TO: COMMISSIONERS AND ADVISORS

FROM: DARREN KEARNEY, BRIAN ROUNDS, AND KRISTEN EDWARDS

SUBJECT: GE 13-001 STAFF RECOMMENDATION

DATE: MARCH 22, 2013

STAFF MEMORANDUM

OVERVIEW

Since 2009, MidAmerican Energy Company (MEC) offered energy efficiency programs to both electric and natural gas customers located within their service territory. On November 27th, 2012 the Commission approved a new, and improved, 5-year Energy Efficiency Plan[1] submitted by MEC. In docket GE13-001, MEC has filed with the Commission in order to receive approval of the prior year's performance results and reconciliation of actual expenses incurred. Further, MEC proposes a new budget for 2013 and revised tariffs that account for: 1) the addition of high efficiency natural gas furnaces and ground source heat pumps (GSHPs) to the residential equipment program, 2) the updated expenses planned for 2013 as a result of adding furnaces and GSHPs, and 3) the reconciliation of 2012 actual expenses incurred to actual costs recovered.

2012 ENERGY EFFICIENCY PLAN RESULTS

Electric Programs

Electric energy savings achieved by MEC's Energy Efficiency Plan in 2012 were greater than the savings originally expected. The electric programs achieved a total savings of 1,743,647 kWh, whereas MEC had planned on achieving 727,868 kWh of savings. Driving the 140% increase in electrical savings was Variable Speed Drive (VSD) installations on nonresidential HVAC systems.

MEC's electrical program expenses were 37% under budget in 2012. A total of $109,703 was spent on electrical measures during the year, whereas MEC had originally budgeted $173,212 to spend on electrical programs. One explanation for the budget variance was that MEC experienced lower than expected participation in the electric residential equipment program. In the 2012 budget, MEC planned for higher participation in the electric residential program based on an increased demand for the program experienced in 2011 that resulted from flood-damaged equipment replacements.

[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."

However, the increased participation in 2011 did not carry over to 2012 as MEC had originally thought it would.

The large electrical energy savings and lower spending in 2012 showed up in the electric program's Total Resource Cost (TRC)[2] test ratio, which was calculated as 3.76. This is a drastic improvement over 2010 and 2011 TRC test ratios, which were 0.66 and 0.77, respectively. However, Staff believes that maintaining a TRC ratio that high may be difficult to do, unless nonresidential VSD installations continue in 2013.

Gas Programs

Total gas energy savings were slightly lower than expected in 2012. Actual gas energy savings were 176,179 therms, whereas the planned energy savings for 2012 were 185,503 therms. The variance in savings is partially explained by a lower demand for furnace rebates during the year. It should be noted that the gas programs were only 1% over budget in 2012, where MEC incurred actual expenses of $966,197 with an original budget of $952,931. The lower energy savings coupled with slightly higher spending showed up in the TRC test, which was 0.72 for all gas programs in 2012. This is a decrease from the TRC test ratios calculated in 2010 and 2011 of 0.91 and 1.07, respectively. Staff acknowledges that MEC needs to work on the cost effectiveness of the gas efficiency programs; however, Staff believes that the TRC ratio should rebound in 2013 as a result of changes made to the gas programs in November of 2012.

Total Energy Efficiency Plan

Overall, MEC's complete portfolio of energy efficiency programs (including both gas and electric programs) had a TRC test ratio of 1.02 in 2012. This is consistent with the ratio observed in 2011, which was also 1.02. Further, both the 2011 and 2012 TRC ratios were higher than 2010's ratio of 0.88. This shows that MEC has worked to improve the cost effectiveness of their energy efficiency program in recent years. Staff believes that changes made by MEC to their Energy Efficiency Plan in late 2012 will continue to improve the TRC ratio over the next few years.

2013 ENERGY EFFICIENCY PLAN CHANGES AND BUDGET INCREASE

In this filing, MEC is seeking approval to add both high efficiency furnaces and GSHPs to the residential equipment program. In the 2013 budget originally approved by the Commission[3], MEC did not include high efficiency furnace rebates due to the fact that

[2] Total Resource Cost test is a Demand Side Management measurement tool used to determine if the benefits of an energy efficiency program outweigh the costs of the program. A TRC test result greater than 1.0 identifies the benefits do in fact outweigh the costs.
[3] *Ibid.* 1

new furnace efficiency standards scheduled to begin in May of 2013 made the furnace program not cost effective. However, the standards will not start in May due to a court settlement[4]. MidAmerican believes the efficiency standards will not take effect for at least five years. In the case of GSHPs, new data available to MEC supports the finding that they are a cost effective measure to incorporate into the plan. This data now takes into account the savings associated with foregoing a backup furnace or electric heating system when a geothermal heat pump is installed over a regular heat pump.

