

STATE OF SOUTH DAKOTA
BEFORE THE
PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE REQUEST FOR DECLARATORY RULING REGARDING OTTER TAIL POWER COMPANY’S ENERGY EFFICIENCY PROGRAM’S COST RECOVERY FEE	DOCKET NO. _____
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**PETITION TO FOR
DECLARATORY RULING**

Pursuant to ARSD 20:10:01:34, Big Stone Energy Storage Project, LLC (“BSESP”) petitions the Commission to issue a declaratory ruling that the certain amounts Otter Tail Power Company (“OTP”) is allowed to charge its customers through the Energy Efficiency Adjustment Factor as cost recovery fees in conjunction with OTP’s Energy Efficiency Plan (“EEP”) are not applicable to the Big Stone Energy Storage Project. Specifically, BSESP requests that the Commission find that its *Order Approving Energy Efficiency Partnership Plan*, Docket No. EL07-011 (Jul. 28, 2008) (“EPP Order”) is not applicable to the non-firm, charging load for BSESP’s thermal energy storage system (“TESS”). In the alternative, BSESP seeks a waiver from OTP’s EEP cost recovery fees specific to its non-firm, charging load.¹ BSESP requests that a ruling be issued in conjunction with the Commission’s decision on the approval of the electric service agreement (“ESA”) entered between OTP and BSESP, Docket No. EL25-015. In support of its

¹ BSESP does not seek a declaration or waiver relating to its firm, balance of plant, load. BSESP plans on paying OTP’s EEP cost recovery fees on this firm load — which provides power for its pumps and other mechanical systems to distribute heat — and indeed hopes to participate in OTP’s EEP programs.

Petition, BSESP submits the following required by ASRD 20:10:01:34.

INTRODUCTION

BSESP's affiliate is a thermal battery manufacturer and developer in the business of using affordable electricity to power industrial heating applications with thermal energy storage and other power-to-heat technologies. With projects like BSESP, thermal storage can provide low cost, clean energy to power global industry. BSESP's affiliate designs, develops and deploys thermal energy storage modules that charge during the cheapest hours of energy production, store the energy, then provide 24/7 heat, enabling the system to reliably serve continuous industrial heat demand for days on end. The storage systems are a novel technology with greater than 90% efficient energy utilization, using energy that would often otherwise go unused by the grid, complementing public utilities' energy efficiency programs.

BSESP entered into an agreement with POET Biorefining and Management, LLC ("POET") to construct, own, and operate a TESS, consisting of over 200 modular thermal storage modules (the "Project"), which will provide energy to POET's ethanol production facility located in Big Stone City, South Dakota. BSESP plans to run a thermal storage facility. BSESP will use electricity to heat blocks of carbon that store heat, which in turn will be used to heat water to create steam. BSESP and OTP entered into an ESA specific to the Project, which is under review by the Commission in Docket No. EL25-015.

ARSD 20:10:01:34

1. Commission's Order in question

The order at issue is the EEP Order which authorizes OTP's EEP and the Energy Efficiency

Adjustment Factor.²

2. Facts and circumstances which give rise to the issue to be answered by the Commission

The South Dakota Energy Efficiency Program was established on Feb. 1, 2007, when OTP started active development of an energy efficiency plan. OTP proposed the EEP recommending the same charge per kWh across all customer classes.³ Commission Staff, however, recommended that the Commission modify OTP's proposed program by allocating the costs across customer classes in proportion to benefits, so that customers paying the most into the program would receive most of the benefits.⁴ One of the Commission Staff's primary concerns with the plan was "the idea of recovering costs from the entire population of ratepayers for the benefit of a few."⁵ The Commission approved OTP's EEP as OTP proposed.⁶ Each year OTP must receive Commission approval of a new cost recovery charge that becomes effective July 1.⁷

OTP implemented the order and today has 11 individual efficiency programs funded solely

² In the Matter of the Filing by Otter Tail Power Company for Approval of its Proposed Energy Efficiency Partnership Plan for 2008, *Order Approving Energy Efficiency Partnership Plan*, Docket No. EL07-011 (Jul. 28, 2008).

³ In the Matter of the Filing by Otter Tail Power Company for Approval of its Proposed Energy Efficiency Partnership Plan for 2008, *Staff Memorandum*, Docket No. EL07-011 (May 19, 2008).

⁴ *Id.*

⁵ In the Matter of the Filing by Otter Tail Power Company for Approval of its Proposed Energy Efficiency Partnership Plan for 2008, *Staff Memorandum*, Docket No. EL07-011 (Mar. 3, 2008).

