

**STATE OF SOUTH DAKOTA
BEFORE THE
SOUTH DAKOTA PUBLIC UTILITIES COMMISSION**

In the Matter of Otter Tail Power
Company’s Petition to Establish an
Environmental Quality Cost
Recovery Tariff

Docket No. EL14-___

**PETITION OF
OTTER TAIL POWER COMPANY**

I. INTRODUCTION

Otter Tail Power Company, (“Otter Tail or Company”), hereby petitions the South Dakota Public Utilities Commission (“Commission”) for approval of an Environmental Quality Cost Recovery Tariff (“Environmental Cost Recovery Rider”), pursuant to SDCL Chapter 49-34A, Section 97 through 100, relating to approval of tariff mechanisms for automatic annual adjustment of charges for jurisdictional costs of new environmental measures. Otter Tail also requests approval of a November 1, 2014 implementation of the tariff at which time the allocated jurisdictional costs of specified environmental measures already incurred and those planned to be made in 2014 through October 2015 will commence recovery through the Environmental Cost Recovery Rider.

Otter Tail made a similar request in Docket No. EL12-027 in a Petition dated March 31, 2012. On April 17, 2013, Otter Tail requested suspension of that request, or withdrawal if preferred by the Commission. It was Otter Tail’s intention at that time to revive or refile its request closer in time to the in-service date of the facility. Withdrawal of the request was granted in an Order from the Commission dated April 24, 2013. Prior to the withdrawal of that request, Commission Staff had issued a report determining the Big Stone Air Quality Control (“AQCS”) project was the least cost option compared to other alternatives.

Since that time, Otter Tail as project manager has been able to reduce the budget by over 21 percent, taking the total project budget from \$491 million to \$384 million. After preparing updates in both Minnesota and North Dakota where it has approved riders for the AQCS project, Otter Tail reviewed the impact on customers of waiting another year to file in SD. Otter Tail

determined it would be reasonable to re-file the petition at this time to allow for a two-step phase-in of the rider rate to mitigate the magnitude and abruptness of rate increases at the time the retrofit is completed.

Additionally, a required environmental retrofit project is nearing completion at Otter Tail's Hoot Lake Plant, located near Fergus Falls, Minnesota. The Hoot Lake Plant environmental retrofit is necessary for compliance with the mercury and air toxics standards ("MATS") promulgated by United States Environmental Protection Agency ("EPA"). The Big Stone AQCS and Hoot Lake Plant MATS projects are necessary for continued operation of both facilities.

Otter Tail anticipates the rate impact of this request (for both projects) will be approximately 7.1 percent on average in the first year of the rider. Once construction of the AQCS is complete in 2015, Otter Tail estimates the rate impact will be slightly less than 12 percent.

II. GENERAL FILING INFORMATION

A. Name, Address, and Telephone Number of the Utility.

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Phone (218) 739-8200

B. Name, Address, and Telephone Number of Utility Attorney.

Bruce Gerhardson
Associate General Counsel
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215 South Cascade Street
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C. Title of Utility Employee Responsible for Filing.

Pete Beithon
Manager, Regulatory Recovery
Otter Tail Power Company

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D. Date of Filing and the Date Changes will Take Effect.

The date of this filing is August 29, 2014. Otter Tail proposes that the tariff mechanism for the recovery of jurisdictional costs of new environmental projects go into effect as of November 1, 2014.

E. Statute Controlling Schedule for Processing the Filing.

ARSD Part 20:10:13:15 requires a 30-day notice to the Commission of a proposed change in a utility's tariff schedule, after which time the proposed changes take effect unless suspended. The report called for under Part 20:10:13:26 and the general notice provisions applicable to changes in rates is Attachment 1 (Report of Tariff Schedule Change) to this filing and Attachment 2 (Notice). Otter Tail requests an expedited and informal proceeding, including any variances that may be necessary.

Pursuant to ARSD 20:10:13:18, Otter Tail will post a Notice of proposed changes contained in Attachment #2. This Notice will be placed in a conspicuous place in each business office in Otter Tail's affected electric service territory in South Dakota for at least 30 days before the change becomes effective.