Commission approval to increase the 2013 budget is needed in order for MEC to be able to add high efficiency furnaces and ground source heat pumps to their Energy Efficiency Plan. In docket GE12-005, the Commission approved a 2013 budget of $104,228 for electric programs and $456,769 for gas programs. Now MEC proposes an electrical program budget of $124,752 and gas program budget of $1,321,464. Table 1 identifies the proposed budget increases, estimated residential bill impact, and estimated energy savings.

Table 1. MidAmerican Energy Company Proposed 2013 Budget with the inclusion of High Efficiency Furnace Rebates and Ground Source Heat Pumps

	Currently Approved 2013 Budget	Requested 2013 Budget	Difference	Estimated Residential Bill Impact	Estimated Energy Savings
Electric Programs (Ground Source Heat Pumps)	$104,229	$124,753	$20,524	$0.46 per month	97,319 kWh/year
Gas Programs (High Efficiency Furnaces)	$456,769	$1,321,464	$864,695	$0.90 per month	204,318 therms/year

The increase in the budget with the new programs is mainly attributed to rebate/incentive costs. Out of the requested increase of $20,524 for the electric program, only $240 is allocated to administrative costs. For the gas program budget, $33,850 from the requested increase of $864,695 is allocated to administrative costs. Comparing 2012 actual expenses to 2013 budgeted expenses, the actual expenses incurred for the gas programs in 2012 (that included high efficiency furnaces) was $966,197 and the requested budget for gas programs in 2013 is $1,321,464. However, a

[4] *American Public Gas Ass'n v. Department of Energy,* D.C. Cir. No 11-1485

straight comparison between 2012 actual expenses to 2013 budgeted expenses cannot be made as a result of MEC's new Energy Efficiency Plan that began in late 2012. Staff worked with MEC during the development of the new plan and believes that it will be more cost-effective in the long run. Finally, MEC's actual costs incurred by gas programs in 2010 and 2011 were $1,114,893 and $1,075,948, respectively. This shows that a budget request of $1.3 million is credible given the addition of furnaces to the residential gas program.

In order to determine what effects the program additions will have on the overall cost-effectiveness of MEC's Energy Efficiency Plan, Staff examined the impact the budget increases have on forecasted TRC test ratios. The addition of GSHPs to the electric program results in a forecasted TRC ratio of 1.91, whereas if left out of the program the forecasted TRC ratio is 2.12. Adding furnaces to the gas program results in a forecasted TRC ratio of 1.46, whereas if left out of the program the forecasted TRC ratio is 2.12. Staff acknowledges that including furnaces and GSHPs into MEC's Energy Efficiency Plan reduces the total benefit to cost ratio; however, the new furnace and GSHP programs are cost effective by themselves, with TRC ratios of 1.19 and 1.50, respectively.

RECONCILIATION AND TARIFF CHANGES

Proposed changes to the energy efficiency recovery factors are shown in Table 2. The proposed increase in the gas program factors stem from an under recovery in 2012 and a larger budget for 2013. The proposed decrease in electric program factors stem from the over recovery of electric program expenses in 2012.

Table 2. Proposed Energy Efficiency Recovery Factors for 2013

	Current	**Proposed**
Gas Residential	$0.01798/therm	$0.03336/therm
Gas Non-Residential	$0.00385/therm	$0.00517/therm
Electric Residential	$0.00389/kWh	-$0.00035/kWh
Electric Non-Residential	$0.00020/kWh	$0.00010/kWh

STAFF RECOMMENDATION

Staff's recommendations on the questions brought before the Commission in docket GE13-001 are as follows:

1) Staff recommends approval of the 2012 reconciliation and 2012 performance incentive based on the fact that all accounting appeared to be properly completed and the performance incentives were calculated accurately using the appropriate fixed percentage incentive[5].

2) Staff recommends approval of the requested modifications to MEC's 2013 Energy Efficiency Plan and budget. This recommendation is based on the fact that the overall gas and electric programs are forecasted to be cost effective with the inclusion of furnaces and GSHPs. Further, the furnace and GSHP programs are forecasted as being cost effective by themselves. It should be noted that MEC will need to file, for Commission approval, a revised South Dakota Energy Efficiency Plan that incorporates the addition of furnaces and GSHPs for the remaining years covered by the plan (2014-2017). Therefore, it is also recommended that the Commission stipulates the addition of furnaces and GSHPs to the Energy Efficiency Plan under docket GE13-001 is only for the 2013 budget year and that MEC will need to file an amended 5-year Energy Efficiency Plan should they want to include furnaces and GSHPs in years 2014 through 2017.

3) Staff recommends approval of the Energy Efficiency Cost Recovery Rider tariff sheets with an effective date of April 2, 2013. This recommendation is based on the facts that: 1) the 2012 reconciliation and performance incentive appear to be calculated properly; 2) the 2013 budget seems reasonable given the planned incentive offerings and historical actual expenses; and 3) the Energy Efficiency Cost Recovery Factors appear to be calculated properly given the expected volume of sales for 2013.

[5] Based on the approved rate of return from docket NG04-001