PUBLIC – TRADE SECRET DATA HAS BEEN EXCISED

STATE OF SOUTH DAKOTA
BEFORE THE
SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

In the Matter of Otter Tail Power Company's Petition for Approval of Rate Schedule, Section 13.09, Phase-In Rider	**Docket No. EL23-** **PETITION**

I. INTRODUCTION

Otter Tail Power Company (Otter Tail) hereby Petitions the South Dakota Public Utilities Commission for approval of its fourth annual update to its Phase-In Rate Plan Rider (Rider). This filing is made in compliance with the South Dakota Public Utilities Commission's (Commission) Order in Otter Tail's 2019 Rider Filing (2019 Filing) and under the Commission's authority granted in South Dakota Codified Laws 49-34A-73 through 49-34A-78 under Otter Tail's Rider, Electric Rate Schedule Section 13.09.[1] This Rider is described in the Settlement Stipulation (Settlement) and approved by the Commission's Order (Order) in Otter Tail's last general rate case in Docket No. EL18-021 (Rate Case). [2] This filing includes the components described in the Settlement.

In this filing, Otter Tail's Rider rate is adjusted to reflect the applicable Rider revenue requirement for the next recovery period (September 2023 – August 2024). This update includes the projected tracker balance for the Rider to recover actual and forecasted costs for the Astoria Station Natural Gas Plant Project (Astoria Station), Merricourt Wind Project (Merricourt Project), the Ashtabula III Wind Farm Purchase, together (Projects), forecasted net benefits associated with additional load in the Lake Norden area, and net savings associated with Otter Tail's retirement of its Hoot Lake Plant (HLP). Otter Tail also includes updates to its Advanced Grid Infrastructure (AGI) per meter charge rider which was approved in the 2022 update. The AGI Projects include Advanced Metering Infrastructure (AMI), Outage Management System (OMS), and Demand Response (DR) system replacement.

[1] Commission's August 26, 2019, Order in the Matter of Otter Tail Power Company's Petition for Approval of Rate Schedule, Section 13.09, Phase-In Rider in Docket No. EL19-025.
[2] Commission's March 6, 2019, Order Granting Joint Motion for Approval of Settlement Stipulation; Order Approving Settlement Stipulation in the Matter of the Application of Otter Tail Power Company for Authority to increase its Electric Rates in Docket No. EL18-021.

Otter Tail continues to propose two different rate structures to provide an accurate cost for the percent of bill projects and the per meter rate (AGI) projects. The petition is broken into two sections which describe how the different types of rates are established.

The rate of return (ROR) included in this filing is based on Otter Tail's actual capital structure as of December 31 of the preceding year using the return on equity (ROE) approved by the Commission in the Rate Case. This Petition establishes the rates to collect the 12 months of revenue requirement for the recovery period of September 2023 through August 2024 as well as the projected tracker balance at the end of August 2023. The Petition includes actual investment costs, expenses, and revenues through April 2023 and forecasted information for May 2023 through August 2024. The proposed revenue to be collected during the September 1, 2023, through August 31, 2024, recovery period totals $2,623,921. As shown in Attachment 1, $2,408,896 is the proposed revenue to be collected for the percent of bill portion of the Rider. Attachment 12 reflects the $215,025 revenue total for the per meter charge portion of the Rider.

A residential customer using 1,000 kWh per month, will experience a bill decrease of $0.74 per month. A Large General Service (LGS) customer using 486 kW and 222,350 kWh per month will see a decrease of $33.15 per month.

II. GENERAL FILING INFORMATION

A. Name, address, and telephone number of the utility making the filing

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Phone (218) 739-8200

B. Name, address, and telephone number of the attorney for Otter Tail Power Company

Cary R. Stephenson
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C. Title of utility employee responsible for filing

Paula Foster
Supervisor, Regulatory Analysis
Regulatory Economics
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D. The Company also requests that the following contact(s) be placed on the Commission's official service list for this matter:

Regulatory Filing Coordinator
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E. The date of filing and the date changes will take effect

The date of this filing is June 1, 2023. Otter Tail proposes the update to the Rider factor to go into effect for usage on and after September 1, 2023.

F. Statutes controlling schedule for processing the filing

Otter Tail files this Rider for Commission approval under the authority of South Dakota Codified Laws 49-34A-73 through 49-34A-78. The Administrative Rules of South Dakota (ARSD) SD Part 20:10:13:15 requires a 30-day notice to the Commission of a proposed change in a utility's tariff schedule. Attachment 21 of this Petition is the proposed customer notice required by ARSD 20:10:13:19, which will be sent to customers with the first bill rendered once the rate is implemented. Otter Tail includes Attachment 22 to comply with ARSD 20:10:13:26, which requires a Utility to report all rate schedule changes and customer impacts. Otter Tail will provide notice of this proceeding to its customers pursuant to South Dakota Codified Laws Chapter 49-34A-12 in June 2023 billing statements.