III. BACKGROUND

SB 118 passed by the South Dakota Legislature in 2007 (now incorporated as SDCL Chapter 49-34A, Sections 97 through 100) authorizes the Commission to approve a tariff mechanism for the automatic annual adjustment of charges for a public utility to recover the South Dakota jurisdictional portion of eligible investments in and expenses related to new environmental measures. The statute defines eligible new environmental measures as any environmental improvements required under the Clean Air Act, the Clean Water Act, or any other federal law or rule, or any state law or rule implementing a federal law or rule, or voluntary environmental measures designed to protect the environment.

South Dakota Stat. §§49-34A-97 and 49-34A-98 read as follows:

SDCL 49-34A-97 - Notwithstanding any other provisions of this chapter, the commission may approve a tariff mechanism for the automatic annual adjustment of charges for the jurisdictional capital costs and operating expenses incurred by a public utility for environmental improvements to its existing electric generation facilities. For the purposes of §§49-34A-97 to 49-34A-100, inclusive, of this Act, environmental improvements include any requirements under the Clean Air Act, the Clean Water Act, or any other federal law or rule, or any state law or rule implementing a federal law or rule, or voluntary environmental measures designed to protect the environment.

SDCL 49-34A-98 - Upon filing of an application consistent with rules promulgated by the commission by any public utility providing electric service, the commission may approve, reject, or modify, after notice, hearing, and comment, a tariff that:

(1) Allows the public utility to recover on a timely basis the costs and expenses net of revenues of environmental improvements described in § 49-34A-97;

Otter Tail proposes to implement a rate schedule (“Environmental Cost Recovery Rider”) for the recovery of investments and expenses associated with environmental measures that are determined by the Commission to be eligible for recovery under SDCL § 49-34A-97.

IV. PROJECT DESCRIPTIONS

A. Big Stone Air Quality Control System

Otter Tail operates the Big Stone power plant (“Big Stone”) near Big Stone City, South Dakota. The Big Stone plant is co-owned by NorthWestern Corporation d/b/a NorthWestern Energy, Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc., and Otter Tail. The Big Stone boiler was originally designed to burn lignite fuel and began operation in 1975. Designed by Babcock & Wilcox (“B&W”), the boiler is a Caroline-type balanced-draft pump-assisted radiant machine. In 1995, the boiler was converted to burn Powder River Basin (“PRB”) fuel. With the conversion to PRB fuel, a simplified Separated Overfire Air (“SOFA”)

system was installed to reduce nitrogen oxide (“NOX”) emissions. The boiler also has a flue gas recirculation (“FGR”) system to control main steam and reheat temperatures. From the boiler, flue gas travels to two air heaters. The unit currently has a conventional pulse-jet fabric filter for control of particulate emissions that will be replaced as part of this project. Ash is currently sent to a fly ash storage silo located directly south of the plant, where it is then trucked to a landfill. Flue gas from the fabric filter flows to four centrifugal-induced draft (“ID”) fans. The ID fans discharge the flue gas to the chimney, which has two breech openings.

Pursuant to the South Dakota Department of Environmental and Natural Resources (“DENR”) South Dakota Haze State Implementation Plan (“SD Haze SIP”) Otter Tail is required to install Air Quality Control System (“AQCS”) equipment at its Big Stone Plant to reduce emissions of sulfur dioxide (“SO₂”) and NOX. The AQCS equipment is required based on a Best Available Retrofit Technology (“BART”) determination adopted by the South Dakota DENR. The BART determination requires that the AQCS include flue gas desulfurization (“FGD”) for SO₂ reduction, and selective catalytic reduction (“SCR”) with SOFA for NOX reduction. The BART determination did not include mercury reduction requirements; however, at the time the AQCS was planned it was expected the U.S. EPA’s utility boiler Maximum Achievable Control Technology (“MACT”) rule would require mercury reduction, activated carbon injection (“ACI”) was also evaluated as part of the AQCS project. Since that time the rule has been finalized and does require mercury reduction. The rule is described in greater detail in the Hoot Lake MATS section below. The implementing rules and the SD Haze SIP require that the Big Stone AQCS be installed as expeditiously as practicable but no later than five years from the EPA’s approval of the SD Haze SIP. A copy of the relevant components of the SD Haze SIP is described in Otter Tail’s North Dakota Application for Advance Determination of Prudence (“ND ADP”) which was included as Attachment 3 to Otter Tail’s previous petition in Docket No. EL12-027 and described more fully below. Otter Tail projects that the Big Stone AQCS operation and emissions compliance will be required as early as January 2016.

