

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

PROCEEDING NO. 22AL – ____E

**IN THE MATTER OF THE ADVICE LETTER NO. 831 OF BLACK HILLS COLORADO
ELECTRIC, LLC TO RECOVER COSTS ASSOCIATED WITH JOINING THE
SOUTHWEST POWER POOL WESTERN ENERGY IMBALANCE SERVICE MARKET
THROUGH THE ELECTRIC COMMODITY ADJUSTMENT.**

DIRECT TESTIMONY AND ATTACHMENTS OF

MICHAEL J. HARRINGTON

ON BEHALF OF

BLACK HILLS COLORADO ELECTRIC, LLC

August 2, 2022

SUMMARY OF THE DIRECT TESTIMONY OF MICHAEL J. HARRINGTON

Mr. Michael J. Harrington is Director of Regulatory & Finance. As a key policy witness for Black Hills, Mr. Harrington sponsors the Advice Letter No. 831 to recover costs associated with joining the Southwest Power Pool Western Energy Imbalance Service Market through the Electric Cost Adjustment.

Mr. Harrington explains how both legislative and regulatory factors and requirements steered the Company's decision in meeting Colorado's legislative and regulatory goals. Finally, Mr. Harrington describes associated participation costs, along with the Company's plan to recover those costs through the ECA. Mr. Harrington provides an illustrative tariff that captures the cost recovery proposals. The Company proposes the Commission authorize Black Hills to file the necessary tariffs to implement these changes to the ECA tariff through a compliance advice letter filing on not less than two business days' notice.

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List of Exhibits

Hearing Exhibit 100, Attachment MJH-1	Third Amended and Restated Western Joint Dispatch Agreement between Southwest Power Pool and Black Hills Colorado Electric. LLC (“WJDA”)
Hearing Exhibit 100, Attachment MJH-2	Redlined copy of the Company’s ECA tariff
Hearing Exhibit 100, Attachment MJH-3	Clean copy of the Company’s ECA tariff
Hearing Exhibit 100, Attachment MJH-4	Proforma Customer Bill Impact

List of Acronyms

BA	Balancing Authority
BAC	Balancing Authority Customer
BHC	Black Hills Corporation
BHSC	Black Hills Service Company, LLC
BHUH	Black Hills Utility Holdings, Inc.
Black Hills	Black Hills Colorado Electric, LLC
CAISO	California Independent System Operator
Company	Black Hills Colorado Electric, LLC
CSU	Colorado Springs Utilities
ECA	Energy Cost Adjustment
EIM	Energy Imbalance Market
FERC	Federal Energy Regulatory Commission
ISO	Independent System Operator
JDA	Joint Dispatch Agreement
NEL	Net Energy for Load
NERC	North American Electric Reliability Corporation
OWM	Organized Wholesale Markets
PRPA	Platte River Power Authority
Public Service	Public Service Company of Colorado
RTO	Regional Transmission Organization

SB	Senate Bill
SCED	Security Constrained Economic Dispatch
SPP	Southwest Power Pool
WEIS	Western Energy Imbalance Service Market
WJDA	Third Amended and Restated Joint Dispatch Agreement between Southwest Power Pool and Black Hills Colorado Electric, LLC

DIRECT TESTIMONY OF MICHAEL J. HARRINGTON

I. INTRODUCTION, STATEMENT OF QUALIFICATIONS, AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Michael J. Harrington. My business address is 1515 Arapahoe Street, Tower 1 - Suite 1200, Denver, Colorado 80202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Black Hills Service Company, LLC (“BHSC”), a wholly owned subsidiary of Black Hills Corporation (“BHC”). I am a Director of Regulatory & Finance.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of Black Hills Colorado Electric, LLC (“Black Hills” or the “Company”) d/b/a Black Hills Energy.

