MONTANA-DAKOTA UTILITIES CO.
SOUTH DAKOTA PUBLIC UTILITIES COMMISSION
SET 1 - DATA REQUESTS ISSUED NOVEMBER 23, 2020
DOCKET NO. NG20-011

1-1. Regarding both the Residential and Commercial High Efficiency Furnace Program, further explain the change in the current Technical Reference Manual for the Incremental Cost for new furnaces influencing the reduced rebate for new construction furnaces. Also explain why this change only impacts new construction and not replacement rebates.

Response:

The incremental cost for replacement furnaces compares the cost of installing a high efficiency furnace to installing an 80% AFUE baseline furnace, while the new construction furnaces compare the cost of installing a high efficiency furnace to installing a 90% AFUE baseline furnace. The 80% AFUE baseline furnaces are not condensing furnaces and have lower equipment costs while the 90% AFUE baseline furnaces for new construction are condensing furnaces. Since the 90% AFUE baseline furnaces for new construction are condensing furnaces, the incremental cost to move to a 95% AFUE furnace is smaller than moving from a non-condensing 80% AFUE baseline furnace to a 95% AFUE furnace for replacement furnaces.

MONTANA-DAKOTA UTILITIES CO.
SOUTH DAKOTA PUBLIC UTILITIES COMMISSION
SET 1 - DATA REQUESTS ISSUED NOVEMBER 23, 2020
DOCKET NO. NG20-011

1-2. Regarding the Residential Thermostat Program:

a) What is the average cost difference between a non-programmable thermostat and a programmable thermostat?

b) Does the market demand still support providing rebates for Tier 1 programmable thermostats or would customers purchase programmable thermostats regardless of whether a rebate was available? Please explain and/or provide supporting documentation?

c) Does Energy Star define Tier I, Tier II, Tier III, etc.? If so, please provide the definitions.

Response:

a) According to the Minnesota Technical Reference Manual (MN TRM), the incremental cost between a non-programmable thermostat and a Tier 1 programmable thermostat (no smart features) is $30.

b) Tier 1 programmable thermostats are considered the baseline efficiency for new construction and would not be eligible for rebates for new construction. Tier 1 programmable thermostat rebates are available for customers who plan to replace their existing thermostat. The rebate may incentivize some customers to replace their existing non-programmable thermostat that wouldn't otherwise replace their existing thermostat. The Company is not able to determine whether the incentive is the sole driver in a customer's decision to purchase a Tier 1 thermostat but has seen consistent participation with 87 participants in years 2018 and 2019.

c) According to the MN TRM, Tier I, Tier II and Tier III are defined as follows:

Tier I: Programmable

- Customer programmed set points schedule

Tier II: Communicating

- Customer access to set points and schedule from anywhere using a smart device (phone, tablet or computer)

Tier III: Analytics Capable

- Additional energy savings features, including coaching, HVAC diagnostics, geofencing, comparative information, etc.
- Demand response capabilities
- Customer engagement features including customer-specific data and recommendations

MONTANA-DAKOTA UTILITIES CO.
SOUTH DAKOTA PUBLIC UTILITIES COMMISSION
SET 1 - DATA REQUESTS ISSUED NOVEMBER 23, 2020
DOCKET NO. NG20-011

ENERGY STAR Certified Smart Thermostat (Ref. 10)

- Static temperature accuracy ≤ 2.0 °F, average network standby power ≤ 3.0 W, ≤ 5 minutes to enter standby
- Customer engagement features
- Open access demand response capabilities
- Capable of collecting data including thermostat ID, HVAC equipment type (if possible), cooling and heating run time, auxiliary heat run time, space temperature, setpoints
- Demonstrated field savings calculated via collected usage data used with ENERGY STAR software