The ND ADP, which is attachment 3 to Otter Tail’s filing in Docket No. EL12-027, provides a complete description of the project and the analysis done by the owners of Big Stone to determine the appropriateness of the project. The following options were analyzed:

- Implementing the Big Stone AQCS project, as Co-Owners have proposed.
- Repowering Big Stone boiler with natural gas.
- Retiring/Replacing Big Stone with a CCGT Plant.
- Retiring/Replacing Big Stone with a CCGT Plant and purchased wind power.

The result of the Big Stone Co-Owners' analysis is that the AQCS project is the most economical option under all analyses in the Base Case. Additional sensitivities were also run to further analyze scenarios relating to capital cost, operations and maintenance ("O&M") costs, fuel cost, and CO2 costs, based upon these analyses, the Big Stone Co-Owners have determined that the AQCS project is the preferred solution for addressing these new environmental requirements. In Docket No. EL12-027, South Dakota Public Utilities Commission concluded in the report titled "Evaluation of Otter Tail's Air Quality Control System Project as the Least Cost Option Compared to Other Alternatives", filed January 25, 2013, that, "Based on the evaluation of Otter Tail's IRP and the analysis conducted in the ADP proceedings in North Dakota and Minnesota, the AQCS project is found to be the least cost option compared to other alternatives."

The total cost estimate for the AQCS project is \$384 million (2015 dollars). Otter Tail's ownership share in the Big Stone Plant is 53.9 percent, and therefore the Company is responsible for 53.9 percent of the costs or \$207 million. Otter Tail's South Dakota jurisdictional share of this cost responsibility is approximately 10 percent or \$20.7 million.

Project costs of over \$210 million (\$113.3 million Otter Tail share) have been incurred as of June 31, 2014. The projection for total project expenditures is an additional \$174 million (\$94 million Otter Tail share) for a total of \$384 million (\$207 million Otter Tail share).

The Commission has approved similar Environmental Riders for Xcel energy and Black Hills Power, in Dockets EL07-026 and EL11-001, respectively. The Commission's approval for Xcel Energy also included Rider recovery for an AQCS project at Xcel Energy's King Plant, which is similar in many respects to the Big Stone AQCS project.

1. Advance Determination of Prudence granted and Environmental Cost Recovery Rider Approved and Implemented in Minnesota.

a. *Advance Determination of Prudence*

As noted in Docket EL12-027, the January 23, 2012 Order issued by the Minnesota Public Utilities Commission in Docket No. E017/M-10-1082, in which the Minnesota Commission approved Otter Tail's request for an Advance Determination of Prudence for the Big Stone AQCS project based upon Minnesota law. While Otter Tail understands that the South Dakota Commission will make its own independent determination as to the reasonability of Otter Tail's request in this docket, Otter Tail believes the Minnesota Commission's Order and the record from that proceeding may be instructive in this matter. The Record of this Minnesota Commission proceeding can be found at: <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=eDocketsResult&userType=public>, or copies of any filings made in the proceeding can be provided upon request.

b. Environmental Cost Recovery Rider

On December 18, 2013, the Minnesota Public Utilities Commission issued its order approving Otter Tail's Environmental Upgrades Cost Recovery Rider in Docket No. E017/M-13-648. In the ruling, it was determined that the Big Stone Air Quality Control System project is eligible for an Environmental Cost Recovery rider as requested. The elements of Otter Tail's rider were also approved at that time. The rate was implemented on bills rendered on and after January 1, 2014. Otter Tail filed an update in Minnesota rate requesting a 6.515 percent rate on July 31, 2014. The AQCS baghouse (approximately 10 percent of the project) is not part of the Minnesota rider due to statutory interpretation of the Advance Determination of Prudence statute. The Hoot Lake MATS project is not part of the Minnesota request due to statutory requirement.