⁶ In the Matter of the Filing by Otter Tail Power Company for Approval of its Proposed Energy Efficiency Partnership Plan for 2008, *Order Approving Energy Efficiency Partnership Plan*, Docket No. EL07-011 (Jul. 28, 2008).

⁷ *Id.* In 2024, the Commission approved OTP's request to charge its customers a fee of \$0.00134 per kWh, or \$1.34 per MWh. In the Matter of Otter Tail Power Company's 2023 South Dakota Energy Efficiency Plan Status Report and 2024 Annual Filing to Update the Energy Efficiency Adjustment Rider, *Order Approving 2023 Energy Efficiency Plan Status Report, Financial Incentive, and Energy Efficiency Adjustment Rider*, Docket No. EL24-017 (Jun. 20, 2024).

by these revenues.⁸ OTP collects cost recovery fees from all of OTP's customers monthly through the "Energy Efficiency Adjustment Factor" based on a kWh charge on customers' bills. If an OTP customer utilizes one of the named energy efficiency devices (relative to the program the customer participates in), that customer receives a cash incentive drawn from the account holding all of the cost recovery fees paid in relation to the EEP.

Under the ESA between OTP and BSESP, BSESP seeks 155 MW of energy from OTP for its thermal storage facility. Most of that energy (152 MW) will be served as non-firm load for charging the energy storage system. For this non-firm load, OTP will pass through market rates for energy via its new Thermal Market Energy Rate Rider, as described in the ESA. For the 3 MW firm load (which supports the balance of plant, including pumps and other associated electricity needs), OTP will recover the costs through its Large General Service ("LGS") Tariff, on file with the Commission as OTP's Retail Electric Rate Book. The ESA recognizes that OTP will collect the EEP fees on BSESP's firm **and** non-firm load unless the Commission concludes that BSESP is not subject to the Energy Efficiency Adjustment Factor. BSESP has no objection to inclusion of EEP charges for the firm load, but seeks this declaratory ruling to exclude its non-firm charging load from EEP charges.

The Project is in itself an energy efficiency vehicle achieving the same purpose as the approval of OTP's EEP — slowing demand growth with energy efficiency rather than building new generation to serve load.⁹ BSESP's thermal storage facility is connecting to the grid at a point

⁸ In OTP's 2023 EEP Status Report, OTP included 11 programs its eligible customers may voluntarily participate in. \\See In the Matter of Otter Tail Power Company's 2023 South Dakota Energy Efficiency Plan Status Report and 2024 Annual Filing to Update the Energy Efficiency Adjustment Rider, *South Dakota Energy Efficiency Program 2023 Status Report*, Docket No. EL24-017 (May 1, 2024).

⁹ See In the Matter of the Filing by Otter Tail Power Company for Approval of its Proposed Energy Efficiency Partnership Plan for 2008, *Staff Memorandum*, Docket No. EL07-011 (Mar. 3, 2008)

that provides a connection to two wind facilities and is highly controllable to maximize utilization of intermittent energy, some of which would otherwise be curtailed. Through the rates paid for electric service, the Project will generate system revenue that lowers costs to other ratepayers, delivering system benefits separate from the EEP funds.

Additionally, BSESP is unable to participate in OTP's EEP and receive any cash rebate incentives specific to that service. As a result, the 2008 Commission Staff's concern — fairness in allocating the costs across customer classes in proportion to benefits¹⁰ — would be particularly salient with the Project. Rather than rewarding BSESP for its energy efficiency investment, OTP's EEP cost recovery fee would unnecessarily harm BSESP, while not providing any potential benefits. BSESP seeks the Commission's guidance and its approval of a waiver for its non-firm, charging load as it desires to resolve this issue of the 2008 Order's applicability through this declaratory proceeding.

3. Analysis

SDCL § 49-34A-6 requires all rates made, demanded or received by a public utility must be “just and reasonable,” prohibiting all unjust or unreasonable rates.¹¹ It directs the Commission to regulate the rates, fees, and charges for the public utility service of all public utilities. Furthermore, SDCL § 49-34A.8.2 authorizes the Commission to approve incentive rates to

(“Over the last decade, the demand for electricity has grown at an increasing rate as technology has changed. Also, the volatility of natural gas prices and the regulatory uncertainty associated with CO2 emissions have increased the cost associated with new electricity generation. As a result, there has been a resurgence in slowing demand growth with energy efficiency rather than building new generation.”).

