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June 15, 2022

Mr. Steve Kahl
Director of Administration/Executive Secretary
North Dakota Public Service Commission
State Capitol
600 East Boulevard, Dept. 408
Bismarck, ND 58505-0408

**RE: In the Matter of the Commission Requesting Comments on Demand
Response Rate Mechanisms
Case No. PU-22-145
Comments**

Dear Mr. Kahl:

Otter Tail Power Company (Otter Tail or the Company) submits these Comments in response to the North Dakota Public Service Commission's (Commission's) request for comment on Demand Response mechanisms from each electric public utility.

An original and copies have been sent to you via USPS.

Please feel free to contact me at 218-739-8639 or JGrenier@otpc.com with any questions.

Sincerely,

/s/ *JASON GRENIER*
Jason Grenier, Manager
Market Planning

sjw
Enclosures
By electronic filing and U.S. mail

8 PU-22-145 Filed 06/15/2022 Pages: 6
Comments
Otter Tail Power Company
Jason Grenier

**STATE OF NORTH DAKOTA
BEFORE THE
NORTH DAKOTA PUBLIC SERVICE COMMISSION**

**In the Matter of the Commission
Requesting Comments on Demand
Response Rate Mechanisms**

**Case No. PU-22-145
COMMENTS**

I. BACKGROUND

On March 30, 2022, the North Dakota Public Service Commission (Commission) issued an order requesting comment on Demand Response mechanisms from each electric public utility. The Commission's order was in response to the November 15, 2021, federal Infrastructure Investment and Jobs Act which includes the following language:

Each electric utility shall promote the use of demand-response and demand flexibility practices by commercial, residential, and industrial customers to reduce electricity consumption during periods of unusually high demand.

The Commission requested the public electricity utilities respond to order points A through E as shown below.

II. COMMENTS

A. A report of existing demand response and demand flexibility practices used by commercial, residential, and industrial customers to reduce electricity consumption during periods of unusually high demand for service to North Dakota, as well as adjoining jurisdictions;

Demand Response programs are core Company service offerings utilized by approximately one-third of Otter Tail customers. This strong customer participation makes Otter Tail's Demand Response portfolio one of the largest in the country by customer adoption.

Otter Tail has a variety of both direct load control (DLC) and time of use (TOU) Demand Response offerings for residential and non-residential customers. In a DLC program, customers receive a discounted rate or bill credit in return for the installation of switching equipment that the Company can use to stop operation of energy-intensive equipment during peak events.

TOU programs provide customers prices for electricity that differ based on the time of usage. This can include rates that are sensitive to peak pricing events, with day-ahead notification of such events; or rates that provide fixed peak, shoulder, or off-peak rate schedules.

In most cases, the load avoided by reducing demand at each individual customer location is relatively small. However, the aggregate effect of all those individual reductions at thousands of premises is sufficient to meaningfully shift and/or reduce demand for electricity on the Otter Tail system during peak events. During a winter peaking occurrence for Otter Tail, the Company has the capability to reduce load by between 10 and 15 percent using DLC programs (TOU programs can further reduce load, but the extent of such reductions is subject to customer behavior).

Otter Tail uses Demand Response to respond to capacity events called by Midcontinent Independent System Operator (MISO), to manage maintenance events on the Company system, and for economic control to reduce or avoid the need to purchase energy during higher priced periods. The alternative to Demand Response is to purchase additional energy from the market during periods when prices are high and to secure additional accredited capacity through either contracts or the construction of new generation.

Cost savings from economic control, which is the most common type of event, flow to all customers through lower cost of energy adjustments. Table 1 below contains the average price per megawatt-hour (MWh) and the MWhs reduced through control events as well as the value of those overall savings for Otter Tail’s three-state system.

Table 1	\$/MWh	DLC MWh Saved	Savings (\$000’s)
2018	27.28	78,583	2,144
2019	22.99	82,466	1,896
2020	16.60	81,559	1,354
2018 -2020 Avg.	22.29	80,869	1,798
2018-2020 Tot		242,608	5,394

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

The Company offers six DLC rates and seven TOU rates that support the Company’s Demand Response initiatives and provide flexibility and savings for residential, commercial,

and industrial customers. Each of the DLC rates provide a discounted rate or bill credit. Table 2 below reflects North Dakota specific participation.

Table 2

Direct Control Rate	Tariff Section	ND Meter Count
Water Heating - Controlled Service (Off-Peak)	14.01	5,533
Controlled Service, Interruptible Load, CT Metering (“Large Dual Fuel”)	14.04	274
Controlled Service, Interruptible Load, Self Contained Metering (“Small Dual Fuel”)	14.05	7,533
Controlled Service Deferred Load Rider (“Thermal Storage”)	14.06	763
Residential Service- Demand Control (“RDC”)	9.02	3,240
Air Conditioning Control Rider (“CoolSavings”)	14.08	488
Total Direct Control		17,831

Time-varying rates

Otter Tail’s time-varying rates includes tariffs that charge based on when electricity is used. Prices are generally higher during periods of peak demand or at peak prices in the MISO market. Table 3 below summarizes North Dakota customer participation.

Table 3

Time of Use Rate	Tariff Section	ND Meter Count
General Service Time-of-Use	10.03	1
Large General Service - Time of Day	10.05	1
Super Large General Service	10.06	1
Standby Service	11.01	1
Irrigation Service	11.02	8
Fixed Time of Delivery Service	14.07	392
Total Time of Use		404

C. Previous actions taken by the Public Service Commission or State Legislature to implement the standard or a comparable standard;

The ND Commission has acted to approve the Company’s original and revised Demand Response tariffs, ensuring that those who choose to use off-peak electricity for heating, cooling, water heating, and electric vehicle charging have lower-cost options

available. As technology options evolved, the Commission approved a plan to update the tariffs by including summer cycled control options for heat pumps on direct control rates and for central air conditioning served through firm service metering. Further the ND Commission approved a Super Large General Service tariff that allows specialized demand response contracts with very large customers supporting further system load flexibility.

The Company's existing Demand Response infrastructure, also known as Load Management System (LMS), is approaching end of life or already functionally obsolete. In 2021, the Commission approved the Company's Advanced Determination of Prudence for an Advanced Metering Infrastructure (AMI) project—a first step towards modernizing the company systems. The communications network that will be installed with the AMI project will, in the future, be utilized to support the continued long-term functionality of the Company's Demand Response portfolio and to enable its improvement and expansion.

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

Otter Tail's Demand Response system is aging and only provides one-way communication with customer locations. As a result, the Company's current Demand Response system is essentially limited to existing functionality. Upgrading the load management system control software and end-use devices will provide an opportunity to implement new approaches to load control such as: opt-in and opt-out events facilitated by two-way communications; finetune response to MISO trigger prices to better respond to price fluctuations; more accurately identify its MISO capacity for accreditation; implement direct control of smart devices such as commercial building energy control systems, smart thermostats, electric vehicles, or smart appliances; and refine the management of control event duration and recovery times to ensure customer comfort.

E. Any other information that the Commission should consider.

At this time the Company has no other information for the Commission to consider.

III. CONCLUSION

Otter Tail appreciates the opportunity to discuss its demand response portfolio with the Commission. The Company works diligently operating its load management system to defer the need to build additional generation, shield customers from high market energy prices, and to provide a discounted rate for more affordable heating, cooling, and other customer operations. As the Company modernizes its load management system to strengthen

existing offerings and create new opportunities, the Company appreciates the Commission's continued support of these initiatives.

Dated: June 15, 2022

Respectfully submitted,

OTTER TAIL POWER COMPANY

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