III. PHASE-IN COST RECOVERY BACKGROUND

On April 20, 2018, Otter Tail filed a Rate Case Application with the Commission requesting approval to increase electric service rates for customers in its South Dakota service territory.[3] Otter Tail's application included a proposed step increase, to be

[3] Insert Reference to GRC Docket.

effective January 1, 2020, to facilitate recovery of the Merricourt and Astoria Projects. Commission Staff and Otter Tail (together the Parties) filed a Joint Settlement addressing the recovery of the Merricourt and Astoria Projects. The Stipulation was later approved by the Final Decision and Order on May 30, 2019.[4]

Section 3, Part 2 of the Settlement contemplates the Merricourt and Astoria Projects as part of a Phase-In Rate Plan for recovery of capital projects as well as additional components. The Phase-In description of the Settlement Agreement reads as follows:

> *The Parties agree that OTP may file for the establishment of a phase-in rate plan under SDCL 49-34A-73 through 78, seeking recovery of Merricourt and Astoria construction work in progress and continuing once the projects are in-service and until the time the Company files its next rate case. This approach provides OTP the opportunity to recover costs associated with the two capital projects while avoiding multiple rate cases…*
>
> *The phase-in rate plan will also include an adjustment reflecting the net benefit of the additional load in the Lake Norden area, including corresponding updates to jurisdictional allocation factors resulting from the increased load to South Dakota…*
>
> *The phase-in plan will also include an adjustment to reflect the net savings associated with the Hoot Lake plant retirement, which is scheduled for retirement in May of 2021.*
>
> *The Parties agree OTP will submit an annual Phase-In Rider filing on a going forward basis to be received by the PUC by June 1 of each year. Based on this annual report, OTP will adjust the Phase-In rate each year based on actual costs and collections.*

In compliance with the above referenced statutes, the approved Settlement, and other previous Phase-In Commission Orders, this Petition provides updates on the Merricourt and Astoria projects and the Ashtabula III purchase, as well as information associated with the Lake Norden area load growth, the retirement of Hoot Lake Plant, and Otter Tail's calculations for its Phase-In Rider rate. Otter Tail provides an updated tariff rate schedule, Section 13.09, as Attachment 20 to this filing. The updated tariff contains updated rates used for Phase-In cost recovery. The percent of bill rate is calculated in

[4] February 21, 2019, Staff Memorandum Supporting Settlement Stipulation, beginning on page 14.

Attachments 1 through 10, and the per meter rates are calculated in Attachments 11 through 18. The projects being recovered in the Phase-In rider under each of these charges are discussed in separate sections of this filing.

IV. PERCENT OF BILL PROJECTS

A. Astoria Station – Attachment 4

Otter Tail owns the constructed and now operating 245 MW natural gas-fired, simple cycle combustion turbine near Astoria, South Dakota. The project includes all associated facilities, including a short segment of natural gas pipeline necessary to interconnect to the Northern Border Pipeline, and a generation-tie line necessary to connect Astoria Station to the electric grid. The project has quick-start capability to serve load-following function and provide for peak capacity needs. Otter Tail's Energy Conversion Facility Permit Application for Astoria Station (Permit Application) provides a complete description of the project and analysis to determine the appropriateness of the project. [5]

All cold commissioning was completed in the first quarter of 2021, and the first fire of the combustion turbine was achieved on January 24, 2021. Once full load was achieved, testing and tuning continued for emissions; startup and online ramp rates; heat rate; generator capability testing; noise emissions; and cold and hot start parameters.

Astoria Station was deemed "in-service" on an accounting basis as of February 2021. The financial tracker attachments included in this filing reflect a February 2021 in-service date for the main Astoria Station project. Formal performance testing was conducted the week of April 5, 2021. Astoria Station was declared commercially operational and first offered into the Midcontinent Independent System Operator (MISO) market in late April 2021. Astoria has been dispatched on a regular basis since the commercial operation date. As is typical with large projects, final closeout activities, punch-list and warranty items, final contractor payments/release of contractual retention dollars are expected to continue through mid-2023. Overall, the project was completed one month before Astoria Station was needed as a generation resource. As shown in Attachment 4, the current estimate at completion is $152.2 million (OTP Total)/$15.8 million (OTP SD).

[5] In the Matter of the Application of Otter Tail Power Company for an Energy Conversion Facility Permit for the Construction of a Combustion Turbine Generator and Associated Infrastructure Including a Natural Gas Pipeline and Electric Transmission line near Astoria, South Dakota in Docket No. EL17-042.

The Astoria Station Project includes transmission network upgrades required to accommodate the interconnection of these facilities into the integrated transmission system. Transmission network upgrades of approximately $8.7 million (OTP Total) were included in the total cost estimate of the project. Per prior Federal Energy Regulatory Commission FERC Orders, transmission owners may elect to self-fund the transmission network upgrades.[6,7] The transmission owner will pay for and build the necessary transmission network upgrades that are needed by the interconnection customer(s). The interconnection customer(s) will then pay the transmission owner for the cost of the network upgrade through facility service agreement (FSA) revenues over a 20-year term.

In the case of the transmission upgrades necessary to interconnect the Astoria Station Project, Otter Tail is the owner of those transmission facilities. In addition, MISO determined that the costs of those transmission upgrades benefitted two interconnection customers; therefore, the costs are being shared between Astoria Station and the Tatanka Ridge Wind, LLC project. MISO determined Astoria Station is responsible for 65.48 percent of the interconnection costs, while Tatanka Ridge Wind, LLC is responsible for 34.52 percent of the interconnection costs. As Otter Tail owns the transmission facilities and is the owner of Astoria Station, the network upgrades are included as part of the overall capital spend of the project along with the associated FSA revenues received and paid for from Tatanka Ridge Wind, LLC. Attachment 4, Line 24 identifies forecasted Net FSA Revenues for the Astoria Station interconnection of approximately $304,000 (OTP Total) / $30,900 (OTP SD) to be paid to Otter Tail during the September 2023 through August 2024 recovery period. This revenue stream represents the FSA revenues to be received from Tatanka Ridge Wind, LLC to pay for their share of the interconnection upgrades. No revenue stream exists related to Otter Tail's ownership of both Astoria and the Transmission facilities under the FSA.

