

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Nancy Lange	Chair
Dan Lipschultz	Commissioner
Matthew Schuerger	Commissioner
Katie J. Sieben	Commissioner
John A. Tuma	Commissioner

In the Matter of Minnesota Power's
Temporary Rider for Residential Time-of-
Day Rate for Participants in the Smart Grid
Advanced Metering Infrastructure Pilot
Project

ISSUE DATE: August 20, 2018

DOCKET NO. E-015/M-12-233

ORDER ACCEPTING COMPLIANCE
REPORT, POSTPONING DEADLINE
FOR NEXT REPORT, AND
REQUIRING FILINGS

PROCEDURAL HISTORY

On February 15, 2017, the Commission issued an order approving changes to Minnesota Power's (the Company's) residential time-of-day rate, which is available to participants in the Company's advanced-metering-infrastructure pilot project. The Commission also required Minnesota Power to file compliance reports at 6 and 12 months from the date the changes became effective.¹

On November 1, 2017, Minnesota Power submitted its six-month compliance report. The report contained information on various aspects of the time-of-day rate and requested additional time to submit a 12-month compliance report.

On February 13, 2018, the Commission issued its *Order Accepting Compliance Report and Requiring Additional Reports*. The Commission accepted the Company's six-month compliance report and bifurcated its 12-month report into two filings: The first, due May 1, would discuss customer feedback and lessons learned from the pilot, and the second, due September 1, would present alternative rate designs and time-of-day periods.

On May 1, Minnesota Power filed the first of these reports. The report discusses customer feedback and the Company's experiences from the previous year of the time-of-day pilot, proposes certain changes to the pilot rate, and recommends that the Commission discontinue formal evaluation of the pilot.

On May 31, Minnesota Power made a supplemental filing discussing its plans for stakeholder engagement ahead of the September 1 compliance report on alternative rate designs.

¹ The changes took effect on May 1, 2017.

On June 8, the Commission received comments from the following stakeholders, who generally recommended that the Commission accept Minnesota Power’s May 1 report without making immediate changes to the pilot rate:

- Minnesota Department of Commerce (the Department)
- Office of the Attorney General – Residential Utilities and Antitrust Division (the OAG)
- Citizens’ Utility Board (CUB)
- Fresh Energy

On June 25, Minnesota Power filed reply comments.

On July 19, 2018, the Commission met to consider the matter.

FINDINGS AND CONCLUSIONS

I. Background

Since 2014, Minnesota Power has offered a time-of-day rate as a pilot program to a small subset of residential customers. A time-of-day rate is a type of time-varying rate designed to induce customers to shift their electric consumption to hours of the day when there is less demand on a utility’s system, reducing the overall cost of serving peak demand.

In Minnesota Power’s case, the time-of-day rate takes the form of an adder, or extra charge, on kilowatt-hours (kWh) consumed during “on-peak” hours—defined as 8 a.m. to 10 p.m. on weekdays, excluding holidays—and a discount on kWh usage during off-peak hours, which are all hours outside of on-peak hours.

In addition to on-peak and off-peak hours, Minnesota Power has the discretion to declare a “critical-peak-pricing period” on days with especially high system demand, during which pilot participants pay a much higher rate. Normal critical-peak periods are from noon to 3 p.m. in the summer and from 5 to 8 p.m. in the winter. The Company may declare a maximum of 50 hours of critical-peak pricing in a calendar year and must make reasonable efforts to notify customers ahead of time when it calls critical-peak events.

Minnesota Power’s current off-peak, on-peak, and critical-peak adjustments stand as follows:

All off-peak usage	-2.990¢/kWh
All on-peak usage	4.870¢/kWh
Critical-peak usage	77.000¢/kWh

Some 425 customers were participating in the time-of-day pilot as of mid April 2018. The pilot is not open to new participants, and current participants may opt out at any time.

II. Minnesota Power’s Compliance Report

Minnesota Power’s May 1, 2018 compliance report outlines the Company’s experiences from the past 12 months of the time-of-day pilot and makes recommendations for program modifications going forward.

A. Twelve-Month Summary

In May 2017, with the Commission’s authorization, Minnesota Power increased the on-peak adder from 1.415¢/kWh to 4.870¢/kWh. Revenues from time-of-day customers had been substantially lower than anticipated, and the Company proposed the increase to comply with the Commission’s directive, in its original order establishing the pilot program, that the Company “identify any under/over recoveries in its annual reports and adjust the Time of Day Rate to ensure revenue neutrality.”²

In the year that followed, Minnesota Power saw increased revenues from its time-of-day customers, resulting in a \$4,844 overrecovery. The Company believes that this overrecovery was attributable more to critical-peak-pricing events in the 2017–2018 program year than to the increase in the on-peak adder. The Company called a total of 48 critical-peak hours in this time span, including eight straight days of critical-peak events from December 29, 2017, to January 5, 2018.