Q. WHAT ARE YOUR PRIMARY RESPONSIBILITIES AT BHSC?

A. I am responsible for managing all aspects of the regulatory and financial processes for Black Hills, both electric and gas. I manage the development of regulatory filings and initiatives that support business strategies and regulatory policies. In addition, I manage the development, analysis, and interpretation of financial forecasts, including budgets and strategic plans for Black Hills. I manage a department of twelve professionals in regulatory and financial planning and analysis functions.

Q. PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. My education, employment history and professional experience is provided in Appendix A.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

1 A. Yes. I have testified in numerous proceedings before the Commission, including electric
2 rate cases, resource planning matters, energy efficiency, electric vehicles, investigations,
3 and other regulatory matters/initiatives.

4 **Q. ARE YOU SPONSORING ANY ATTACHMENTS TO YOUR DIRECT**
5 **TESTIMONY?**

6 A. Yes. I am sponsoring the following attachments:

- 7 • **Hearing Exhibit 100, Attachment MJH-1** – Third Amended and Restated Western
8 Joint Dispatch Agreement between Southwest Power Pool (“SPP”) and Black Hills
9 Colorado Electric, LLC dated February 2, 2022.
- 10 • **Hearing Exhibit 100, Attachment MJH-2** – A redlined copy of the Company’s ECA
11 tariff.
- 12 • **Hearing Exhibit 100, Attachment MJH-3** – A clean copy of the Company’s ECA
13 tariff.
- 14 • **Hearing Exhibit 100, Attachment MJH-4** – Proforma Customer Bill Impact

15 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

16 A. The purpose of my testimony is to explain the Company’s decision to join the SPP Western
17 Energy Imbalance System (“WEIS”) and do so through execution of a Third Amended and
18 Restated Western Joint Dispatch Agreement (“WJDA”). I am also providing testimony to
19 explain the impact that Public Service’s decision to join the WEIS has on Black Hills as a
20 Balancing Authority customer (“BA Customer”) of Public Service. I will provide a
21 summary of the Company’s prior and ongoing market experience and exploration. Finally,
22 I will explain the costs associated with Black Hills’ participation in the WEIS and support
23 the Company’s request to modify its Electric Cost Adjustment (“ECA”) so as to ensure that

1 the costs and benefits associated with participation in the WEIS transparently flow through
2 to the Company's customers.

3 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

4 A. In Section I of my testimony I outline my background and qualifications, describe the
5 purpose of my testimony, introduce Seth Nelson, the Company's other witness in this
6 proceeding, and provide a high-level overview of what the Company is seeking to achieve
7 in this proceeding.

8 In Section II, I provide a general comparison between Independent System
9 Operator ("ISO")/Regional Transmission Organizations ("RTO") and an energy imbalance
10 market, explain the impact that Public Service's decision to join the WEIS has on Black
11 Hills as a Public Service BA Customer, provide information relating to the benefits the
12 Company has seen from its participation in the Joint Dispatch Agreement with Public
13 Service, and Platte River Power Authority ("PRPA"), and explain the Company's decision
14 to participate in the WEIS.

15 In Section III, I provide a brief discussion of current legislative and regulatory
16 requirements associated with market activity and explain how participation in the WEIS
17 furthers Colorado's legislative and regulatory goals.

18 In Section IV through VII, I describe the costs associated with the Company's
19 participation in the WEIS, explain the Company's plan for recovery of those costs through
20 the ECA, and summarize the Company's requested approvals.

21 **Q. PLEASE INTRODUCE ANY OTHER COMPANY WITNESSES.**

22 A. In addition to my testimony, the Company is providing testimony from Mr. Seth Nelson.
23 Mr. Nelson's title is "Program Manager, Western Markets and Policy." Mr. Nelson is

1 offering testimony about the evolution of the Company's market participation; Public
2 Service's role as the Balancing Authority Area in the provision of energy imbalance and
3 the influence it has on the Black Hills' Energy Imbalance Market ("EIM") participation;
4 the relationship between the legislative and regulatory backdrop in Colorado and
5 participation in an EIM; the Company's anticipated transition from the Joint Dispatch
6 Agreement ("JDA") to the WEIS Market; and the Company's ongoing exploration of
7 market alternatives beyond the WEIS.