Otter Tail entered into a Long-Term Service Agreement (LTSA) with Mitsubishi, the combustion turbine supplier. The arrangement of an LTSA is one where 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

[6] See FERC Order dated August 31, 2018, in FERC Docket No. ER18-2513 and FERC Orders on Remand dated August 31, 2018, under FERC Docket Nos. EL15-36, EL15-68, ER16-696, ER18-1964 and EL18-1965. See Remand Order at PP 28-88; see also Ameren Srvs. Co. v. FERC, 880 F.3d 571, 581 (D.C. Cir. 2018). FERC further denied requests for rehearing of the Commission's August 31, 2018, order on remand in a December 20, 2019, order under Docket No. ER18-2513, Midcontinent Independent System Operator, Inc., 164 FERC ¶ 61,158 (2018).

[7] See FERC Order dated December 20, 2019, under FERC Docket No. ER18-2513. (169 FERC ¶ 61,233).

components. The owner makes prepayments to the manufacturer for major maintenance based on the hours and/or starts the unit is operated up until the major maintenance is complete. There are many benefits to an LTSA which include: predictable major maintenance costs paid over a period of time, predictable planned outage lengths, long-term parts warranties, coverage for damage caused by failed parts, and remote monitoring of the combustion turbine by the manufacturer. The annual LTSA fee is estimated to be $2.0 million (OTP Total) / $0.20 million (OTP SD) during a typical year Astoria Station is in service. Attachment 4, Line No. 8 includes approximately 92 percent of the LTSA agreement as capital costs, as estimated by Mitsubishi. The remaining 8 percent is included as part of operating costs for Astoria Station on Attachment 4, Line No. 23. The capital portion of the LTSA Prepayments is included in rate base until major maintenance is completed. At that point, the amount of accumulated LTSA Prepayments that have been utilized during major maintenance will be included in Plant Balance and subject to depreciation.

B. Merricourt Project – Attachment 5

In 2020, Otter Tail completed the construction of the Merricourt Project located near the town of Merricourt, North Dakota, approximately 15 miles south of Edgeley in McIntosh and Dickey Counties. The Merricourt Facility consists of 75 V110-2.0 MW Vestas wind turbine generators with an aggregate nameplate capacity of 150 MW. It includes real property interests, tower foundations, operational equipment, electric collection circuit lines, a collector system with an on-site collector substation, and additional infrastructure such as communications systems, meteorological towers, operations and maintenance building, monitoring, safety, lighting, and measuring systems.

Commissioning of turbines began in October of 2020, with some units beginning to operate. All 75 units were fully in service by December 19, 2020. The Merricourt Facility's zero fuel cost energy generation contributes to a reduction in the cost of energy paid through the Energy Adjustment Rider in tariff rate schedule, 13.01. The Merricourt Facility generation is expected to be fairly level over the life of the project.

C. Ashtabula III Wind Farm- Attachment 6

Otter Tail entered into a Power Purchase Agreement (PPA) with Ashtabula III, LLC in 2013 which included an option for Otter Tail to purchase the wind facility assets in 2023. If Otter Tail did not exercise this option, the PPA would

continue through 2037. Consistent with the option+ to purchase in the PPA, in July 2021, Otter Tail entered into a Purchase and Sale Agreement (PSA), subject to regulatory approvals, for the purchase of the wind facility assets with an anticipated closing of January 2, 2023.[8] The PSA for Ashtabula III facility assets includes 39 wind generators with an aggregate nameplate of 62.4 MW that were placed into service in 2010, real estate interests, substation assets, and licenses and permits necessary to own and operate the wind facility.

D. Lake Norden Area Load Growth Credit – Attachments 7a - 7d

As contemplated in the Rate Case and in Docket No. EL16-020, Otter Tail anticipates additional revenues associated with load growth in its South Dakota Lake Norden area service territory. The Settlement directed that Otter Tail reflect future benefits associated with the additional post-test year load in the Lake Norden, South Dakota area in the Rider. Otter Tail's Rate Case utilized a 2017 Test Year and included costs and revenues associated with the 2017 Test Year. Otter Tail utilizes the same methodology approved in its 2019 Filing for calculating the Lake Norden Area load growth credit in this annual update. This Rider credit due to Lake Norden Area load growth includes the impact of the new load revenues as well as the impact on costs associated with changes in jurisdictional allocation factors for each recovery period. The impacts of the Lake Norden Area load growth in comparison to the 2017 Test Year are provided in Attachment 7a. The revenue requirement credit to customers due to the Lake Norden Area load growth compared to the 2017 Test Year are spread evenly over the months of each of the respective recovery periods included in the Rider and shown in Attachment 3, Line No. 11.

