

**TO:** COMMISSIONERS AND ADVISORS  
**FROM:** DARREN KEARNEY AND ADAM DEHUECK  
**SUBJECT:** STAFF RECOMMENDATION FOR DOCKET GE15-004  
**DATE:** DECEMBER 18, 2015

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## 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 27<sup>th</sup>, 2012 the Commission approved MEC's 5-year Energy Efficiency Plan<sup>1</sup> for years 2013 through 2017. In this docket, GE15-004, MEC filed an updated Energy Efficiency Plan for 2016, requesting the Commission approve the following:

1. the continued offering of rebates for high efficiency natural gas furnaces and ground source heat pumps (GSHPs) in the residential equipment programs for 2016;
2. the continued offering of furnace rebates at 2015 Energy Efficiency Plan levels;
3. a proposed budget increase to the electric residential equipment program of \$32,000 (rebates for GSHPs) for budget year 2016;
4. a proposed budget increase to the electric nonresidential equipment program of \$5,340 (rebates for lighting) for budget year 2016;
5. a proposed budget increase to the gas residential equipment program of \$540,000 (to continue furnace rebates) for budget year 2016;
6. a proposed budget increase to the gas nonresidential equipment program of \$115,500 (rebates for furnaces) for budget year 2016; and
7. the removal of clothes washer rebates from the electric residential equipment program.

After reviewing the filing, and as discussed in the following sections, Staff makes the recommendation that the Commission approve the MEC's proposed Energy Efficiency Plan for 2016.

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<sup>1</sup> See Docket GE12-005, "In the Matter of the Filing by MidAmerican Energy Company for the Approval of Energy Efficiency Plan for 2013-2017."

## **2.0 2016 ENERGY EFFICIENCY PLAN CHANGES AND BUDGET INCREASE**

Similar to past filings, MEC requests in this docket that the Commission approve the continued offering of ground source heat pump and furnace rebates for the Energy Efficiency Plan in 2016. As background information, the following is a timeline of approvals for MEC's Energy Efficiency Plan:

November 2012: Energy Efficiency Plan for Years 2013 – 2017 Approved

(The original Energy Efficiency Plan for 2013-2017 did not include furnaces due to the fact that federal furnace efficiency standards were scheduled to begin in May of 2013 and those standards made the furnace programs not cost effective. The original filing also did not include Ground Source Heat Pumps.)

April 2013: Revised Energy Efficiency Plan for 2013 Approved

(Furnaces added back into the Energy Efficiency Plan because of a court case that delayed the federal furnace efficiency standards. Ground Source Heat Pumps also added to the program because the program became cost effective. Approval to include furnaces and GSHPs was only for 2013 plan year.)

May 2014: Revised Energy Efficiency Plan for 2014 Approved

(Furnaces and GSHPs once again added back into the Energy Efficiency Plan. Nonresidential electric equipment budget was increased for lighting. Approval of plan modifications was only for 2014 plan year.)

October 2014: Budget Increase for 2014 Residential Gas Equipment Program Approved

(Mid-year budget increase for the residential gas equipment program was approved in order to meet demand for furnace rebates.)

April 2015: Revised Energy Efficiency Plan for 2015 Approved

(Furnaces and GSHPs once again added back into the Energy Efficiency Plan; however, the Commission limited residential furnace rebates to \$300 and nonresidential furnace rebates at 50% of the proposed rebate amounts. Nonresidential electric equipment program budget also increased for lighting. Approval of plan modifications was only for 2015 plan year.)

In this filing, MEC is also requesting budget changes to capture the proposed modifications to its Energy Efficiency Plan for 2016. The budget changes are explained in the following sections.

## 2.1. Electric Program Budget Changes

Table 1, below, shows MEC’s proposed electric program budget changes for 2016 relative to the 2016 budget that is currently approved by Commission order in docket GE12-005. Budget increases are proposed for the residential equipment program (\$32,000) to include ground source heat pump rebates and the nonresidential equipment program (\$5,340) to increase the number of lighting rebates awarded. Similar increases were approved by the Commission in dockets GE14-001 and GE15-001.

The table also shows the year to year change for the budget approved in docket GE15-001 and the proposed budget for 2016. In this case, year to year changes reflect an increase (or decrease) in the 2016 budget from the 2015 budget approved in GE15-001.

