BLACK HILLS POWER, INC.
d/b/a BLACK HILLS ENERGY
EL25-012

REQUEST DATE : 06/18/25

RESPONSE DATE : 07/18/25

REQUESTING PARTY: South Dakota Public Utilities Commission Staff

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SDPUC Request No. 4.1:

Refer to the study provided in response to Data Request 3-2.

a. Regarding the increased trading revenues for WEIM, did that account for the fact that BHE's customers will only realize a portion of those trading revenues due to revenue sharing agreements?

b. Was maximizing trading revenues a key driver in BHE's decision making process? If yes, explain why that was a focus.

c. Why is it more beneficial for SD customers to pursue the option that curtails the most BHE owned/procured solar generation? If SD customers are already paying for those resources, why wouldn't BHE want to maximize energy produced from a low variable cost resource?

d. The last bullet in the "Study Scope" section states, "as of March 2024, we were not aware of any firm commitments to Markets+ and thus did not simulate a Markets+ footprint". How would this study change, given the Markets+ footprint known today?

e. Provide the technical version of this report in its entirety.

Response to SDPUC Request No. 4.1:

a. The bilateral trading revenues identified in each scenario of the study (BAU, WEIM and WEIS) are gross revenues and do not reflect the impact of any revenue sharing agreements.

b. It was not a key factor, overall customer benefit was the key factor in Black Hills Power's decision-making process.

c. The study indicates that within the WEIM, market prices during midday solar output hours are low enough such that curtailing solar output is cost beneficial for customers. In other words, the solar resources would only be curtailed in real-time based upon economics within the market where curtailing the solar resource would be at a lower net cost. Similar situations can be seen in RTO markets when there is high renewable energy output and locational marginal prices become negative.

d. Given the Markets+ footprint known today, the study would likely not change significantly as it was structured to simply evaluate the impact of joining either the WEIM or WEIS market. It was not intended to evaluate the impact of joining either EDAM or Markets+. Since the study was performed, SPP has communicated that it will no longer support the WEIS market following implementation of the SPP RTO Expansion and coordinated mutual termination agreements with all of the current WEIS participants.

e. See Response to SDPUC 3.2. Confidential Attachment SDPUC 3.2 – Brattle Real-Time Study is the full report of the study.

Responder: Eric Egge

Attachments: None

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SDPUC Request No. 4.2:

Refer to BHE's response to Data Request 3-3.

a. Explain the concerns BHE has regarding the size of the RTO Expansion footprint and its ability to provide long-term benefits.

b. Explain and provide a timeline of the deadlines and requirements to join the RTO Expansion. Is it too late to join the RTO Expansion if further analysis shows it beneficial to do so? Explain. If it is not too late to join the RTO expansion, provide the costs and benefits of joining the RTO expansion and compare this benefit/cost with WEIM participation (and standing up BHE's own balancing authority).

c. Confirm there would've been adequate transmission transfer capabilities and interconnections to join the RTO expansion. Explain.

Response to SDPUC Request No. 4.2:

a. Black Hills Power has concerns with the small market footprint of the SPP RTO Expansion and the impact that it will have on the west-side planning reserve margin requirements, resource diversity among the participants, and sufficient market depth to create value.

b. On November 29, 2023, Western Area Power Administration (WAPA) notified Black Hills Energy, including Black Hills Power, that it would no longer be provide balancing authority services as of its integration into the SPP RTO Expansion on April 1, 2026. At a December 6, 2023 meeting that included SPP, WAPA, and WAPA's balancing authority customers, SPP announced that in order to be eligible to enter the market on April 1, 2026, WAPA balancing authority

customers would need to decide if they were joining the SPP RTO Expansion and notify SPP by April 1, 2024. Black Hills Energy, including Black Hills Power, requested an extension from SPP for its decision until April 15, 2024, which was granted. SPP indicated that the decision deadline of April 15, 2024 was needed to ensure sufficient time to register and integrate SPP RTO Expansion members to meet the April 1, 2026 go live date. Black Hills Energy, including Black Hills Power, believes that it is too late to join the SPP RTO Expansion due to the lack of appropriate time for SPP to integrate a new system prior to the April 1, 2026 go live date as well as Black Hills Energy's, including Black Hills Power's, ability to implement systems, processes and procedures to operate within the SPP RTO Expansion.

c. Black Hills Power's transmission system has two points of interconnection with SPP RTO Expansion members – the Dave Johnston and Stegall substations, both owned and operated by WAPA. At those interconnection points, Black Hills Energy, including Black Hills Power, understands that WAPA and Tri-State have transmission ownership rights from those substations to the broader SPP RTO Expansion footprint. What is unknown is how the existing transmission transfer constraint between Wyoming and Colorado will be coordinated between SPP RTO Expansion and non-RTO transmission rights holders considering the RTO will utilize a flow-based versus the existing path-based transmission service methodology. This lack of information on how the Wyoming-Colorado constrained path will operate is a factor in Black Hills Energy's, including Black Hills Power, decision not to join the SPP RTO Expansion.