2. Advance Determination of Prudence granted and Environmental Cost Recovery Rider approved and implemented in North Dakota.

a. Advance Determination of Prudence

As noted in Docket No. EL12-027, Otter Tail's application and related updates received an Advance Determination of Prudence for the Big Stone AQCS project under North Dakota law in North Dakota Public Service Commission Case No. PU-11-165. As was stated above with respect to the Minnesota proceeding, Otter Tail understands that the South Dakota Commission will make its own independent determination as to the reasonability of Otter Tail's request in this docket, but Otter Tail believes this North Dakota application may be instructive in this matter. The remainder of the Record of this North Dakota Commission proceeding can be found at:

http://www.psc.nd.gov/database/docket_view_list.php?s_dept=PU&s_year=case=11&s_seq_num=165&s_company_name=Otter+Tail+Power+Company or copies of any filings made in the proceeding can be provided upon request.

b. Environmental Cost Recovery Rider

On December 18th, 2013, the North Dakota Public Service Commission issued their order approving Otter Tail's Environmental Upgrades Cost Recovery Rider in Case No. PU-13-79 and PU-13-84. In the order, Otter Tail's application to establish an Environmental Cost Recovery Rider Tariff was approved. In addition, Otter Tail's application for a rate adjustment under its Environmental Cost Recovery Rider Tariff for the Big Stone Air Quality Control Systems Project was approved. The rate was implemented on bills rendered on and after January 1, 2014. An update of the North Dakota rate to 7.531 percent was approved July 10, 2014 for rates effective on and after August 1, 2014. The North Dakota Rate does not include the Hoot Lake MATS at this time.

B. Hoot Lake Plant MATS Project

Otter Tail Power is upgrading the existing Hoot Lake Units #2 and #3 electrostatic precipitators ("ESP") to comply with the MATS. Compliance with MATS is required by April 16, 2015. Otter Tail reviewed various compliance options including retiring Hoot Lake in 2015 and replacing the generation (most likely with natural gas generation), refurbishing Hoot Lake to operate as a Coal Unit for long-term operation, or installing minimal cost upgrades and planning

for retirement in the 2020 timeframe. This analysis was reviewed in the MPUC ordered “Baseload Diversification Study” E017-RP-10-623 and reviewed with the NDPSC and the SDPUC, through a Stakeholder Process in 2012 and 2013. During the review process, the Hoot Lake MATS Project was estimated to cost approximately \$10,000,000, however at this time it appears that the project will cost approximately \$8,200,000 (an 18 percent decrease), including AFUDC. The expected in-service date of the MATS equipment is October 2014. Further detail on the project is described below.

1. Background on MATS regulation

The 1990 Amendments to the CAA required EPA to study the effects of emissions of listed hazardous air pollutants by electric steam generating plants. The EPA completed required studies and submitted reports to Congress, and determined that it would regulate mercury emissions from electric generating units under the hazardous air pollutant requirements of the CAA. EPA then published final rules that reversed this determination and set forth a cap and trade program for mercury emissions; however, EPA’s cap and trade mercury rule was reversed by the United States Court of Appeals for the D.C. Circuit in February 2008.

In response to the D.C. Circuit Court’s vacatur, on March 16, 2011, EPA proposed Section 112 air toxics standards for all coal- and oil-fired EGUs that reflect the application of the maximum achievable control technology (“MACT”) consistent with the requirements of the CAA. EPA signed a final rulemaking, termed the “mercury and air toxics standards” (MATS) rule, on December 16, 2011, which was subsequently published in the Federal Register on February 16, 2012.

Power plants will have three years and sixty days from the date of publication to comply with MATS (April 16, 2015), although EPA is encouraging state permitting authorities to broadly grant a one-year compliance extension to plants that need additional time to install controls. The EPA is also providing a pathway for reliability critical units to obtain an additional year to achieve compliance; however, the EPA believes there will be few, if any situations, in which this pathway is needed. Based on the final rule, Hoot Lake Plant will meet MATS by improving particulate control on Units 2 and 3, mercury control technology such as activated carbon injection on Units 2 and 3, and possibly installing sodium or calcium based dry sorbent

injection system to control hydrogen chloride. Emissions monitoring equipment and/or stack testing was also needed to verify compliance with the standards.