Program	2016 Budget			2015/16 Budget Comparison			
	Approved <sup>3</sup>	Proposed	Difference	2015 Approved <sup>4</sup>	2016 Proposed	Difference	YTY Change
Residential Equipment <sup>1</sup>	\$ 50,179	\$ 82,179	\$ 32,000	\$ 82,185	\$ 82,179	\$ (6)	0%
Residential Audit	\$ 1,997	\$ 1,997	\$ -	\$ 1,997	\$ 1,997	\$ -	0%
Residential Load Management	\$ 17,241	\$ 17,241	\$ -	\$ 15,979	\$ 17,241	\$ 1,262	8%
Appliance Recycling	\$ 7,133	\$ 7,133	\$ -	\$ 6,461	\$ 7,133	\$ 672	10%
<b>Total Residential</b>	<b>\$ 76,550</b>	<b>\$ 108,550</b>	<b>\$ 32,000</b>	<b>\$ 106,622</b>	<b>\$ 108,550</b>	<b>\$ 1,928</b>	<b>2%</b>
Nonresidential Equipment <sup>2</sup>	\$ 14,213	\$ 19,553	\$ 5,340	\$ 19,557	\$ 19,553	\$ (4)	0%
Nonresidential Custom	\$ 16,887	\$ 16,887	\$ -	\$ 16,883	\$ 16,887	\$ 4	0%
Small Commercial Energy Audit	\$ 2,174	\$ 2,174	\$ -	\$ 2,143	\$ 2,174	\$ 31	1%
<b>Total Nonresidential</b>	<b>\$ 33,274</b>	<b>\$ 38,614</b>	<b>\$ 5,340</b>	<b>\$ 38,579</b>	<b>\$ 38,614</b>	<b>\$ 35</b>	<b>0%</b>
<b>Total All Electric Programs</b>	<b>\$ 109,824</b>	<b>\$ 147,164</b>	<b>\$ 37,340</b>	<b>\$ 145,201</b>	<b>\$ 147,164</b>	<b>\$ 1,963</b>	<b>1%</b>

1) Proposed budget includes \$32,000 for ground source heat pumps

2) Proposed budget includes \$5,340 for lighting

3) As currently approved in docket GE12-005

4) As updated and approved in docket GE15-001

Staff agrees with MEC’s proposed changes to the electric programs shown in Table 1. The \$32,000 increase for ground source heat pumps results from a 2016 forecast of 16 individuals obtaining a \$2,000 rebate. Staff believes MEC’s estimate for participants is reasonable based on historical participation levels in the program.<sup>2</sup> Further, the 2016 electric residential equipment program is forecasted to have Total Resource Cost<sup>3</sup> (TRC) test of 1.68.<sup>4</sup> Turning to the nonresidential equipment program, Staff believes the additional \$5,340 will help meet demand for the lighting measures in 2016.<sup>5</sup> In addition, the 2016 TRC test for the electric nonresidential equipment program is forecasted to

<sup>2</sup> Historic GSHP participation levels: 2011 - 14 units, 2012 - 6 units, 2013 - 12 units, and 2014 - 6 units, (2015 is not reported at this time).

<sup>3</sup> 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.

<sup>4</sup> See MEC response to Staff DR 1-2.

<sup>5</sup> Historic Lighting participation levels: 2011 - 97 units, 2012 - 36 units, 2013 - 593 units, and 2014 - 196 units, (2015 is not reported at this time).

have a TRC test of 4.81,<sup>6</sup> showing the program is forecasted to be cost effective at the higher budget.

Finally, it should be noted that MEC plans to remove clothes washer rebates from the electric residential equipment program without a subsequent budget reduction. Staff is comfortable with this approach since the clothes washer rebate budget was only \$5,400 and MEC plans to reallocate those dollars to other measures in the electric residential portfolio.

## 2.2 Gas Program Budget Changes

Table 2, below, shows MEC's proposed gas program budget changes for 2016 relative to the 2016 budget that is currently approved by Commission order in docket GE12-005. Budget increases are proposed for the residential equipment program (\$540,000) to include furnaces and the nonresidential equipment program (\$115,500) for furnace rebates. Similar increases were approved by the Commission in docket GE14-001; however, in that docket the initial residential furnace budget request was larger (\$780,000) and later increased in mid-year (by \$550,142). Similar budget increases were also approved in docket GE15-001; however, the increases were smaller than 2014 as a result of the Commission limiting residential furnace rebates to \$300.00 and nonresidential furnace rebates to 50% of the amount initially proposed by MEC.

The table also shows the year to year change from the budget approved in docket GE15-001 and the proposed budget for 2016. Year to year changes reflect increases (or decreases) in the 2016 budget when compared to the 2015 budget. An 18.7% reduction in the budget is proposed for the residential equipment program due to an expected decrease in the number of furnace rebates to be issued.<sup>7</sup> Finally, a 6.1% increase is proposed for the nonresidential equipment program in 2016 and is based on the same forecasted participation used for 2015.<sup>8</sup>

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<sup>6</sup> See MEC response to Staff Data Request 1-2

<sup>7</sup> MEC forecasted 2,250 residential furnace rebates to be awarded in 2015 and is now forecasting 1,800 residential furnace rebates to be awarded in 2016 based on the adjusted 2015 forecast participation to date.

