STAFF MEMORANDUM

TO: COMMISSIONERS AND ADVISORS

FROM: JOSEPH REZAC, AND AMANDA REISS

RE: EL22-013 - In the Matter of Otter Tail Power Company's Petition for Approval of Phase-In Rider Rate

DATE: August 24, 2022

BACKGROUND

On June 1, 2022, the South Dakota Public Utilities Commission (Commission) received a petition from Otter Tail Power Company (OTP or Company) for approval of its third annual update to its Phase-In Rider (PIR) rate. The proposed PIR rates reflect the PIR revenue requirements for September 1, 2022, through August 31, 2023.

SDCL §§ 49-34A-73 through 78, inclusive authorize the Commission to approve a tariff mechanism for the annual adjustment of charges for a phase-in rate plan for rate increases due to plant additions.

Previously, on March 6, 2019, the Commission issued an Order Granting Joint Motion for Approval of Settlement Stipulation; Order Approving Settlement Stipulation in Docket EL18-021. This settlement established OTP's phase-in rider, allowing OTP the opportunity to recover the Merricourt Wind Project (Merricourt) and the Astoria Natural Gas Project (Astoria), along with offsetting revenue credits for new load growth in the Lake Norden area and net savings associated with OTP's retirement of its Hoot Lake Plant. As part of this settlement, OTP agreed to not file a rate case until the test year for such filing reflects twelve months in-service for the Merricourt and Astoria projects, with April 1, 2022, being the earliest OTP can file.

In Docket EL21-017, the Commission approved a $345,134 revenue requirement for the September 1, 2021, through August 31, 2022, plan year and a 1.351 "percent of bill" phase-in rider factor effective September 1, 2021.

In this current filing, OTP requests to recover a projected September 1, 2022, through August 31, 2023 revenue requirement of $2,997,688 associated with the Merricourt and Astoria projects, the revenue credit due to the new load growth in Lake Norden, the net savings associated with the Hoot Lake Plant (HLP) retirement and four new projects with the Ashtabula III wind farm purchase and the Advanced Grid Infrastructure (AGI) projects. The Company's proposed revenue requirement results in a proposed "percent-of-bill" base revenue charge of 10.181 percent and a new per meter rate to recover the AGI projects. The per meter rate will vary based on customer class and will be discussed more detail later in this memo.

STAFF'S ANALYSIS AND UPDATES

Staff's recommendation is based on its analysis of OTP's filing, discovery information, relevant statutes, and previous Commission orders. Staff's analysis consisted of review of the revenue requirement calculations, class allocation, and rate designs. Each of these items are discussed below.

REVENUE REQUIREMENT

Staff reviewed the forecasted September 1, 2022, through August 31, 2023 revenue requirement associated with the Merricourt and Astoria projects, Lake Norden load growth credit, and HLP retirement. The September 1, 2022, through August 31, 2023 phase-in rates is based on estimated costs of Astoria and Merricourt, estimated Lake Norden load growth revenue credit, and estimated HLP retirement savings. New projects for inclusion in the phase-in include the Ashtabula III wind farm purchase and the AGI projects. All projects and credits are subject to a later "true-up" to reflect the actual costs, actual revenues, and actual recoveries.

Revenue Requirement Updates and Analysis

Astoria

Astoria is a new 245 MW natural gas-fired simple cycle combustion turbine constructed near Astoria, South Dakota. OTP commissioned the Astoria project in 2021 and is expected to be completed under the initial budget. OTP's current cost estimate is $153.2 million (OTP Total) / $15.6 million (OTP SD). Costs will continue to be incurred as is typical with a large project close out.

In the Petition, OTP discussed the facility service agreement revenues it receives from Tatanka Ridge Wind, LLC (Tatanka). As the transmission owner for the network upgrades required to accommodate the interconnection of Tatanka and Astoria, OTP receives facility service agreement revenues over a 20-year term. For the September 2022 through August 2023 recovery period, OTP estimates receiving approximately $304,000 (OTP Total) / $30,900 (OTP SD).

OTP also discussed the Long-Term Service Agreement (LTSA) it entered into with Mitsubishi. Under the LTSA, the manufacturer maintains a parts pool for its fleet of combustion turbines and takes on the risk of the repair and/or replacement of the combustion components. OTP in turn makes prepayments to the manufacturer for major maintenance based on the hours the unit is operated and/or the number of starts until the major maintenance is complete. The annual LTSA fee is $2.0 million (OTP Total) / $0.2 million (OTP SD).