2. Description of Project

Prior to the decision to upgrade the Hoot Lake units to meet the MATS rule and plan for a retirement in the 2020 timeframe, Otter Tail investigated various options around the Hoot Lake generation facility including engineering studies based for:

- A range of environmental controls necessary for a wide range of future regulatory restrictions
- Condition based assessments of Hoot Lake
- Generation Options for Hoot Lake replacement (including specific natural gas generation options)

The Company went through a solution based competitive bid process to determine the preferred technology and vendor to complete the MATS upgrade project at Hoot Lake. Emissions guarantee requirements that would meet the MATS rule under current Hoot Lake operating conditions were issued to vendors for general solutions and firm project bids were compared against each other. After review, ESP upgrade projects compared favorably to baghouse retrofit projects primarily because of their ability to meet required MATS emissions requirements with maximum use of existing technology, lower costs for retrofit of both Units #2 and #3, and elimination of need to replace the existing large Induced Draft Fans.

V. REVENUE REQUIREMENT COMPONENTS AND TRACKER

A. Components of the Revenue Requirements Calculation

Attachment 5 shows the revenue requirement calculation for the Big Stone AQCS and Attachment 6 shows the revenue requirement calculation for the Hoot Lake MATS project included in the Environmental Cost Recovery Rider. The revenue requirement for the projects included in the Environmental Cost Recovery Rider includes several components as described below.

- *Rate base section.* This section provides details on the amount of plant in service, accumulated depreciation, construction work in progress (“CWIP”) (if applicable), accumulated deferred taxes, and includes a 13-month average rate base calculation.
- *CWIP.* SDCL §49-34A-25.2 allows a current return on CWIP.
- *Expense section.* The expenses applicable to a project will be listed here and include operating costs, property taxes, and, income taxes.
- *Revenue requirements section.* This section will show the components of the revenue requirements. Included are the items computed from the sections previously mentioned, including expenses and return on rate base.
- *Return on investment (cost of capital).* The return on investment will utilize the cost of capital similar to the approved Transmission Cost Recovery Rider (Docket No. EL13-029) for the Hoot Lake Plant MATS project. The Big Stone AQCS Project will utilize the same formula but also include short-term debt amounts until the project is placed in service.
- *Depreciation expense.* Depreciation expense will be calculated using Otter Tail’s latest composite depreciation rate.
- *Property taxes.* The property tax calculation will be based on Otter Tail’s composite tax rate for the jurisdiction in which the environmental retrofit facilities are located, and will be calculated in accordance with the procedures specified by that state.
- *O&M Expense.* The Company will set up environmental O&M accounting projects to track O&M costs specifically related to each project included in the Rider. Reagent costs are not included in either project. Otter Tail has requested Commission approval of a proposal to collect those costs through the FCA in Docket No. PU-14-070.

B. Tracker Balance

Otter Tail maintains a tracker account worksheet and accounting system to track and account for retail revenue requirements until all costs have been fully recovered or reflected in base rates as the result of a general rate case. The tracker account information compares Otter Tail’s South Dakota jurisdictional costs and the amount recovered through South Dakota retail revenue. The tracker account balance (either positive or negative) will accrue monthly carrying

charges at a rate of 1/12 of Otter Tail’s cost of capital times the tracker balance. Carrying charges on a negative tracker balance will accrue to the benefit of retail customers and carrying charges on a positive tracker balance will accrue to Otter Tail.

Otter Tail anticipates making annual filings to revise the Environmental Cost Recovery rates to reflect updated revenue requirements and additional new environmental measure projects, if any. When submitting annual filings, the tracker account will be updated so that any over/under recovered amount at the end of the previous year will be reflected in the Environmental Cost Recovery Rider adjustment for the upcoming year. This approach ensures that no under/over recovery occurs. The tracker balance detail is included in Attachment 7.

VI. RATE DESIGN

Otter Tail’s proposed rate design is simply the calculated revenue requirement from November 2014 through October 2015 divided by the total forecast kWh to South Dakota electric retail customers from November 2014 to October 2015. The rate design calculation is shown on Attachment 8.