The jurisdictional allocation factors for the 2017 Test Year were included in Otter Tail's initial filing in the Rate Case.[9] Otter Tail includes Attachment 7b, which provides the 2017 Test Year baseline kWh [Lines 1, 4 and 7] and the Lake Norden Area additional kWh [Lines 2, 5 and 8]. Otter Tail includes Attachment 7c which provides the summary of the D and E allocation factors from the 2017 Test Year jurisdictional cost of service study (JCOSS) [Columns C & D] compared to the inclusion of the Lake Norden Area load growth in the 2017 Test Year allocation

[8] The Commission issued an order on March 30, 2022, approving Otter Tail's application for a certificate of public convenience and necessity to acquire, own and operate Ashtabula III in Case No. PU 22-27. The Minnesota Public Utilities Commission approved Otter Tail's petition to purchase the assets of the Ashtabula III wind facility on October 6, 2022. *In the Matter of the Petition of Otter Tail Power Company for Approval of a Transfer of Property,* Docket No. E017/PA-21-793.

[9] Rate Case Initial Filing, Volume 4A, Section 1 2017 Test Year Workpapers, JCOSS, Page 15-1.

factors for the various recovery periods [Columns E:M]. The E jurisdictional allocation factor updates provided in Attachment 7c for the various recovery periods result from the actual and forecasted Lake Norden Area load growth.[10] Otter Tail estimates the D jurisdictional allocation factors for the same recovery periods by applying the 2017 Test Year amount of these factors compared to the E factors. For example, the 2017 Test Year D1 factor as a percent of the 2017 Test Year E1 factor is 14.7 percent. This percent is applied to the MWh in Columns F, I, and L, Line No. 1, to arrive at the D1 generation demand factor in Columns F, I, and L, Line No. 7. These updates to South Dakota jurisdictional allocation factors result in additional JCOSS allocations to South Dakota which is more than offset by the additional revenues associated with the load growth.

Otter Tail provides Attachment 7d that includes a revenue summary of the Lake Norden Area load growth for the 2017 Test Year revenues compared to the respective recovery periods. The 2017 Test Year baseline sales and sales forecast for the Lake Norden Area are provided in Attachment 7b.

The Lake Norden Area load growth change from the 2017 Test Year baseline for September 2021 through August 2022 are provided in Attachment 7a, Columns I & J and result in a $614,696 [Column J, Line No. 21] credit to the Rider. This credit is spread evenly by month over the September 2021 through August 2022 time period.

The Lake Norden Area load growth changes from the 2017 Test Year baseline for the September 2022 through August 2023 time period (actuals through April 2023) are provided in Attachment 7a, Columns K & L and result in a $439,345 [Column L, Line No. 21] credit to the Rider. This credit is spread evenly by month over the September 2022 through August 2023 time period.

The forecasted Lake Norden Area load growth changes from the 2017 Test Year baseline for the September 2023 through August 2024 time period are provided in Attachment 7a, Columns M & N and result in a $216,152 [Column N, Line No. 21] credit to the Rider. This credit is spread evenly by month over the September 2023 through August 2024 time period.

Detailed in Attachment 7a, the Lake Norden Area load growth has resulted in a cumulative revenue requirement credit, including forecast through August 2024, of $4,726,966 (Attachment 7a, Columns D, F, H, J L & N, Line No. 21). Otter Tail will update the actual revenues as they are available in future updates.

[10] The change provided in Columns G, J and M represent the load growth provided in Attachment 7b plus a line loss factor estimate.

[PROTECTED DATA BEGINS…

…PROTECTED DATA ENDS]

E. Hoot Lake Plant Adjustment

The Settlement requires Otter Tail to discuss the retirement of Hoot Lake Plant (HLP) and include the net savings associated with Otter Tail's retirement of this facility (HLP Adjustment) within the Rider. HLP ceased operations on May 27, 2021. Decommissioning of equipment and abatement of hazardous materials, such as asbestos, was substantially complete in 2021. Demolition of structures and foundations was completed in 2022. Final site grading commenced in May 2023 with completion expected in July 2023. Otter Tail experienced delays outside its control in 2022 as it relates to the completion of the demolition activities. However, Otter Tail was able to manage through those delays without additional cost to the overall project, which is forecasted to be significantly lower than budget.

Some operational costs will continue to be charged to HLP in 2023. For example, the air emission permit fees, which are a significant amount of the continuing expenses, are paid by Otter Tail two years in arrears. Therefore, the fees related to 2021 operations will be paid in 2023.

The 2017 Test Year included components of HLP that are representative of the way that the plant operated until it ceased operations in May 2021.[11] Since June 2021, Otter Tail has included an estimated monthly credit in the Rider that reflects the HLP Adjustment. Otter Tail provides a summary of the HLP Adjustment as Attachment 8. Otter Tail includes the monthly forecasted credit

[11] The 2017 Test Year includes the Ash Storage expenses which increased the revenue requirement by $34,211 from prior year approved filings. Ash Storage expense is also included in the 2021 actuals, 2022 and 2023 forecasted expenses. In prior filings Ash Storage expense was not included in either the test year or forecasts and is now included to provide all actual Hoot Lake expenses.

for calendar year 2023, totaling ($899,269), and the monthly forecasted credit for calendar year 2024, totaling ($952,844), in Attachment 3, Line 12. These amounts are based on the 2023 and 2024 forecasted calendar year amounts shown in Attachment 8, Column E, Line 29 and Attachment 8, Column F, Line 29, respectively. Otter Tail will continue to update forecasts with actuals in subsequent Rider updates.