8 **Q. WHAT IS THE COMPANY ASKING THE COMMISSION TO DO IN THIS**
9 **PROCEEDING?**

10 A. The Company is seeking approval of modifications to its ECA to ensure that it
11 appropriately and transparently allows for the flow through of both the costs and benefits
12 of WEIS participation to its retail customers. Particularly, the Company proposes three
13 general categories of revisions (1) revisions that will allow the Company to include the
14 SPP administrative costs in the ECA; (2) revisions that will allow the Company to include
15 integration costs in the ECA; and (3) revisions will allow the Company to include WEIS
16 sales revenues in the ECA.

17 **Q. IS THE COMPANY SEEKING COMMISSION APPROVAL TO JOIN THE WEIS**
18 **AS PART OF THIS PROCEEDING?**

19 A. No, the Company's advice letter simply seeks approval of cost recovery and its
20 accompanying tariff modification as set forth above. The Company is not seeking
21 Commission approval to join the SPP WEIS as it believes the decision on whether to join
22 an energy imbalance market lies with the Company. Nevertheless, because the Company
23 recognizes that the Commission is vested with broad authority to regulate the rates and

1 tariffs of public utilities within the State of Colorado, the Company is making this Advice
2 Letter filing seeking approval of certain tariff revisions.

3
4 **II. BACKGROUND INFORMATION ON MARKET STRUCTURES, ENERGY**
5 **IMBALANCE MARKETS, THE COMPANY'S MARKET EXPERIENCE AND**
6 **DECISION TO JOIN THE WEIS**

7 **Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?**

8 A. In this section, I provide a high-level explanation of the difference between the services
9 provided by traditional RTOS/ISOs and energy imbalance markets, I explain the Balancing
10 Authority ("BA") / Balancing Authority Customer ("BAC") relationship between Public
11 Service and Black Hills, and the Company's experience with real time energy transfers
12 through successful participation in the JDA. Finally, and I explain the Company's decision
13 to execute a WJDA and join the WEIS.

14 **Q. PLEASE PROVIDE A HIGH-LEVEL EXPLANATION OF THE DIFFERENCES**
15 **BETWEEN A TRADITIONAL RTO/ISO AND AN ENERGY IMBALANCE**
16 **MARKET.**

17 A. There are several differences between the services provided by a traditional RTO/ISO and
18 an EIM. The largest distinction is the impact on transmission. Membership in a full
19 ISO/RTO has significant impacts on all areas of transmission service and planning,
20 whereas participation in the WEIS has little to no impact on transmission service or
21 traditional transmission planning functions. By way of example, in an RTO/ISO structure,
22 members turn over functional control of their transmission assets to a third party who is
23 then responsible for operating those facilities. In an EIM, participants retain actual and

1 functional control of their transmission assets. Similarly, most traditional RTOs/ISOs have
2 a centralized transmission planning process and a centralized generator interconnection
3 queue. In light of these differences, an imbalance market does not present concerns related
4 to significant transmission cost shifts from rate de-pancaking or transmission cost
5 allocation.

6 On the energy management and supply side, most well-known RTO/ISO providers
7 have a “day ahead” market with “day ahead” unit commitment, offer a number of ancillary
8 service products, and, at times, include a capacity market. By way of comparison, an
9 energy imbalance market, focuses on the real-time horizon and the optimization of the
10 resources of the footprint during that real-time horizon. In both the day ahead (RTO/ISO)
11 and real time energy markets, the market operator uses a Security Constrained Economic
12 Dispatch (“SCED”) to most economically dispatch the pooled generation assets within the
13 market footprint to serve the combined load.

