BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF SOUTH DAKOTA

IN RE THE MATTER OF SOUTH DAKOTA PUBLIC UTILITIES COMMISSION, DEMAND RESPONSE INVESTIGATION	**DOCKET NO. AA22-003**

COMMENTS

MidAmerican Energy Company appreciates the opportunity to provide information to the Commission regarding demand response. As requested, these comments cover five topic areas.

Practices to reduce electricity consumption during periods of unusually high demand.

South Dakota demand response programs

In 2019, MidAmerican's South Dakota energy efficiency programs were discontinued in Docket GE19-002 because they were not cost effective. Prior to the discontinuation of energy efficiency programs, MidAmerican offered a residential demand response program to its residential electric customers via a load control receiver (LCR). When programs were discontinued, MidAmerican removed the LCR devices from homes.

Demand response programs in adjoining jurisdictions

In Iowa and Illinois, MidAmerican offers demand response programs for residential and nonresidential customers through its energy efficiency programs.

SummerSaver℠: This residential program runs from June 1 to September 30 each year. Customers can participate in the program via a LCR device or an eligible smart thermostat. Participating customers agree to allow MidAmerican to control the air conditioning unit via the LCR or adjust temperature on the smart thermostat on the hottest weekdays between 2 p.m. and 7

p.m. To be eligible for the program, the customer must be a residential MidAmerican electric customer, own or occupy a single-family home and have an air conditioner or air source heat pump. At the end of the summer season, participating customers receive a $20 rebate (LCR) or a $30 rebate (smart thermostat).

Curtailment: MidAmerican's Curtailment program provides an incentive for its nonresidential electric customers for reducing demand peak demand when tariff conditions are met. Participants commit to reducing a minimum of 250 kW during load curtailment events. Events have typically been called during periods of hot weather (mid-90s F or higher) to reduce peak loads in the afternoon and early evening. Participants may also be asked to curtail their loads during times of electric distribution, transmission or grid emergencies. Events can last no more than six hours. Customers enroll for a one-year commitment (beginning June 1 and ending May 31 of each year), with a contracted kW reduction specified in their agreement with MidAmerican. Incentives are based on the customer's actual load reduction contributions during called events throughout the load control season. Payment is made at the end of the curtailment season after MidAmerican evaluates performance.

Current rate mechanisms employed for timely recovery of the costs of demand-response and demand flexibility practices.

Cost recovery occurred through an automatic adjustment mechanism for MidAmerican's demand response program formerly in place in South Dakota. In South Dakota, this was Clause EECR – Energy Efficiency Cost Recovery (EECR). A similar mechanism is used in MidAmerican's adjoining jurisdictions where demand response programs continue.

Previous actions taken by the Public Utilities Commission or State Legislature to implement the standard.

MidAmerican's demand response programs for South Dakota resided in its Energy Efficiency Plan. MidAmerican first proposed an Energy Efficiency Plan in Docket EL07-015, which the Commission approved on March 31, 2009. MidAmerican provided residential demand response programs until the 2019 cessation of Energy Efficiency Plans in Docket GE19-002.

Opportunities to further promote the use of demand-response and demand flexibility practices to reduce electricity consumption during periods of unusually high demand.

MidAmerican continuously evaluates our ability to provide dynamic customer solutions during this revolutionary time in the energy industry. As new technologies and programs evolve, MidAmerican will consider all cost-effective offerings through energy efficiency programs or innovative rate mechanisms.

There are several opportunities that could further promote the use of demand-response and demand flexibility practices to reduce electricity consumption. Today, these opportunities are not in operation at MidAmerican because they are not cost effective.

- Direct Load Control (DLC) for Water Heating: This type of program allows the utility to control systems at the customer's home using remotely-controlled DLC switches or to enable smarter control via smart water controller devices. While the switches disconnect the water heating for the demand response event duration, the controllers work similarly to smart thermostats by lowering the setpoint for water temperature. Event notifications can be set up via electronic/mobile communication or via a display on the supporting devices.

- Peak Time Rebates: This type of program rewards customers for voluntarily reducing energy during demand response events. Event notifications are set up via electronic/mobile communication. The energy reduction is measured against a pre-defined baseline and the reward is proportional to the amount of energy reduced compared to the baseline.
- Electric Vehicle (EV) Smart Chargers: This program is a DLC program that manages charging of EV's during demand response events. The utility sends a signal to the customer's charging equipment that reduces the power of charging, thus leading to slower vehicle charging during the event. Networked Level 2 chargers are needed for this type of control. An alternative mechanism for control of the EV chargers is via the vehicle software, while measuring the telemetry relayed by the vehicles.
- Critical Peak Pricing (CPP): This type of program is structured as a hybrid between a dispatchable and a rate-based program. A tariff rider defines the pricing structure for the CPP program, wherein the price is set to a high value during peak events and a lower than "flat-price" is offered during the off-peak times.
- Battery Storage: This type of program is a DLC program that allows the utility to control the battery at the customer's residence to shift the customer's energy usage to the battery during demand response events and recharge the battery when there are no expected events. Additionally, a minimum level of charge is maintained on the battery to ensure supply during potential outages.
- Automated Demand Response (ADR): This type of program operates via signals sent to the building management systems (BMS) or energy management systems (EMS), that trigger a pre-programmed response to the demand response event signal. A

notification is sent to the customer well in advance of the event, and the customer has the option to override the event via the BMS/EMS system. The customer is incentivized for the amount of load reduction during the event.

Any other information that the Commission should consider.

With thanks for the opportunity to present comments, MidAmerican has no additional information to offer with respect to this inquiry**.**

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