F. Percent of Bill Revenue Requirement Components and Tracker

Attachments 1 - 3 are, respectively, the Revenue Requirements Summary, Rate Design, and Tracker Summary calculations used for Otter Tail's Percent of Bill Phase-In Plan rate submittal. Attachments 4, 5, and 6 provide the revenue requirement calculations for the Projects for which Otter Tail requests Phase-In Plan percent of bill recovery. Attachments 7a through 7d provide the adjustment reflecting the net benefit of new load in the Lake Norden area, including corresponding updates to jurisdictional allocation factors resulting from the increased load to South Dakota. Further information on these components is included above in Section IV.

Specifically, the calculations of the revenue requirement in this Petition include the following:

- *Rate base section*. This section provides details on the amount of plant in service, accumulated depreciation (if applicable), construction work in progress (CWIP),[12] accumulated deferred taxes including the effect of proration on Federal amounts, accumulated deferred and utilized LTSA, and a 13-month average rate base calculation.
- *Expense section*. The expenses applicable to a project are listed here and include operating costs, property taxes, depreciation, and income taxes.
- *Revenue requirements section*. This section shows the components of the revenue requirements, including expenses and return on rate base.
- *Return on investment (cost of capital)*. The return on investment utilizes the return on equity approved in Otter Tail's Rate Case. As described on page 15 in the Settlement for the Rate Case:

> *While the projects are under construction, the rate of return will include the weighted average cost of debt calculated at year-end levels, including short-term debt costs, and the equity ratio calculated at year-end levels.*

[12] SDCL 49-34A-25.2 allows a current return on CWIP.

Once the projects are in-service the weighted average cost of long-term debt calculated at year-end levels will be used.

- *Depreciation expense.* Depreciation expense is calculated using the Company's current depreciation rates.
- *Property taxes.* The property tax calculation is based on Otter Tail's composite tax rate for the jurisdiction in which the facilities are located and is calculated in accordance with the procedures specified by that state. Based on agreements with the state of South Dakota, the year after Astoria Station is in-service (Astoria went into service in 2021), the total property tax expense will be subject to a ramp-up period where the total property tax will be multiplied by 0 percent the first year, 20 percent the second year, 40 percent the third year, 60 percent the fourth year, and 80 percent the fifth year, and 100 percent the sixth year and years forward. With Astoria Station going into service in 2021, the 0 percent treatment began with the property tax expense in 2022 (calculated using 2021 year-end values). Some components of the Astoria Station project (related to distribution work, switching station work, and transmission line modifications) did not receive approval of this treatment from the State of South Dakota; thus, the property tax amount on Attachment 4 is not equal to $0. Land is not applicable to the property tax ramp-up treatment. It is taxed at the full composite tax rate. Merricourt and Ashtabula III have been placed into service, and are subject to taxes consisting of the following two components:
    1. A tax of two dollars and fifty cents per kilowatt times the rated capacity of the wind generator.
    2. A tax of one-half of one mill per kilowatt-hour of electricity generated by the wind generator during the taxable period.
- *Operation and maintenance Expense.* Astoria Station, Merricourt, and Ashtabula III projects are in-service. Operation and maintenance costs specifically related to these projects are tracked in Attachments 4, 5, and 6. Annual O&M expenses for these generation facilities include operating costs, ground lease payments, property taxes and depreciation.
- *Proration of Federal Accumulated Deferred Income Taxes (ADIT).* Otter Tail provides Attachment 9 to this filing to show the Federal ADIT proration calculation impact on the revenue requirement for the recovery

period. Otter Tail provides Attachment 10 calculating the Accumulated Deferred Income Tax (ADIT) balances to preserve the effect of the application of the proration methodology for the true-up period. The methodology used for proration of Federal ADIT will be consistent with the United States Internal Revenue Service (IRS) rules related to proration, including recently issued IRS private letter rulings and Otter Tail's most recent Transmission Cost Recovery Rider (Case No. EL20-032) update. This calculation methodology is necessary in order to comply with Section 1.167(l)-l(h)(6)(ii) of the IRS regulations and to avoid a tax normalization violation.[13]

- *Federal Production Tax Credit (PTC)*. Merricourt became eligible for PTCs when it was placed in service. Effective January 1, 2022, the rate per megawatt hour was increased from $25.00 to $26.00 per megawatt hour. As approved in the 2019 Filing, Otter Tail includes the PTCs as a credit to tax expense (Attachment 5, Line No. 42) at the time they are generated. Otter Tail Corporation procured approximately $22.7 million of Otter Tail's Merricourt PTCs in early 2023 which will be utilized on the 2022 tax return. This procurement reduces the deferred tax PTC balance and associated 2023-2024 Phase-In revenue requirement by approximately $206,166.
- *Baseline Year*. The Rate Case included a 2017 Test Year upon which base rates were set. Otter Tail utilizes the Commission approved 2017 Test Year as the baseline year. Attachments 7a through 7d reflect updates to the 2017 Test Year resulting from load growth in the Lake Norden Area.
- *Jurisdictional Allocation Factors*. Jurisdictional allocators are used to allocate system cost among jurisdictions. The Commission approved Otter Tail's South Dakota jurisdictional allocations for the 2017 Test Year in the Rate Case.

G. Percent of Bill Rate Design

The Commission approved the percent-of-bill method for the Rider in Docket No. EL19-025. Under this method, the rate is calculated by dividing the total Percent of Bill revenue requirement for September 2023 through August 2024 by the total base rate revenue for this recovery period. For this filing, this method

[13] *See* Treas. Reg. SS 1.167(l)-1(h)(6)(ii).

results in a percent of base revenue charge of 9.923 percent. The rate design is shown on Attachment 2.