Merricourt

OTP is completing the construction of Merricourt, a project consisting of 75 V110-2.0 MW Vestas wind turbine generators with an aggregate nameplate capacity of 150 MW, near Merricourt, North Dakota. The entire Merricourt facility was deemed commercially operational in December of 2020 with a cost estimate of $259 million (OTP Total) / $26 million (OTP SD).

OTP's Petition discussed that its current forecast has Merricourt at reduced output while certain transmission network facilities are being constructed throughout 2022. Merricourt could be subject to MISO's quarterly operating limits until all network facility upgrades are in service. OTP explained that a generator seeking to interconnect in MISO has conditional interconnection service until all required upgrades and contingent facilities are completed, and thus is subject to quarterly operating limits. The 2022 generation forecast for Merricourt is about 75 percent of the expected output at full operation.

Lake Norden Area Load Growth Credit

OTP used the same methodology for calculating this adjustment to the Rider as was used in Docket EL19-025. As shown in Attachment 3 in this docket, as compared with Revised Attachment 3 in EL19-025, these changes increase the September 2021, through August 2022, credit amount by approximately $668,969.

Hoot Lake Plant Retirement Savings

The settlement in EL18-021 requires OTP include net savings associated with the HLP retirement within the PIR. OTP incurred normal operation costs associated with HLP through May 2021. The HLP adjustment compares calendar years to the 2017 Test Year and results in a HLP adjustment credit spread evenly over the twelve months of the calendar year. The HLP adjustment credit for 2022 in this filing is $685,072. These estimates and forecasts will be updated to actuals and subject to true up in next year's rider update.

<u>New Projects and New Per Meter Rate</u>

With this filing OTP proposed to add four new projects to the rider including a new per meter rate to recover costs associated with three Advanced Grid Infrastructure (AGI) projects. The Ashtabula III Wind Farm purchase is to be included in the existing percent-of-bill with the Advanced Metering Infrastructure, Outage Management System, and Demand Response System proposed to be recovered with a new per meter rate.

Ashtabula III Wind Farm Purchase

OTP entered into a purchased power agreement with Ashtabula III, LLC in 2013 with the options to purchase the wind facility assets in 2023. Ashtabula III is a wind facility of 39 wind turbines with a nameplate of 62.4 MW. Absent an agreement to purchase the facility, OTP would continue to purchase the energy from the facility and flow those energy costs through the fuel clause as has been done since 2013. OTP in its Petition discusses in further detail the decision and economics behind the purchase of Ashtabula III.

OTP's analysis indicates that the purchase of the facility will benefit customers by reducing energy cost from the wind facility by approximately $4.56 /MWh over the life of the wind facility. Owning Ashtabula III will result in all the output of the facility being included in the fuel clause at $0/MWh. OTP estimates that a typical residential customer would see an approximately $1.40/month reduction in their monthly bill as a result. The revenue requirement for Ashtabula III for the upcoming recovery period would be $497,857 and is proposed for inclusion in the existing percent of bill rate design.

AGI Projects and New Per Meter Rate

In this filing OTP is proposing to include three new AGI projects with the Advanced Metering Infrastructure, Outage Management System, and Demand Response System proposed to be recovered with a new per meter rate. The per meter rate design for the AGI projects will be calculated by determining the average cost per meter for materials and labor for each customer class and then using the weighted average cost per customer class to determine the percentage of project costs to be charged to each class.

Advanced Meter Infrastructure (AMI)

OTP intends to deploy new AMI meters throughout its service territory to replace the existing meters which are primarily read manually each month. AMI will enable two-way communications between OTP and will allow reduce expenses and safety risks associated with needing to be physically on customer property for these utility functions. AMI will be a foundation for potential future grid modernization functions and allow future opportunities for the Company to create new rate offerings and additional support for customer located generation. OTP expects to see reductions in O&M because of these new meters and those savings are accounted for in the new per meter rate.

The Company anticipates the implementation of AMI to result in an average annual O&M saving of approximately $6.61 million (OTP Total) / $0.61 million (OTP SD) from the beginning of initial deployment in 2022 through 2045. AMI net savings over the life of the project are estimated to be 3.45 million (OTP Total) / $0.32 million (OTP SD). OTP discussed AMI and its business case in greater detail in its Petition. The estimated revenue requirement for AMI for the September 2022-August 2023 recovery period is $385,429. The AMI project is proposed for recovery through the new per meter rate.