Responder: Eric Egge

Attachments: None

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SDPUC Request No. 4.3:

Provide a full list of WEIM costs BHE has already committed to and would be obligated to pay even if it were to forego WEIM participation.

Response to SDPUC Request No. 4.3:

Black Hills Power has contracted with consulting services for development, modification, and integration into the CAISO WEIM. The consulting services provided can be stopped at any time as the services are provided on a time and material basis to BHE with a not-to-exceed threshold based on the contract provisions. The software currently being used to participate in the SPP WEIS market will be leveraged to participate in the CAISO WEIM market following modifications that allow the software to communicate and integrate with the CAISO WEIM market protocols. The software agreement termination provisions vary from 30 days advance notice to 60 days advance notice prior to the renewal period, varying per contract terms. Additionally, during integration, the software must pass acceptance testing before integration milestone payments are made by Black Hills Power. It is worth noting the software vendors being used by Black Hills Power are not used solely for SPP WEIS or CAISO WEIM participation and are also used to facilitate real-time operations and energy transactions outside of market operations. The only costs Black Hills Power is committed to pay are those charges that have already been paid or services that have been rendered to Black Hills Power. Through the month of May 2025, actual charges accounted for on the CAISO WEIM project O&M and Capital work orders are as follows:

O&M Charges: [redacted]

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Capital Charges: [redacted]

Responder: Denton McGregor

Attachments: None

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SDPUC Request No. 4.4:

Refer to BHE's response to Data Request 3-4. Why didn't BHE perform a study to determine the quantitative costs and benefits of joining the full RTO? If the decision-making process was straight forward enough that quantitative analysis wasn't needed, fully explain all the determinants that went into the analysis and why a quantitative analysis wasn't necessary.

Response to SDPUC Request No. 4.4:

BHE did not have access to quantitative information that would have been important to fully understand the potential costs and benefits of joining the SPP RTO Expansion such as west-side resource adequacy construct, planning reserve margin, rated path vs. flow gate methodology impacts on the Wyoming-Colorado constraint, and transmission pricing zone configuration. Beyond quantitative information, there were other qualitative items that were unknown prior to the SPP-required decision deadline that influenced BHE's decision, such as the large generator interconnection transition process, transition of existing OATT and grandfathered transmission service, and seams management with neighboring real-time and developing day-ahead markets (CAISO EDAM and SPP Markets+). BHE felt there were too many unknown aspects to joining the SPP RTO Expansion to commit to that direction in light of the financial impacts of withdrawing from the RTO should the RTO not provide benefits. BHE also views the SPP RTO Expansion as a continued alternative in the future as the SPP RTO Expansion becomes more established and the concerns that influenced BHE's decision are better understood.

Responder: Eric Egge

Attachments: None

BLACK HILLS POWER, INC.
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SDPUC Request No. 4.5:

Refer to the tables provided in response to Data Request 3-8.

a. Confirm that the WEIM implementation costs provided in the tables are separate from the [redacted] in up-front costs and [redacted] in on-going costs of standing up a balancing authority.

b. Provide a breakdown of the costs of standing up a balancing authority by month. How does BHE plan to recover these costs?

c. Confirm that BHE wouldn't have these costs of standing up a balancing authority if it joined the RTO expansion.

d. Which of the O&M costs provided in the second table are on-going?

e. What does BHE expect for on-going internal labor costs?

Response to SDPUC Request No. 4.5:

a. Confirmed. The WEIM Implementation costs provided in the tables are separate from the originally estimated [redacted] million in up-front costs and [redacted] million of on-going balancing authority costs. The on-going costs are made up primarily of new headcount to perform and comply with NERC standards related to balancing authority operations.

b. Refer to Confidential Attachment SDPUC 4.5 for actual and forecasted cost by month for balancing authority implementation costs.