V. PER METER CHARGE PROJECTS

Otter Tail has spent the past several years evaluating and planning its approach to grid modernization as part of the Company's I2030 initiative. I2030 has three main objectives: (1) improve reliability and safety of the Otter Tail system, (2) improve customer engagement, and (3) improve business processes. Each of the projects and programs within the initiative contribute to at least one of the initiative's objectives.

Projects in the overall I2030 initiative include: (1) AMI; (2) Demand Response (DR) system replacement (3) Telecommunications Infrastructure; (4) OMS with required Geographic Information System (GIS) enhancements; (5) Transmission and Distribution replacement programs as well as grid technologies; and (6) a Work Asset Management System (WAMS). The AMI and Telecommunications projects have the largest scope and implementation will occur over multiple years.

In 2022 Otter Tail made its initial request for the establishment of the AGI per meter portion of the Phase-In rider for recovery of AMI, the OMS Project, and the DR system replacement from the overall I2030 initiative. All three projects were approved for recovery and the new per meter rate went into effect September 1, 2022. This filing is the first annual update for AMI, OMS, and DR system replacement projects.

Otter Tail requests the continuation of the Phase-In recovery mechanism as costs are incurred for the AMI, OMS, and DR projects outside of a general rate case. These projects will allow Otter Tail to meet all three of the I2030 objectives mentioned above, while continuing to provide low cost, reliable service.

A. Advanced Metering Infrastructure (AMI)

AMI is a foundational part of the I2030 initiative and will involve the deployment of the following infrastructure: (1) approximately 175,000 AMI meters, of which approximately 15,000 will be located in South Dakota; (2) local data collectors in a Field Area Network (FAN) that will collect and transmit meter data back to Otter Tail; and (3) a head-end system and Meter Data Management System (MDMS) where data will be routed and stored, as needed, to facilitate automated meter reading and automated distribution control in the Company's provision of electric service.

Otter Tail provides retail electric service to more than 133,000 customers, including approximately 62,400 customers in Minnesota, 59,200 customers in North Dakota, and 11,800 customers in South Dakota. Currently, about 99 percent

of Otter Tail's customer meters are a combination of electromechanical and digital meters that are manually read each month.[14] This means that Otter Tail employees or a contracted meter reading service provider must physically visit all of our customers' premises to read their meters. This is a significant expense given Otter Tail's rural 70,000 square-mile service territory. Full implementation of AMI will enable two-way communication between the Company and the meters, allowing Otter Tail to read meters, turn service on and off, and check meter status remotely. This will reduce costs and safety risks by reducing driving miles and the need to be physically on customer property for these utility functions.

AMI meters, and their associated communications infrastructure and software, have significant benefits over Otter Tail's existing equipment and processes. AMI meters are the industry standard. By deploying AMI meters along with the associated communications network and enabling software, Otter Tail will enhance its visibility into its distribution network and increase safety and reliability. AMI voltage readings will be a foundation for future grid modernization functions such as Voltage and Reactive Power (Volt/Var) optimization, or automated system restoration which would rely on a communication network.

AMI will allow for improved outage communications with customers as well as give customers access to near real-time usage information online, whether it is via a future Otter Tail platform or third-party applications enabled by AMI. Additionally, AMI investments will benefit customers by enabling the Company to create new rate offerings and support customer located generation. AMI will also make numerous conservation and clean energy resource programs possible, including time-differentiated rates that can encourage efficient use of resources and incorporation of energy conserving consumer technologies.

The original implementation plan for the AMI project anticipated business process development, system integration, and initial deployment from late 2021 to the fourth quarter of 2022, with full deployment from late 2022 to the third quarter 2024. The deployment schedule has been delayed due to the integration requirements of the software systems. The AMI pilot of 1,000 meters is set to begin in the Fall of 2023, with remaining meters being installed in 2024. Otter Tail estimates each quarter in 2024 will have approximately 43,750 additional meters installed, with all 1750,000 meters being installed by the end of the fourth quarter. While it is anticipated that all AMI meters will be installed by the end of 2024, any

[14] The Company has a small number of AMI meters that are used for interruption monitoring purposes, and a small number of advanced meter reading (AMR) meters in use for some larger customers and substations.

additional integration challenges could potentially result in some meters being installed early in 2025. Otter Tail does expect to incur some final AMI related costs in 2025 as the project reaches final completion.

Realized AMI savings have not been calculated for the AMI Project in 2022. Otter Tail had originally anticipated that AMI project savings would be realized beginning in 2023 in the amount of $1,744,453. However, because the timeline of meter installation has been delayed, the estimated savings have also been adjusted to match the new installation timeline. The savings presented in this filing are based upon original Otter Tail estimates (largely the reduction of costs related to physical meter reading), but the period in which those savings are expected to materialize has been updated to match the new AMI deployment schedule. Table 1 reflects the changes in estimated total company cost savings from the initial filing to the current update. Actual savings that are realized in 2023 will be presented in the 2024 Phase-In update.