<sup>8</sup> MEC forecasts 180 nonresidential furnace rebates to be awarded in 2016 with an average rebate amount of \$750.00

Program	2016 Budget			2015/16 Budget Comparison			
	Approved <sup>3</sup>	Proposed	Difference	2015 Approved <sup>4</sup>	2015 Proposed	Difference	YTY Change
Residential Equipment <sup>1</sup>	\$ 47,158	\$ 587,158	\$ 540,000	\$ 722,077	\$ 587,158	\$ (134,919)	-18.7%
Residential Audit	\$ 304,700	\$ 304,700	\$ -	\$ 302,151	\$ 304,700	\$ 2,549	0.8%
<b>Total Residential</b>	<b>\$ 351,858</b>	<b>\$ 891,858</b>	<b>\$ 540,000</b>	<b>\$ 1,024,228</b>	<b>\$ 891,858</b>	<b>\$ (132,370)</b>	<b>-12.9%</b>
Nonresidential Equipment <sup>2</sup>	\$ 37,152	\$ 152,652	\$ 115,500	\$ 143,915	\$ 152,652	\$ 8,737	6.1%
Nonresidential Custom	\$ 31,232	\$ 31,232	\$ -	\$ 31,236	\$ 31,232	\$ (4)	0.0%
Small Commercial Energy Audit	\$ 44,865	\$ 44,865	\$ -	\$ 44,068	\$ 44,865	\$ 797	1.8%
<b>Total Nonresidential</b>	<b>\$ 113,249</b>	<b>\$ 228,749</b>	<b>\$ 115,500</b>	<b>\$ 219,219</b>	<b>\$ 228,749</b>	<b>\$ 9,530</b>	<b>4.3%</b>
<b>Total All Gas Programs</b>	<b>\$ 465,107</b>	<b>\$ 1,120,607</b>	<b>\$ 655,500</b>	<b>\$ 1,243,447</b>	<b>\$ 1,120,607</b>	<b>\$ (122,840)</b>	<b>-9.9%</b>

- 1) Proposed budget includes \$540,000 for continuing furnace rebates
- 2) Proposed budget includes a \$115,500 increase for furnaces
- 3) As approved in docket GE12-005
- 4) As approved in docket GE15-001 and includes adjustment for reduced furnace rebate amounts

Staff agrees with MEC that furnaces should be included in both the residential and nonresidential equipment program. For the residential equipment program, Staff believes that the budget reduction (over last year’s approved budget) is reasonable since MEC is experiencing less participation than expected to date in 2015. Further, MEC forecasts the TRC test will be 1.92 in 2016 with the inclusion of residential furnace rebates.<sup>9</sup> Turning to the nonresidential equipment program, Staff believes the proposed budget is reasonable based on MEC’s expected participation for nonresidential furnace rebates in 2016. In addition, the program is forecasted to be cost-effective in 2016 with a TRC test result of 2.01.<sup>10</sup>

### 2.3 Rate Impact of Proposed Programs

Table 3 provides the cost of MEC’s proposed Energy Efficiency Plan for 2016. This table is informational only since the actual Energy Efficiency Cost Recovery (EECR) factors for 2016 will be determined in the next MEC filing (in spring of 2016). The purpose of the table is to provide the Commission with the cost/unit of the proposed Energy Efficiency Plan and estimated bill impacts that result from the Plan. Again, the actual EECR factors for 2016 will be adjusted for the 2015 plan year true-up and 2016 proposed budgets.

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Program	Class	2016 Proposed Budget	Estimated Incentive <sup>1</sup>	2016 Estimated Sales	Sales Unit	Cost/Unit	Estimated 2016 Average Cust Usage	Estimated 2016 Cust Monthly Bill Impact	Estimated 2016 Cust Annual Bill Impact
Electric	Residential	\$ 108,550	\$ 7,512		kWh			\$ 2.53	\$ 30.32
	Nonresidential	\$ 38,614	\$ 2,672		kWh			\$ 3.90	\$ 46.79
Gas	Residential	\$ 891,858	\$ 61,717		therm			\$ 1.10	\$ 13.20
	Nonresidential	\$ 228,749	\$ 15,829		therm			\$ 2.20	\$ 26.35

1) Incentive is calculated by multiplying the WACC of 6.92% to the proposed budget - WACC was approved in dockets EL14-072 and NG14-005

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<sup>9</sup> See MEC’s response to Staff’s Data Request 1-2

<sup>10</sup> Id.

## **STAFF RECOMMENDATION**

Based on the discussion above, Staff makes the following recommendations to the Commission:

1. That the Commission approve the continued offering of rebates for high efficiency natural gas furnaces and ground source heat pumps (GSHPs) in the residential equipment programs for 2016;
2. That the Commission approve the continued offering of furnace rebates at 2015 Energy Efficiency Plan levels;
3. That the Commission approve the proposed budget increase to the electric residential equipment program of \$32,000 (rebates for GSHPs) for budget year 2016;
4. That the Commission approve the proposed budget increase to the electric nonresidential equipment program of \$5,340 (rebates for lighting) for budget year 2016;
5. That the Commission approve the proposed budget increase to the gas residential equipment program of \$540,000 (to continue furnace rebates) for budget year 2016;
6. That the Commission approve the proposed budget increase to the gas nonresidential equipment program of \$115,500 (rebates for furnaces) for budget year 2016; and
7. That the Commission approve the removal of clothes washer rebates from the electric residential equipment program.