TO: COMMISSIONERS AND ADVISORS

FROM: DARREN KEARNEY, LORENA REICHERT, AND AMANDA REISS

SUBJECT: STAFF RECOMMENDATION FOR DOCKET GE17-002

DATE: DECEMBER 15, 2017

STAFF MEMORANDUM

1.0 OVERVIEW

Since 2009, MidAmerican Energy Company (MEC) offered energy efficiency programs to both electric and natural gas customers located within their South Dakota service territory. On November 27th, 2012 the Commission approved MEC's 5-year Energy Efficiency Plan[1] for years 2013 through 2017. In this docket, GE17-002, MEC filed a new 5-year Energy Efficiency Plan for years 2018 through 2022 (Plan), requesting Commission approval. After reviewing the filing, and as discussed in the following sections, Staff recommends that the Commission approve MEC's proposed Plan.

2.0 ENERGY EFFICIENCY PLAN FOR 2018-2022

MEC's proposed Plan is a trimmed-down plan from its previous one. The main driver for the elimination of certain programs and measures from the Plan is the reduced avoided energy cost savings because of low commodity price forecasts (for both gas and electric). Major changes to the proposed Plan include:

1) residential and commercial audits were removed from the Plan due to cost-effectiveness;

2) ground source heat pumps and window air conditioners were removed from the residential equipment program due to cost effectiveness;

3) window air conditioners were removed from the appliance recycling program due to small efficiency differences between those recycled with those that replace them.[2]

4) window air conditioners were removed from the nonresidential equipment program due to cost-effectiveness;

[1] See Docket GE12-005, "In the Matter of the Filing by MidAmerican Energy Company for the Approval of Energy Efficiency Plan for 2013-2017."
[2] See MEC response to Staff Data Request 1-4

5) natural gas water heaters were removed from the nonresidential equipment program due to cost-effectiveness;

6) the nonresidential equipment program expands incentives for LED lighting, while removing fluorescent and metal halide lighting incentives; and

7) custom gas and electric measures are imbedded in the nonresidential equipment program rather than offered through a stand-alone program.

Beyond increasing the number of LED technologies available for incentives, MEC did not identify any new measures proposed to be included in the Plan. However, MEC did consider many other measures for inclusion in the Plan. Those measures were not included because they were not cost effective by TRC standards, had low incremental costs, or had pending efficiency standard changes.[3]

3.0 PLAN BUDGET

Electric Budget

Table 1, below, shows MEC's proposed electric program budget for 2018-2022 and historic spending. Overall, the total electric program budget is less than the previous 5-year plan's budget. Staff has no concerns with the proposed budget.

Table 1. 2018-2022 Electric Program Budget

Program	Previous 5-Year Plan (Actuals)					Proposed 5-Year Plan (Budgeted)				
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Residential Equipment	$ 48,760	$ 54,698	$ 58,396	$ 92,827	$ 82,181	$ 24,438	$ 24,537	$ 24,638	$ 24,742	$ 24,848
~~Residential Audit~~	~~$ 2,340~~	~~$ 2,864~~	~~$ 3,833~~	~~$ 2,340~~	~~$ 2,019~~					
Residential Load Management	$ 18,544	$ 16,073	$ 14,144	$ 17,022	$ 18,191	$ 17,500	$ 17,725	$ 17,955	$ 18,190	$ 18,431
Appliance Recycling	$ 1,875	$ 1,091	$ 1,237	$ 2,465	$ 7,632	$ 4,350	$ 4,391	$ 4,432	$ 4,474	$ 4,518
Total Residential	**$ 71,519**	**$ 74,726**	**$ 77,610**	**$ 114,654**	**$ 110,023**	**$ 46,288**	**$ 46,653**	**$ 47,025**	**$ 47,406**	**$ 47,797**
Nonresidential Equipment	$ 44,034	$ 18,375	$ 30,145	$ 16,924	$ 19,554	$ 24,432	$ 24,804	$ 25,183	$ 25,571	$ 25,968
~~Nonresidential Custom~~	~~$ 2,851~~	~~$ 1,527~~	~~$ 8,063~~	~~$ 11,160~~	~~$ 16,901~~					
~~Small Commercial Energy Audit~~	~~$ 1,510~~	~~$ 1,358~~	~~$ 1,706~~	~~$ 1,542~~	~~$ 2,206~~					
Total Nonresidential	**$ 48,395**	**$ 21,260**	**$ 39,914**	**$ 29,626**	**$ 38,661**	**$ 24,432**	**$ 24,804**	**$ 25,183**	**$ 25,571**	**$ 25,968**
Total All Electric Programs	**$ 119,914**	**$ 95,986**	**$ 117,524**	**$ 144,280**	**$ 148,684**	**$ 70,720**	**$ 71,457**	**$ 72,208**	**$ 72,977**	**$ 73,765**