VII. RATE APPLICATION AND IMPACT

Otter Tail proposes that the Environmental Cost Recovery Rider should be applicable to electric service under all of Otter Tail’s retail rate schedules. The charge will be included as part of the Fuel Adjustment line on customers’ bills. The proposed rate for this annual recovery period is as follows:

	<u>\$ / kWh</u>
All Customers	\$ 0.00487

The following table shows the estimated rate impact by retail customer class.

Approved SD Rates Based on 2009 Test Year Billing Determinants			
Rate Class Impacts ⁽¹⁾		Rate Class Impacts ⁽¹⁾	
Residential		Outdoor Lighting	
Average Rate (¢/kWh)	8.662	Average Rate (¢/kWh)	13.707
Increase %	5.62%	Increase %	5.28%
Average Impact (\$/month)	\$4.62	Average Impact (\$/month)	\$7.93
Farm		Municipal Pumping	
Average Rate (¢/kWh)	8.069	Average Rate (¢/kWh)	6.098
Increase %	6.04%	Increase %	7.99%
Average Impact (\$/month)	\$7.89	Average Impact (\$/month)	\$12.89
General Service		Water Heating, Controlled	
Average Rate (¢/kWh)	7.996	Average Rate (¢/kWh)	6.706
Increase %	6.09%	Increase %	7.26%
Average Impact (\$/month)	\$13.88	Average Impact (\$/month)	\$1.07
Large General Service		Interruptible Load	
Average Rate (¢/kWh)	5.581	Average Rate (¢/kWh)	4.103
Increase %	8.73%	Increase %	11.87%
Average Impact (\$/month)	\$1,527.98	Average Impact (\$/month)	\$10.13
Irrigation		Deferred Load	
Average Rate (¢/kWh)	6.696	Average Rate (¢/kWh)	4.414
Increase %	7.27%	Increase %	11.03%
Average Impact (\$/month)	\$11.28	Average Impact (\$/month)	\$12.41

(1) Average rate calculation is from SD Docket No. EL10-011. Rate impacts are calculated from base rates, including Cost of Energy

The above rate has been calculated based on an expected implementation date of November 1, 2014. Revenue Requirement calculations are based on November 2014 through October 2015 costs, assuming revenue collection occurs November 2014 through October 2015.

If the effective date is significantly later than November 1, 2014, Otter Tail requests the option to recalculate the Environmental Cost Recovery rate in order to recover all approved costs in the remainder of the collection period.

VIII. ENVIRONMENTAL COST RECOVERY RIDER RATE SCHEDULE

Otter Tail's proposed Environmental Cost Recovery Rider, Rate Schedule 13.08 in addition to Rate Schedules 13.06 and 13.07 (which are simply being reserved for future use for administrative purposes) are Attachment 3 to this petition.

IX. REVISIONS TO OTHER RATE SCHEDULES

Redline and proposed final versions of Otter Tail's Rate Schedules Index (Attachment 4a) and Mandatory Riders – Applicability Matrix, Rate Schedule 13.00 (Attachment 4b), showing the addition of the Environmental Cost Recovery Rider and Rate Schedules 13.06 and 13.07 (reserved for future use) are included with this petition. For completeness, the Mandatory Riders -Applicability Matrix additionally reflects Rate Schedules 13.02 and 13.03 which had been reserved for future use previously but were inadvertently not included in prior revisions of the Applicability Matrix.

X. FILING FEE

Under SDCC § 49-1A-8, the commission may require a deposit of up to fifty thousand dollars for the filing of a tariff for approval under the provisions of §49-34A-4 and §49-34A-25.1 to §49-34A-25.4, inclusive, or makes a filing pursuant to §49-34A-97 to §49-34A-100. OTP will pay such deposit amount as the Commission determines appropriate upon the Commission's Order assessing such fee.

XI. CONCLUSION

For the foregoing reasons, Otter Tail Power Company respectfully requests approval to implement the rate schedules with Rate Designation 13.06, 13.07 (reserved for future use) and 13.08, the Environmental Cost Recovery Rider effective as of November 1, 2014.

Date: August 29, 2014

Respectfully submitted,
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