14 Finally, RTOs and ISOs often set the planning reserve margin for their footprint.
15 In an EIM, resource adequacy remains a matter for the state commissions. Mr. Nelson
16 discusses these differences in more detail in his Direct Testimony.

17 **Q. BY COMPARISON, WHAT OPPORTUNITY OR SERVICES DOES THE WEIS**
18 **PROVIDE?**

19 A. The SPP WEIS is an EIM. An EIM generally involves a group of entities that has agreed
20 to make their generation resources available for dispatch by an independent market
21 operator during the real-time operating horizon. An EIM assists in the handling of Energy
22 Imbalance for both individual market participants and the footprint as a whole. Energy
23 Imbalances occur during the real-time provision of energy due to fluctuations in demand

1 (load), deviations in the output of renewable resources, and deviations in the output of
2 traditional thermal resources due to unforeseeable mechanical or other issues. Any of
3 these Energy Imbalance drivers can cause a utility to be “long” (have excess energy) or
4 “short” (have insufficient energy) during real time operations. As described above, the
5 EIM operator (here SPP) uses an algorithm commonly referred to as SCED to dispatch the
6 pooled generation to serve the pooled load, on a least cost basis, while respecting the
7 transmission constraints or limitations. The WEIS optimizes generation dispatch every five
8 minutes and includes nodal pricing for energy that is also determined on a 5-minute
9 interval.

10 **Q. WHAT IS BLACK HILLS’ EXPERIENCE WITH ENERGY IMBALANCE**
11 **MARKETS?**

12 A. As explained in detail in Public Service’s filing in Docket No. 22AL-0270E, Public
13 Service, Black Hills and PRPA coordinated to create the Joint Dispatch Agreement, which
14 is administered by Public Service and is a simplistic form of an energy imbalance market.
15 Black Hills was one of the founding participants of the JDA and did so in an effort to bring
16 lower cost energy to its customers. Like other EIM’s the JDA provides benefits to
17 customers by reducing the overall cost of energy produced by the JDA participants through
18 an hourly, system marginal assessment of lowest cost provider. This can result in energy
19 transactions between the JDA Partners that are lower cost than producing the energy
20 themselves and/or transacting bilaterally.

21 **Q. HOW IS THE JDA DIFFERENT THAN THE WEIS?**

22 A. As explained in more detail by Public Service in Docket No. 22AL-0270E, the JDA has
23 less sophisticated dispatch tools than the WEIS. The JDA dispatches least-cost energy

1 between the participants based on an hourly, system-marginal price – rather than at a 5-
2 minute nodal price. The JDA cannot optimize dispatch on a 5-minute basis. Moreover, the
3 transmission utilized to facilitate JDA transactions is of the lowest priority and can only be
4 used on an “as available” basis. Unlike WEIS transactions, JDA transactions do not have
5 the benefit of being security constrained, meaning that transmission constraints and
6 reliability are respected, as part of the economic dispatch.

7 **Q. HAVE THE JDA PARTICIPANTS WORKED TO EXPLORE THE POSSIBILITY**
8 **OF TRANSITIONING TO A BROADER MORE SOPHISTICATED ENERGY**
9 **IMBALANCE MARKET?**

10 A. Yes, Public Service, Platte River, and Black Hills have actively discussed and considered
11 the feasibility, costs, and benefits associated with joining a more sophisticated and
12 independently administered energy imbalance market.

13 **Q. CAN YOU BRIEFLY DESCRIBE THE OPTIONS CONSIDERED?**

14 A. As explained in more detail in the testimony of Mr. Nelson, the JDA participants
15 considered the energy imbalance market administered California Independent System
16 Operator (“CAISO”) and have more recently considered the SPP WEIS. Black Hills’
17 participation in the WEIM evaluation was generally limited to interface with Public Service
18 as only Balancing Authorities can join the WEIM and Public Service is Black Hills BA.
19 After a pause in that effort, Public Service approached Black Hills and PRPA to explore
20 whether a beneficial arrangement could be negotiated for participation in the SPP WEIS,
21 which had started operating an energy imbalance market in the western interconnection
22 which involved many of the peer utilities with whom the JDA participants were closely
23 interconnected. The WEIM and the WEIS are the two independently administered EIMs

1 that are currently offering service. As discussed in Mr. Nelson's Direct Testimony, the
2 Company will continue to explore all other market options.