1) 2017 is the approved budget and not actuals

2) Red strike-through are programs removed from the 2018-2022 Plan

Gas Budget

Table 2 provides MEC's proposed gas program budget for 2018-2022 and historic spending. Again, MEC proposes a budget less than the previous 5-year plan's budget. Staff has no concerns with the proposed budget.

[3] See MEC response to Data Request 1-3

Table 2. 2018-2022 Gas Program Budget										
	Previous 5-Year Plan (Actuals)					Proposed 5-Year Plan (Budgeted)				
Program	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Residential Equipment	$ 1,084,306	$ 1,525,360	$ 333,242	$ 610,143	$ 557,206	$ 503,925	$ 504,393	$ 504,872	$ 505,361	$ 505,861
~~Residential Audit~~	~~$ 240,148~~	~~$ 232,958~~	~~$ 229,780~~	~~$ 191,963~~	~~$ 307,289~~					
Total Residential	**$1,324,454**	**$1,758,318**	**$ 563,022**	**$ 802,106**	**$ 864,495**	**$ 503,925**	**$ 504,393**	**$ 504,872**	**$ 505,361**	**$ 505,861**
Nonresidential Equipment	$ 128,045	$ 219,391	$ 117,058	$ 84,705	$ 137,651	$ 48,684	$ 48,765	$ 48,848	$ 48,933	$ 49,019
~~Nonresidential Custom~~	~~$ 33,618~~	~~$ 19,455~~	~~$ 37,810~~	~~$ 20,708~~	~~$ 31,219~~					
~~Small Commercial Energy Audit~~	~~$ 15,378~~	~~$ 28,625~~	~~$ 15,025~~	~~$ 11,654~~	~~$ 45,683~~					
Total Nonresidential	**$ 177,041**	**$ 267,471**	**$ 169,893**	**$ 117,067**	**$ 214,553**	**$ 48,684**	**$ 48,765**	**$ 48,848**	**$ 48,933**	**$ 49,019**
Total All Gas Programs	**$1,501,495**	**$2,025,789**	**$ 732,915**	**$ 919,173**	**$1,079,048**	**$ 552,609**	**$ 553,158**	**$ 553,720**	**$ 554,294**	**$ 554,880**

1) 2017 is the Proposed budget and not actuals

2) Red strike-through are programs removed from the 2018-2022 Plan

4.0 PLAN COST EFFECTIVENESS

Tables 3 and 4 provide the Total Resource Cost[4] (TRC) test for the proposed 2018-2022 Plan. As shown, the plan is expected to be cost effective. While this memo does not discuss actual energy and demand savings expected to be achieved by the Plan, those savings are imbedded in the TRC test. Thus, the TRC is illustrative of the fact that the expected energy and demand savings are large enough to justify the cost of the program.

