

South Dakota Public Utilities Commission
Docket GE14-001
MidAmerican Energy Company
3rd Information Data Requests
Submitted 4/23/14

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South Dakota Data Request

- 3-1) Provide support for the furnace incentive levels for both residential (\$600) and nonresidential furnaces (\$1500). In addition, please make sure to include industry average rebates if available.

Response:

Based on residential furnace cost information from the 2014-2018 Iowa Assessment of Energy Efficiency Potential, MidAmerican estimates that the approximate incremental cost of a residential furnace above an 80% standard efficiency furnace is \$300 plus \$2.97/MBtu for every increment of AFUE above 90%. The incremental cost of a 60 MBtu furnace at 95% AFUE under this formula would be approximately \$1,191 ... $\$300 + (\$2.97 \times (95 - 90) \times 60 \text{ MBtu})$.

The \$600 incentive is based on a similar incentive offered to Iowa and Illinois customers. Based on the estimated savings for a typical South Dakota residential furnace installation, the \$600 incentive would buy down the cost of the investment in the higher efficiency furnace to approximately 6.7 years. On average, the incentive would be expected to cover approximately 40% of the incremental cost.

Based on commercial/industrial furnace cost information from the 2014-2018 Iowa Assessment of Energy Efficiency Potential, MidAmerican estimates that the approximate incremental cost of a C/I furnace above a 90% standard efficiency furnace is \$6.55/MBtu for every increment of AFUE above 90%. The incremental cost of a 120 MBtu furnace at 95% AFUE under this formula would be approximately \$3,930 ... $\$6.55 \times (95 - 90) \times 120 \text{ MBtu}$.

The incentive structure for C/I furnaces is designed to buy down the cost of the investment in the higher efficiency furnace to approximately 4.6 years. On average, the incentive would be expected to cover approximately 49% of the incremental cost. Based

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on the average size and efficiency of the furnaces installed to date in 2014 and the tiered incentive structure upon which the incentives listed above are based, the average incentive per furnace for 2014 is approximately \$1,500 per furnace.

Please see Attachment 3.1 for information related to industry average rebates in the Midwest states for residential and commercial furnaces.