Outage Management / GIS Updates

OTP plans to implement an Outage Management System (OMS) that will offer operational and customer benefits related to outage response as well as a foundation for future grid modernization plans. Deployment of the OMS will provide valuable information to the Company to understand the extents of outages and allow the Company to respond to interruptions quicker when they do occur. The new system will allow for increased outreach to customers and even provide estimated times for restorations.

Additional benefits of an OMS include safety, AMI tools, and outage metrics. As a part of the OMS system, OTP will develop a connectivity model from meter to substation and specific attribution data of OTP's GIS features. This model will be utilized by the AMI infrastructure for operation and planning tools and future tools such as Volt/Var optimization, demand response controls, and automated system reconfigurations. The estimated revenue requirement for OMS and GIS Updates for the September

2022-August 2023 recovery period is $131,761. The projects are proposed for recovery through the new per meter rate.

Demand Response System

OTP indicates in its Petition that Demand Response (DR) programs are utilized by nearly one-third of OTP customers. Given the strong customer participation, OTP can control between 10-15 percent of total winter peak load, reducing overall system capacity needs, and materially lowering costs for customer. With MISO's recent capacity concerns, this could also help with avoiding curtailments. Such DR programs lower overall system energy and fuel costs for all customers. Existing DR infrastructure utilized by OTP is approaching end of life or is already functionally obsolete. For example, OTP's current DR software was procured in 2003 and nearly 20 years later, the system is running unsupported by the vendor. The estimated revenue requirement for DR system for the September 2022-August 2023 recovery period is $7,929. The project is proposed for recovery through the new per meter rate.

All three projects for inclusion in the new proposed per meter rate are a part of the Company's Innovation 2030 initiative. The three main objectives for the initiative are to improve reliability and safety of OTP's system, improve customer engagement, and improve business processes. Staff supports the implantation of the new per meter rate for recovery of these three projects as it provided a better distribution of cost responsibility among and within the classes than utilizing the existing percent of bill rate.

Supplemental Filing

In past PIR update filings, OTP has made a supplemental filing to update capital costs and collections through June as well as make any revisions as identified by Staff or OTP. The originally filed PIR in this docket is based on actual data through April 2022 and projected activity beginning May 2022. After discussions between OTP and Staff, the parties have agreed to forgo a supplemental filing in this docket as any revisions or updates appear to be immaterial and would not have a significant effect on the final rate. Foregoing the supplemental filing will also reduce administrative costs for OTP. All changes in actuals when compared to the included estimates will be subject to true up and captured in next year's annual PIR update.

CLASS ALLOCATION AND RATE DESIGN

OTP continues to utilize the existing "percent-of-bill" rate design method in the phase-in rider and proposes a new per meter rate as previously discussed in this memo. The revenue requirement for the "percent-of-bill" portion of the phase-in is $2,582,108 and results in a "percent-of-bill" rider factor of 10.181 percent. The revenue requirement for AGI projects and basis for the new per meter rates is $415,580 and results in various per meter charges by customer class. The table below provides the proposed per meter rates proposed to be effective September 1, 2022.

Class	Per meter Charge
Residential	$1.14
Residential RDC	$2.85
Farm	$2.89
General Service	$4.41
General Service TOU	$9.26
Large General Service Primary / Transmission	$47.88
Large General Service – Secondary	$10.88
Irrigation Service	$7.43
Outdoor Lighting (Metered)	$2.94
OPA (Metered)	$2.95
Controlled Service Water Heating	$2.85
Controlled Service interruptible - Small Dual Fuel	$2.89
Controlled Service Interruptible - Large Dual Fuel	$11.84
Controlled Service Deferred	$3.54

OTP states the impact of the change in the existing “percent-of-bill” for a residential customer using 1,000 kWh per month is an increase of $6.40 per month. With the new $1.14 per meter charge included, a residential customer using 1,000 kWh per month will see a total bill increase of $7.54.

RECOMMENDATION

Staff recommends the Commission approve the $2,997,688 revenue requirement for the September 1, 2022, through August 31, 2023, plan year, the resulting 10.181 “percent of bill” phase-in rider factor, and the new per meter charges effective September 1, 2022.