The balancing authority O&M costs will be primarily recovered through the FERC Filed Common Use System Joint Open Access Transmission Tariff. The costs are recovered from Common Use System transmission and balancing authority customers through the Schedule 1 rates listed on the BHBE OASIS site.

c. Black Hills Power could avoid some of the costs of standing up a balancing authority if it were to join the SPP RTO. However, Black Hills Power would still have market software integration costs and estimated those costs at [redacted] If Black Hills Power were to join the RTO, Black Hills Power would be required to take Balancing Authority services from the Southwest Power Pool and would be allocated a proportional share of ongoing Balancing Authority costs from the Southwest Power Pool as part of the RTO administrative fees.

d. In the Forecasted O&M costs for WEIM implementation table provided in Data Request 3-8, the following line items updated to reflect the respective O&M cost increases when moving from the SPP WEIS to the CAISO WEIM:



e. Black Hills Power is currently evaluating CAISO WEIM utility operations and support staff needs to support market operations but has not currently hired additional staffing to directly support the CAISO WEIM implementation or ongoing operational efforts.

Responder: Denton McGregor

Attachments:

- Confidential Attachment SDPUC 4.5 - Balancing Authority Implementation Cost Breakdown

BLACK HILLS POWER, INC.
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REQUEST DATE : 06/18/25

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SDPUC Request No. 4.6:

Did BHE consider being part of Pacific Corp's balancing authority? If no, explain why not. If yes, explain why it decided not to be part of Pacific Corp's balancing authority.

Response to SDPUC Request No. 4.6:

Yes. Black Hills Energy approached PacifiCorp about joining their balancing authority which is currently a participant in the CAISO WEIM real-time market and has committed to join the CAISO Extended Day-Ahead Market (EDAM). [redacted]

Responder: Eric Egge

Attachments: None

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RESPONSE DATE : 07/18/25

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SDPUC Request No. 4.7:

Provide a clear and concise explanation of all the benefits South Dakota customers will see with BHE's WEIM participation.

Response to SDPUC Request No. 4.7:

Black Hills Power customers will see benefits in lower energy costs, enhanced reliability through the WEIM fifteen-minute market, and improved congestion revenue allocation relative to the WEIS market.

Responder: Eric Egge and Andy Butcher

Attachments: None

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SDPUC Request No. 4.8:

Does BHE plan to eventually join the Extended Day-Ahead Market (EDAM)? Explain.

Response to SDPUC Request No. 4.8:

Black Hills Power does not have any plans to join the EDAM. Black Hills Power intends to evaluate day-ahead market opportunities in the future once the EDAM, Markets+ and SPP RTO Expansion markets are implemented and issues that would directly impact Black Hills Power are more clearly understood.

Responder: Eric Egge

Attachments: None

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RESPONSE DATE : 07/18/25

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SDPUC Request No. 4.9:

Has BHE considered the possibility of WEIM ending at some point, and participants having to join EDAM at that point? Explain. What would be the impact on BHE's customers?

Response to SDPUC Request No. 4.9:

Black Hills Power has considered the longevity of the WEIM. The WEIM will continue to operate as it does today following the implementation of EDAM. EDAM is a day-ahead complement to the existing WEIM market and does not replace it. In other words, WEIM is the real-time market, and EDAM is the day-ahead market. This is a different structure from the SPP Markets+ and the SPP RTO Expansion, which are both integrated real-time and day-ahead markets that are independent from each other and neither leverages the established WEIS market. An EDAM participant must continue to use WEIM for the real-time market, but a WEIM participant is not required to join EDAM. CAISO is not planning to eliminate or sunset WEIM.

Responder: Eric Egge

Attachments: None

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SDPUC Request No. 4.10:

Will BHE have stranded costs upon exiting WEIS? If yes, provide an amount and description of the costs.

Response to SDPUC Request No. 4.10:

The current systems used for the SPP WEIS will be reconfigured for use in WEIM. Black Hills Power does not foresee any stranded costs.

Responder: Andy Butcher

Attachments: None

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SDPUC Request No. 4.11:

Does BHE believe its decision to stand up its own balancing authority instead of joining the full RTO is relevant in this docket? Explain why or why not.

Response to SDPUC Request No. 4.11:

No. This docket is not requesting any recovery of balancing authority costs. This docket is requesting the Commission's authority to recover costs and/or pass on customer benefits related to the participation in the WEIM energy market along with implementation and administrative costs related to participation in the WEIM. Energy Market participation comes along with either decision (becoming an independent balancing authority or participation in the SPP RTO Expansion) in the form of either WEIM energy market participation costs or SPP RTO Expansion costs. The balancing authority and/or the decision to join the SPP RTO Expansion decision should be evaluated independently.

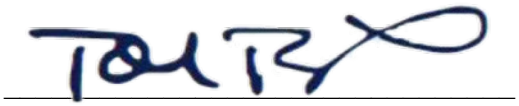
Responder: Eric Egge

Attachments: None

CERTIFICATE OF SERVICE

I certify the foregoing document was filed through the South Dakota Public Utilities Commission website this 18th day of July, 2025 and served on the following:

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