Program attrition noticeably increased following the May 2017 rate change. Some 50 customers left the program around the time the rate increase took effect. An additional 40 customers had left the program by October 2017. And 28 more left by mid April 2018.

Minnesota Power solicited customer feedback on the time-of-day pilot through a survey taken in March 2018. The survey revealed that, while pilot participants believe that the rate structure gives them more control over their electricity costs, some participants were dissatisfied with the length of the on-peak period and the frequency of critical-peak events in 2017 and early 2018.

B. Recommendations

Based on its experience with the time-of-day pilot over the last year, Minnesota Power proposes three options, which would take effect in October 2018:

- Discontinue the time-of-day rate offering;
- Remove the critical-peak component, increase the on-peak adder from 4.870¢/kWh to 5.875¢/kWh, and maintain the current off-peak discount of 2.990¢/kWh; or
- Remove the critical-peak component, retain the on-peak adder at its current level, and reduce the off-peak discount to 2.480¢/kWh.

The Company’s preferred option is the second one. It would prefer to keep the program operating, since many of its customers appear to find value in the time-of-day rate. If the program continues, Minnesota Power would recommended removing the critical-peak

² Order, at 2 (November 30, 2012).

component to help address customer dissatisfaction with the pilot, while increasing the on-peak rate to help ensure that the pilot achieves revenue neutrality.

Minnesota Power also recommended that the Commission end its formal evaluation of the time-of-day pilot. The Company stated even after formal evaluation ends, it will continue to use insights derived from the program to evaluate and propose broader time-varying rate offerings, including those it will be outlining in its forthcoming September 1 compliance report.

The Company, however, does not believe that it will be able to offer a time-of-use rate to a broader section of its customers in the near future. According Minnesota Power, changes to parameters such as the on-peak period would require a costly effort to manually reprogram or replace each customer meter.

The Company is in the process of deploying advanced metering infrastructure across its service territory—an effort it anticipates completing by the end of 2025—and is evaluating third-party vendors' bids to supply the Company with a meter-data-management (MDM) system. Once in place, these technologies should facilitate offering time-varying rates to a larger cross-section of Minnesota Power's customers.

III. May 31 Supplemental Filing

The Commission's February 2018 order requires Minnesota Power to engage stakeholders in developing alternative rate designs and to present these rate designs in a September 1 compliance report. In a May 11, 2018 notice, the Commission requested an update from the Company on its stakeholder-engagement efforts.

Minnesota Power made a supplemental filing on May 31, 2018, in response to the Commission's notice. The Company stated that during the summer of 2018, it would begin a stakeholder-engagement process, to include a service-territory-wide customer survey, at least two customer focus groups, and at least two external stakeholder groups.

IV. Positions of the Parties

A. The Department

The Department analyzed the completeness of Minnesota Power's compliance filing in some detail and recommended that the Commission accept it without taking action on the proposed options for altering the time-of-day rate.

The Department saw no urgent need to make changes to the rate and suggested that revenue neutrality does not need to be achieved immediately but can be targeted over time. The Department stated that it intends to address potential changes to the time-of-day rate after Minnesota Power submits its September compliance filing. It cited the likelihood of "customer irritation and/or confusion" if the rate is modified in October and, potentially, again in a relatively short period of time as a result of stakeholder input.

B. The OAG

The OAG also recommended that the Commission wait to make changes to the time-of-day rate until after Minnesota Power makes its September 1 compliance filing providing alternative rate designs, citing the need to avoid frequent changes that could cause customer confusion.

The OAG suggested that the pilot's on-peak period, at 14 hours, appears to be longer than is optimal and recommended that this and other design features be addressed in the Company's September filing. The OAG also recommended that Minnesota Power provide (1) information about its peak demand, its demand coincident with MISO's peak,³ and the hourly cost of meeting its peak demand; (2) more information about its MDM procurement effort; and (3) a discussion of what goals the Company believes should be addressed by the time-of-day rate.

The OAG requested that Minnesota Power contact the OAG and other stakeholders to provide information about its ongoing stakeholder-engagement process.

C. Citizens Utility Board

Like the other commenters, CUB believed that it would be premature to change the time-of-day rate. CUB recommended that the Commission gather more information before making changes to the rate or discontinuing its formal evaluation.