¹⁰ See In the Matter of the Filing by Otter Tail Power Company for Approval of its Proposed Energy Efficiency Partnership Plan for 2008, *Staff Memorandum*, Docket No. EL07-011 (May 19, 2008) (“Staff suggests allocating the costs across customer classes in proportion to benefits, as the customers receiving the incentives are receiving the majority of the benefits.”).

¹¹ SDCL § 49-34A-1(13) defines “rate” as “any compensation, charge and classification, or any of them demanded, observed, charged, or collected by any public utility for any service and any rules, regulations, practices, or contracts affecting any such compensation, charge or classification.”

encourage improvement in the performance and efficiency of public utilities. Finally, SDCL § 49-34A-8 requires the Commission to give due consideration to the public need for adequate, efficient, economical, and reasonable service from public utilities. In applying the three statutes, the Commission is obligated to review and determine whether OTP's EEP cost recovery fees are just and reasonable and if the fees cohere with BSESP's economic needs, while allowing the Commission the power to determine whether it should approve OTP's cost recovery fees. Since approving OTP's EEP, the Commission has allowed OTP to charge each of its customers the EEP cost recovery fees without considering any waivers or changes to the program. BSESP asserts that there is good reason the Commission should find that the 2008 Order did not contemplate thermal energy storage generally or its non-firm, charging load specifically and, therefore, the Project's non-firm, charging load should not be subject to the fee. BSESP requests, in the alternative, the Commission consider a waiver to OTP's EEP cost recovery fee for its thermal storage charging load.

A. TESS non-firm charging load should be excluded from the cost recovery fee

Thermal energy storage is a new concept that was merely whispers of possibility around 2008. Since the early 2010s, the energy storage sector has experienced rapid evolution, starting with pioneering companies and evolving into today's complex landscape. At the time the Commission approved OTP's EEP, it is fair to say that no one in industry or the Commission could fully anticipate how a potential technology advancement then in its infancy would be able to offer energy efficiency, portability, scalability, cost-effectiveness, and more to the energy industry.

The Order makes clear it was based on the impacts to one type of customer: energy consumers. At the time, it was reasonable to assume that all energy users in OTP's territory were consuming energy for their own use, rather than to store and resell energy as heat. BSESP believes

that the current state of thermal energy storage technology could not have been fully contemplated at the time of the Commission's decision and, accordingly, seeks the opinion of the Commission in this docket.

B. The Project was not contemplated in the 2008 order

The purpose supporting the Commission's approval of OTP's EEP in 2008 was largely to encourage customers to install more energy efficient equipment, the cost of which would be subsidized with cash incentives.¹² The goal was to make OTP's customers more energy efficient to reduce the amount of new generation needed to meet demand growth.¹³ For example, depending on the particular program, a customer would receive a cash incentive if it installed energy efficient equipment, such as electric water heaters, Energy Star air source or geothermal heat pumps, energy efficient lighting, more efficient motors, or other energy efficiency improvements.¹⁴ The common understanding was that the customer's energy usage could be made more efficient by modifying their equipment. BSESP supports these goals and looks forward to supporting and participating in these programs for the firm portion of BSESP's new electricity load, for which such programs are potentially applicable.¹⁵ No OTP energy efficiency programs are currently available, nor will any be available, for the novel, proprietary charging load for its TESS, which is already 90% efficient.

Moreover, BSESP, unlike other ratepayers that fund OTP's EEP, will buy energy for resale

¹² *See generally*, In the Matter of the Filing by Otter Tail Power Company for Approval of its Proposed Energy Efficiency Partnership Plan for 2008, *Staff Memorandum*, Docket No. EL07-011 (Mar. 3, 2008).

¹³ *Id.*

¹⁴ *Id.*

¹⁵ BSESP hopes to participate in the EEP for its balance of plant firm load as a participant. Under OTP's LGS tariff, the Project will pay approximately \$235,000 in EEP charges for its firm load over ten years of operation. In particular, BSESP will be exploring participation in OTP's Motors, Adjustable Speed Drive, Commercial Lighting Retrofit and New Construction Commercial Lighting Retrofit and New Construction programs.

as heat, and is not the end user of the energy. BSESP purchases electricity and sells energy (as heat/steam) as a throughput commodity. Accordingly, BSESP is highly vulnerable to energy costs and has extremely high incentives to minimize energy losses. As such, BSESP's affiliate that designs and builds the TESS, does so for maximum efficiency. The novelty of this technology, and the fact that the technology has already maximized efficiency, means that there are no EEP programs that can further improve the efficiency of BSESP's non-firm, charging loads.

