0010/kWh for commercial and industrial customers, the and associated tariff sheets, with an effective date of December 1, 2018.