CUB argued Minnesota Power's May 1 report contained a great deal of information on consumer education and critical-peak pricing, but little information on the effectiveness of the time-of-day rate, such as whether the on-peak and off-peak rates were appropriate to spur consumers to shift load, the amount of load shifting that occurred as a result of the rate, and the financial benefits of that shift to the utility and to the residential class. CUB contended that more of this type of information could be gleaned from the pilot the longer the time-of-day rate is left in place.

Finally, CUB emphasized that stakeholder engagement would be critical to inform the rate-design options presented in Minnesota Power's September compliance filing.

D. Fresh Energy

Fresh Energy stated that it looks forward to engaging with Minnesota Power and other stakeholders ahead of the Company's September compliance filing. It took no position on Minnesota Power's proposal to discontinue formal evaluation of the current time-of-day rate, but stated that it believes a future time-of-day rate structure should include strong evaluation metrics and schedules to ensure that the rate is meeting predetermined goals and properly educating customers.

E. Minnesota Power Reply

Minnesota Power responded that it does not oppose delaying changes to the current time-of-day rate. However, given that there is no defined timeline for a system-wide rollout of time-varying

³ The Midcontinent Independent System Operator, or MISO, operates the Midwestern electric transmission grid.

rates, the Company questioned the need for further refinements to the rate beyond what it has proposed. Minnesota Power acknowledged the value of stakeholder participation in rate design, and it agreed to provide the information requested by the OAG and CUB in its September filing.

V. Commission Action

The Commission has carefully reviewed Minnesota Power's May, 2018 compliance report, agrees with the Department that the report is complete, and will accept it as such. For the reasons explained below, however, the Commission will not take any action at this time on the Company's proposed options for altering the time-of-day pilot.

The Commission agrees with the Department, the OAG, and CUB that altering the time-of-day rate when potential further changes may be around the corner would risk causing unnecessary customer dissatisfaction and attrition. Customers who have remained on the rate despite the May 2017 on-peak increase and the more-frequent critical-peak events appear to be satisfied with the pilot and can opt out at any time. Thus, there is little to be lost and much to be gained by waiting until after the Company's next compliance report before making any further changes to the pilot.

The Commission will grant Minnesota Power's request to discontinue formal evaluation of the current time-of-day pilot. But this does not mean that the Company and stakeholders will no longer be able to glean useful information from the pilot. The Commission will require Minnesota Power to make annual informational filings providing a summary of the pilot, including participation rates, an update on the Company's meter communications infrastructure, and its plans to offer a system-wide rollout of residential time-of-day rates.

The Commission agrees with CUB and others that stakeholder input will be a key component of Minnesota Power's compliance report on time-of-day rate design, planned for September 1. However, given the late date and the fact that little stakeholder engagement has yet occurred, the Commission finds, and the parties agree, that the report's filing should be postponed to February 1, 2019, to allow for full stakeholder participation.

The Commission will require the Company to provide the following information in its February 2019 report, as recommended by the OAG:

- system information about its peak demand, its peak demand consistent with MISO, and the hourly cost of meeting its peak demand;
- more information about its meter-data-management request for proposals; and
- a discussion of what goals Minnesota Power believes should be addressed by the time-of-day rate.

Time-varying rates have the potential to yield significant benefits for electricity consumers, including lower system costs; savings for participating and nonparticipating customers; and lower emissions. The Commission appreciates the efforts of Minnesota Power and the other participants in this docket to advance the implementation of time-of-day rates in Minnesota and looks forward to receiving the Company's rate-design report in February so that this effort may continue and evolve.

ORDER

1. The Commission accepts Minnesota Power's May 1, 2018 compliance report as complete.
2. Formal evaluation of the current time-of-day rate and its participants is hereby discontinued.
3. Beginning one year from the date of this order, and for a period of two years, Minnesota Power shall submit annual informational filings providing a summary of the time-of-day pilot program, including participation rates, an update on Minnesota Power's meter communications infrastructure, and the Company's plans to offer a system-wide rollout of residential time-of-day rates.
4. The deadline for Minnesota Power to file its compliance report on alternative rate designs is postponed from September 1, 2018, to February 1, 2019.
5. The Company shall provide the following information in its February 1, 2019 compliance report:
 - a. system information about its peak demand, its peak demand consistent with MISO, and the hourly cost of meeting its peak demand;
 - b. more information about its meter-data-management request for proposals; and
 - c. a discussion of what goals Minnesota Power believes should be addressed by the time-of-day rate.
6. This order shall become effective immediately.

BY ORDER OF THE COMMISSION

Daniel P. Wolf
Executive Secretary



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