Table 1
Total Company Estimated Cost Savings Shifts
Due to Updated AMI Project Timeline

	2023	2024	2025
Initial Filing	$1,744,453	$5,390,360	$7,402,761
2023 Update	$0	$4,540,372	$7,402,761

B. Outage Management System (OMS)

Otter Tail's OMS offers many operational and customer benefits related to outage response as well as a foundation that will be beneficial in future grid modernization plans. The OMS allows Otter Tail to identify outages more rapidly and deploy crews more efficiently to reduce the number and length of outages. It will also allow Otter Tail to better communicate with customers before, during, and after outage events, by sending outage notifications, updates on estimated time of restoration, and restoration notices. The communication enhancements will be realized with the implementation of the Customer Experience Portal (CEP) targeted to be implemented August 2023.

As part of the OMS project, Otter Tail is in the process of developing the electrical connectivity model from meter to substation and specific attribution data of Otter Tail's GIS features. The data collection effort will ensure the Company has accurate and complete data and can track how each customer on the delivery system is connected from the meter to a delivery transformer, to a feeder, and finally to a distribution substation. This updated data will facilitate better outage

prediction and response when outage information is received by the OMS. The GIS attribution collection work is being performed by a third-party vendor that has extensive experience updating GIS models in preparation for grid modernization tools. In addition, the attribution data will be leveraged by Otter Tail engineers to refine various asset health programs, such as underground cable replacement and overhead line replacement projects. The connectivity model will also be utilized by the MDMS for operational and planning tools and will be available for future tools, such as Volt/Var optimization, DR controls, and automated system reconfiguration. Lastly, the implementation of AMI will enhance the speed in which the OMS receives outage information and therefore improve restoration times even further. The individual meters will provide power-off and power-on notifications to be utilized by the OMS.

The GIS update portion of the OMS project is nearing completion and is expected to be completed by June 2023. The first phase of the OMS installation was completed in December 2022. The final go-live improvements to the OMS system, including modeling improvements as part of the GIS portion of the project, are expected to be complete by Fall of 2023. Even though the project is not fully completed, these items have already improved available outage and restoration information and communications, as noted below.

The updated Outage Map on the Otter Tail website went live in early December 2022, along with a new Interactive Voice Response (IVR) system. The updated outage map can be found on the Otter Tail website and includes real time information on current outages.[15] The map allows customers to see the physical location of active outages with the estimated number of impacted customers and the Otter Tail crew status with anticipated restoration time. Along with real time data, the site allows customers to look at a graphic showing information on outages that have occurred in the past 48 hours. The outage map also includes a banner which displays the number for customers to call to report an outage. From a mobile device, a customer can click on the banner to automatically dial the number to report an outage. This banner can be quickly updated to provide customers with important messages about outages.

The next stage of OMS development ties closely with the installation of the advanced meter infrastructure and the implementation of the new CEP. Integration with the AMI project will begin with the pilot in Fall 2023 and continue through full deployment through 2024. OMS and AMI together will improve the

[15] https://outages.otpco.com/.

customer experience featuring two-way communication for service outages and speeding up the restoration process. The CEP system will enable customers to receive communication based on their preferences and will give customers the ability to sign up for outage and estimated restoration notifications that pertain specifically to their service.

C. Demand Response System

Otter Tail has taken several actions to move the project forward over the past several months. The Request for Proposals for the DR replacement system was released, and six responses were received in November 2022. Otter Tail reviewed the responses in conjunction with its consultant Katama Technologies. Vendor demonstrations were held February 22nd through the 24th. Follow-up questions were posed to and answered by vendors in separate meetings. Best and Final Offers have been received for the remaining vendors of interest. Otter Tail expects to select a vendor(s) in June 2023, allowing the Company to meet the proposed project schedule. Informational presentations are scheduled to be given to its power company and corporate boards in June. Otter Tail was also invited to submit a full application for grant opportunities related to the 2021 Infrastructure Investment and Jobs Act. An award through this act would reduce overall project costs. An application was submitted by the deadline and Otter Tail awaits the final decision.

D. Per Meter revenue requirements calculations

Attachments 11-14 are, respectively, the Revenue, Revenue Requirement Summary, Rate Design, and Tracker Summary calculations used for Otter Tail's proposed Phase-In update. Attachments 15-17 provide the revenue requirement calculations for the Projects for which Otter Tail has received approval for Phase-In recovery. Attachment 18 is the AMI adjustment reflecting the estimated O&M savings due to the AMI implementation in South Dakota.

Specifically, the calculations of the revenue requirement in this Petition include the following:

- *Rate base section*. This section provides details on the amount of plant in service, accumulated depreciation (if applicable), construction work in progress (CWIP), accumulated deferred taxes including the effect of proration on Federal amounts, and a 13-month average rate base calculation.

- *Expense section*. The expenses applicable to a project are listed here and include operating costs, property taxes, depreciation, and income taxes.
- *Revenue requirements section*. This section shows the components of the revenue requirements, including expenses and return on rate base.
- *Return on investment (cost of capital)*. The return on investment utilizes the return on equity approved in Otter Tail's Rate Case.
- *Depreciation expense*. Depreciation expense is calculated using the Company's current estimated depreciation rates.
- *Property taxes*. The property tax calculation is based on Otter Tail's composite tax rate for the jurisdictions in which the facilities are located and is calculated in accordance with the procedures specified by the states.
- *Operation and maintenance Expense*. Otter Tail will track operation and maintenance costs specifically related to each project in Attachments 15-17. Annual O&M expenses related to these projects include operating costs, property taxes, and depreciation.
- *Operation and maintenance Savings*. Otter Tail will track operation and maintenance savings specifically related to the AMI project in Attachment 18. Annual O&M savings related to AMI implementation primarily include costs related to manual meter reading, of which a certain portion is completed by third party contract services and a certain portion conducted internally by service reps across Otter Tail's system. Due to a delay in the installation of the AMI meters, the estimated O&M savings have been adjusted to reflect the new project timeline.
- *Proration of Federal Accumulated Deferred Income Taxes (ADIT)*. Once the project is in service, Otter Tail will include proration of Federal ADIT, as shown in Attachment 19. The methodology used for proration of Federal ADIT is in adherence to United States Internal Revenue Service (IRS) rules related to proration, including recently issued IRS private letter rulings. Otter Tail interprets this to include proration of Federal ADIT for the (forward-looking) recovery period and, in future filings, preserving the effect of the application of the proration methodology for the true-up period. This calculation methodology is necessary in order to comply with Section 1.167(l)-l(h)(6)(ii) of the IRS regulations and to avoid a tax normalization violation.[16] In annual Updates, Otter Tail will

