



# Proposed Tariff Modifications to the Controlled Air Conditioning and Water heating Riders (Residential & Commercial)

**Informal Hearing (Case No. PU-23-337)**

**January 16, 2024**

# Controlled Air Conditioning and Water heating Rider

Customer Program: Saver's Switch

## Saver's Switch Overview

- Demand Management Program open to residential and commercial customers
- Seeks to reduce peak loads when needed by reducing load from Air Conditioners
- Load Control Receiver (switch) is installed between thermostat and AC unit
- In a control event, signal from thermostat to AC unit is interrupted turning off compressor
- System fan keeps running allowing previously cooled air to circulate
- With over 12,000 residential and 600 Commercial ND customers - Company can currently achieve almost 10 MW of peak load reduction

# History

## How the program has changed

- The program utilizes switches to actively cycle a customer's air-conditioning unit during an event
- **Increased Efficiency in Air-Conditioning**
  - Air-conditioning units have become more efficient. Minimum ratings have increased significantly in the last 10-years
  - Efficiency increases = lower load availability during a cycled event
  - Available load for Saver's Switch per residential customer has decreased from 1.04 kW to 0.69 kW
- **Saver's Switch Changes**
  - Adaptive switches were placed in the field beginning in 2004 to cycle based on adaptive algorithms
  - The adaptive switches determine how often an air conditioner runs normally and cycles at 50% of that time as compared to cycling switches 15 minutes on/ 15 minutes off.

# Tariff Modification

- **Increase the maximum amount of load** that can be controlled during a demand event by cycling a participant's air conditioning load from 50 percent to 60 percent by adjusting the adaptive algorithm.
  - Customers will likely notice no substantive change
  - Allows the Company to increase the amount of load available during an event per customer
- Allow the Company to cycle up to 80 percent reduction during a NERC Level 2 system emergency.
  - The Company has not had a recent NERC event, but it does establish rules in the worst-case scenario
- Building in this flexibility allows the program to be utilized at a higher level of load relief for the future. This flexibility allows us to continue to control by substation for distribution efforts with more certainty of load relief and provides the flexibility allowed under tariff to control during any potential emergency event.

# Tariff Modification Specific Language - Residential

TERMS AND CONDITIONS - 10<sup>th</sup> Revised Sheet No. 78

1. The duration and frequency of interruptions will be determined by Company. Customer's air conditioning equipment will normally be cycled on a schedule designed to achieve a 60% reduction in the home's air conditioning requirements during load management period. The Company reserves the right to cycle on a schedule designed to achieve 80% reduction for additional load relief. Air conditioning interruptions will normally occur on high demand days during summer months. Water heating interruptions will normally occur on high demand days during summer and winter months. Interruption will normally be based on meeting peak demands and system economic dispatch requirements of Company. However, interruption may also occur at times when, in the Company's opinion, the reliability of the system may be at risk. Air conditioning and water heating interruptions will not normally occur during the observation day of the following holidays: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. The interruptions as described above, will be made so as to benefit native load and may occur up to a maximum of 300 hours per calendar year.

# Tariff Modification Specific Language - Commercial

TERMS AND CONDITIONS - 10th Revised Sheet No. 80

1. The duration and frequency of interruptions will be determined by the Company. Customer's air conditioning equipment will normally be cycled on a schedule designed to achieve up to a 60% reduction in the building's air conditioning requirements during load management period. The Company reserves the right to cycle on a schedule designed to achieve 80% reduction for additional load relief. Air conditioning interruptions will normally occur on high demand days during summer months. Interruption will normally be based on meeting peak demands and system economic dispatch requirements of Company. However, interruption may also occur at times when, in the Company's opinion, the reliability of the system may be at risk. Air conditioning interruptions will not normally occur during the observation day of the following holidays: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. The interruptions as described above, will be made so as to benefit native load and may occur up to a maximum of 300 hours per calendar year.

# Customer Notice

## Residential

*Xcel Energy has recently implemented changes to the cycling strategies of the Saver's Switch program. For more information on this see [www.xcelenergy.com/Saversswitch](http://www.xcelenergy.com/Saversswitch)*

## Small Commercial

*Xcel Energy has recently implemented changes to the cycling strategies of the Saver's Switch program. For more information on this see [www.xcelenergy.com/Saversswitch](http://www.xcelenergy.com/Saversswitch).*

## Commercial

*Xcel Energy has recently implemented changes to the cycling strategies of the Saver's Switch program. For more information on this see [www.xcelenergy.com/Saversswitch](http://www.xcelenergy.com/Saversswitch).*