While the non-firm, charging load cannot benefit from any EEP programs, the thermal energy storage system itself is an efficiency vehicle utilized by POET to make its energy usage more efficient. BSESP entered into an arrangement with POET where the Project will utilize electric energy during the lowest cost hours of energy generation to produce and provide reliable steam for POET's operations. The ESA between BSESP and OTP is designed to allow BSESP to take all the risks of market pricing and to use only the lowest value hours. The Project is an efficiency vehicle that takes marginal electrons that would often otherwise be curtailed and puts them to good use. Subjecting the Project's entire load to OTP's cost recovery fee would subject BSESP to unjust and unreasonable rates.

Capturing, storing, and slowly discharging low value electric energy as heat helps avoid the need for additional generating plants or transmission. The TESS significantly improves the energy utilization and efficiency of existing, nearby generation and transmission assets. TESS is a highly flexible, dispatchable, and low load factor resource that will follow the generation profile of existing collocated wind assets currently facing transmission constraints and curtailment. As such, this Project will improve the utilization rate of these assets without causing new transmission or capacity costs. The Project will, by itself, improve system efficiency.

Accordingly, the Project accomplishes exactly what was intended through the EEP by more

efficiently using existing generation and transmission resources, while providing low-cost energy to an industrial customer. In addition, while contributing to the objective of OTP's EEP, BSESP's charging load does not fall within any existing or conceivable EEP program, making it ineligible to receive the cash incentives for its energy efficiency contribution. It would be inequitable, unreasonable and unjust to collect funds from a customer that could never recover any of those fees through its participation in an incentivized conservation program. The Commission should therefore conclude that its Order does not require BSESP to pay an EEP fee on its charging load.¹⁶

4. Specific declaratory ruling request

BSESP respectfully requests that the Commission issue a declaratory ruling finding that the 2008 Order granting approval of OTP's EEP did not contemplate thermal energy storage and, therefore, thermal energy storage should not be subject to the fee.

WAIVER REQUEST

Should the Commission not grant the requested declaratory ruling, a waiver from EEP for non-firm charging load is also warranted because EEP would have a disproportionate impact on BSESP's energy charging cost.

If the EEP is applicable to BSESP's charging load, it will pay \$1.34 per MWh. While this nominal amount may seem small, it is substantial in relation to BSESP's energy costs under the proposed ESA. It amounts to at least 20% of BSESP's fixed charges per MWh (excluding variable market energy prices which will be passed on directly to BSESP and for which BSESP accepts all market risk). This is substantially higher than the burden on other OTP industrial customers. A typical industrial customer pays \$65-80 per MWh for its electricity. At those rates, a \$1.34 per MWh fee is only about 1.7%–2.1% of the energy cost.

¹⁶ SDCL § 49-34A-6.

A material difference between BSESP and typical industrial customers, nonetheless, is that the industrial customers can benefit as a recipient of energy efficiency funds through EEP cash incentive payments, lowering or completely eliminating the charge — BSESP cannot. Accordingly, the cost recovery fee has a drastically disproportional impact on BSESP. The Commission should consider BSESP's need for adequate, efficient, economical, and reasonable service and how OTP's EEP cost recovery fee negatively impacts it.

The disproportionate impact of the EEP cost recovery fee on BSESP's operations highlights the need for an exemption or a more appropriate fee structure that accounts for the unique role of energy storage in improving overall system efficiency. If, however, the Commission determines that TESS is subject to OTP's EEP and that a waiver is inappropriate, BSESP requests that it apply a fee limited to a comparable percentage of BSESP's non-firm bill (1.7-2.1%).

CONCLUSION

BSESP prides itself on its novel technology and its ability to enhance energy efficiency across the state. BSESP supports OTP's EEP and understands the purpose of the cost recovery fee to advance energy efficiency for its ratepayers. However, this is not the type of project contemplated by the Order. Moreover, requiring BSESP to pay the EEP fee would lead to an unjust and unreasonable rate. BSESP therefore respectfully requests that the Commission issue an Order clarifying that it does not impose an EEP fee on BSESP's non-firm, charging load. In the alternative, BSESP requests the Commission grant a waiver allowing BSESP's non-firm, charging load to be exempted from OTP's EEP cost recovery fee. BSESP requests the opportunity to present information and argument to the Commission at a regularly scheduled Commission meeting.

Dated this 23rd day of April, 2025

By: /s/ Lisa M. Agrimonti

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CERTIFICATE OF SERVICE

Breann Jurek of Fredrikson & Byron, P.A. hereby certifies that on the 23rd day of April, 2025, she electronically filed a copy of the foregoing in the above captioned action through the South Dakota Public Utilities Commission's electronic filing system.