Table 3. TRC Test for 2018-2022 Plan						
Program	2018	2019	2020	2021	2022	Total Portfolio
Electric	1.51	1.54	1.58	1.62	1.66	1.7
Gas	1.13	1.15	1.17	1.19	1.21	1.42
Total Portfolio	1.17	1.19	1.21	1.23	1.26	1.45

Table 4. 5-Year TRC Test by Program			
Program	Electric	Gas	Total Portfolio
Residential Equipment	1.78	1.38	1.4
Residential Load Management	1.53	-	-
Appliance Recycling	1.39	-	-
Nonresidential Equipment	1.72	1.75	1.74

Staff reviewed the models used to calculate the TRC scores provided in the table above and found the avoided energy and demand costs used in the models to be reasonable. It should be noted that, upon review of the nonresidential equipment model provided to support the TRC scores originally filed in the plan, Staff found that the avoided cost forecast used for gas was incorrect. As such, MEC revised the nonresidential equipment model and provided revised TRC scores through supplemental responses to Staff data requests 1-5 and 2-7. The correction of the error resulted in the TRC tests for the gas program to drop from those in the original filing; however, the TRC tests remained greater than 1.0.

[4] Staff uses the Total Resource Cost (TRC) test to determine if programs are cost effective. TRC scores greater than 1.0 demonstrate the expected program benefits are greater than the expected program costs.

5.0 COST BREAKDOWN

MidAmerican provided the expected rates and customer bill impacts of the proposed Plan in Exhibit 3 and Staff will not restate those in this memo. However, tables 5 and 6 breakdown the expected cost to customers of the Plan in 2018. The purpose of this breakdown is to show how much of the Plan's costs are due to administrative expenses, incentive expenses, and the fixed percentage incentive.[5] Staff has no concerns with the costs as proposed.

Table 5. Cost Breakdown of Electric Program for 2018

	Administrative	Incentives	Total Budget	FPI[1]	Total Cost	Sales (kWh)	Rate ($/kWh)
Residential Equipment	$ 4,400	$ 20,038	$ 24,438				
Residential Load Management	$ 10,000	$ 7,500	$ 17,500				
Appliance Recycling	$ 1,800	$ 2,550	$ 4,350				
Total Residential	**$ 16,200**	**$ 30,088**	**$ 46,288**	**$ 3,203**	**$ 49,491**	**56,750,522**	**$ 0.00087**
Nonresidential Equipment	**$ 16,500**	**$ 7,932**	**$ 24,432**	**$ 1,691**	**$ 26,123**	**171,835,351**	**$ 0.00015**

1) FPI = Fixed Percentage Incentive proposed to be set at the Weighted Average Cost of Capital (Currently 6.92%)

Table 6. Cost Breakdown of Gas Program for 2018

	Administrative	Incentives	Total Budget	FPI[1]	Total Cost	Sales (therm)	Rate ($/therm)
Residential Equipment	$ 20,800	$ 483,125	$ 503,925	$ 34,872	$ 538,797	61,006,413	$ 0.00883
Nonresidential Equipment	$ 3,600	$ 45,084	$ 48,684	$ 3,369	$ 52,053	51,301,778	$ 0.00101

1) FPI = Fixed Percentage Incentive proposed to be set at the Weighted Average Cost of Capital (Currently 6.92%)

6.0 STAFF RECOMMENDATION

Based on Staff's review of the proposed Plan, Staff makes the following recommendation to the Commission:

1. That the Commission approve the proposed 2018-2022 Energy Efficiency Plan as requested by MidAmerican;

2. That the Commission approve the proposed fixed percentage incentive to be set at MEC's weighted average cost of capital and to be calculated using the lesser of the actual spending or the approved budget; and

3. That the Commission approve budget flexibility for the Plan not to exceed 10% of the approved budgets.

[5] The fixed percentage incentive (FPI) is intended to cover lost margins the utility may incur as a result of offering the Energy Efficiency Plan to customers. For MEC, the FPI is set at the company's WACC. While continuing the FPI was not directly requested in the Plan filing, it was included in the expected rate calculations filed in Exhibit 3.