[16] *See* Treas. Reg. SS 1.167(l)-1(h)(6)(ii).

include a workpaper with the details of the calculation of the proration of Federal ADIT for the recovery period and whether it results in an increase or decrease to the revenue requirement.

- *Jurisdictional Allocation Factors*. Jurisdictional allocators are used to allocate system cost among jurisdictions. The Commission approved Otter Tail's South Dakota jurisdictional allocations for the 2017 Test Year in the Rate Case.

E. Per Meter Rate (AGI) Rate Design

Otter Tail proposes to use a monthly per meter charge rate design for the AGI portion of the Phase-In rider. The proposed calculation will determine the average cost per meter for materials and labor for each customer class. The weighted average cost per customer class is then used to determine the percentage of project costs to be charged to each class. The weighted average cost per class, divided by the average annual number of meters per class, equals the monthly per meter charge.

VI. RATE APPLICATION AND IMPACT

As indicated earlier, the total annual revenue requirement to be collected for the next recovery period of September 2023 through August 2024 is estimated at $2,623,921, which includes $2,408,896 recovered under the percent of bill rate and $215,025 recovered under the per meter rates. The proposed percent of bill rate of 9.923 percent of base rates is calculated on Attachment 2, Line No. 3 and the proposed per meter rates are listed on Attachment 11, Lines 1 through 14.

The new total billed charge amount of the Phase-In rates, beginning September 1, 2023, for a residential customer using 1,000 kWh per month with a single residential meter is approximately $7.78 per month, which is a *reduction* of $.74 per month from current rates. For a Large General Service (LGS) customer using 486 kW and 222,350 kWh with a single LGS Meter the total billed charge is approximately $1,078.37 per month, which is a *reduction* of $33.15 per month from current rates. See Table 2 for bill impact and proposed rates.

Table 2
Phase-In Rider Rate Impact

	Average kWh Per Month	Percent of Bill Sept 22 - Aug 23	Per Meter Rate Sept 22 - Aug 23	Percent of Bill Proposed Rate	Per Meter Rate Proposed Rate	Percent of Bill Monthly Impact	Per Meter Rate Monthly Impact	Monthly Impact (Increase or decrease from prior rate)
Residential	1,000	10.181%	$ 1.14	9.923%	$ 0.59	$ (0.19)	$ (0.55)	$ (0.74)
Large General Service	222,350 kWh and 486 Kw	10.181%	$ 10.88	9.923%	$ 5.60	$ (27.87)	$ (5.28)	$ (33.15)

The Customer Notice and Rate Impact is contained in Attachment 21 which represents the incremental decrease between the prior rate and updated rate. Otter Tail provides the report to Commission of tariff schedule changes as Attachment 22 to this filing.

VII. PHASE-IN RIDER TARIFF SHEET

Otter Tail's Phase-In Rider Rate Schedule (Section 13.09) is Attachment 20 to this Petition. The rates listed in the RATE sections of the tariff sheets are updated to reflect the changes described in this annual update. In addition, an introductory title has been added on Sheet No. 1 to clearly describe this rider contains two billing components, Percent of Bill Rate and Per Meter Charge.

South Dakota Tariff Schedules Volume II – Electric Service

Section 13.09

Fourth Revised Sheet No. 1	Cancelling Third Revised Sheet No. 1
Second Revised Sheet No. 2	Cancelling First Revised Sheet No. 2
First Revised Sheet No. 3	Cancelling Original Sheet No. 3

VIII. FILING FEE

Under SDCL 49-34A-77, the electric utility shall pay a filing fee to be determined by the commission in an amount not to exceed two hundred fifty thousand dollars. Otter Tail will pay such deposit amount as the Commission determines appropriate upon the Commission's Order assessing such fee.

IX. CONCLUSION

For the foregoing reasons, Otter Tail respectfully requests the Commission approve Otter Tail's proposals to:

1. Include updated costs and collections associated with current projects being recovered in the Phase-In Rider:
   a. Astoria Station
   b. Merricourt
   c. Ashtabula III
   d. Lake Norden Area Load Growth Credit
   e. Hoot Lake Plant Adjustment
   f. Advanced Metering Infrastructure
   g. Outage Management System
   h. Demand Response System Replacement
2. Implement the proposed rates and changes in Otter Tail's Phase-In Rider, Section 13.09, effective as of September 1, 2023.

Date: June 1, 2023

Respectfully submitted:
OTTER TAIL POWER COMPANY

/s/ Paula Foster

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