3 **Q. YOU INDICATED THAT PUBLIC SERVICE IS THE BALANCING AUTHORITY**
4 **FOR BLACK HILLS, WHAT IS A BALANCING AUTHORITY?**

5 A. A Balancing Authority is a North American Electric Reliability Corporation ("NERC")
6 Registered Function and has the responsibility to ensure that the electrical grid within its
7 geographic area is appropriately balanced with regard to load and supply. This balance is
8 needed to maintain the safe and reliable operations of the electrical grid. Because the
9 Balancing Authority is responsible for maintaining load and generation balance, within its
10 geographical area of responsibility, one of the ancillary services that it provides is Energy
11 Imbalance. BA Customers of Public Service must either take Energy Imbalance Service
12 from Public Service, seek alternative methods, or self-supply those services. Black Hills
13 currently addresses its BA customer obligations relating to Energy Imbalance through JDA
14 participation.

15 **Q. HOW DOES PUBLIC SERVICE'S DECISION TO JOIN THE WEIS IMPACT**
16 **BLACK HILLS?**

17 A. As noted above, in its role of BA Customer, Black Hills must either purchase Energy and
18 Generator Imbalance from Public Service as a service offering, procure from a third-party,
19 or arrange to self-supply those ancillary services. Black Hills currently satisfies this
20 obligation through its participation in the JDA. Public Service has advised Black Hills
21 that when Public Service begins operations in the WEIS, it will terminate the JDA; thus,
22 the JDA will no longer provide a viable vehicle through which Black Hills can satisfy its
23 ancillary service obligations.

1 Thus, Black Hills will be required to purchase Energy and Generator Imbalance
2 from PSCo or seek an alternative method of compliance. In the first option, Black Hills
3 would need to procure Energy and Generator Imbalance from Public Service, which would
4 likely include the costs of WEIS administrative services. In addition, because Public
5 Service would use the WEIS to supply imbalance, the Company believes it is likely that
6 Public Service could also seek to recover a portion of its administrative costs associated
7 with the WEIS. In this option, Black Hills would be paying a proportional share of the
8 WEIS administrative costs (as a pass-through from Public Service) as well as Public
9 Service's administrative costs. In addition, under this option, Black Hills' ability to
10 participate in the WEIS market benefits and governance would be more limited. Mr.
11 Nelson discusses these options in more detail in his direct testimony.

12 **Q. ARE THERE OTHER POTENTIAL NEGATIVE IMPACTS THAT BLACK**
13 **HILLS COULD EXPERIENCE IF PUBLIC SERVICE AND PLATTE RIVER**
14 **PARTICIPATE IN THE WEIS BUT BLACK HILLS DOES NOT?**

15 A. Yes. If Black Hills had not signed a WJDA and instead simply opted to procure energy
16 imbalance from Public Service, its generation resources would be considered "Partially
17 Participating Resources." This means that the Company's generation resources would not
18 be available for economic dispatch by the WEIS market. In addition, Black Hills could not
19 bid its generation and load into the WEIS market and would, in essence, be a price taker in
20 the market. By way of comparison, if Black Hills participates of its own accord, the
21 generation and load would be bid into the real time market, and available for dispatch by
22 the WEIS; thus, it would impact price development in the market. The difference between

1 partially participating and fully participating resources is discussed in more detail in the
2 testimony of Mr. Nelson.

3 **Q. WHAT ARE BENEFITS ASSOCIATED WITH BLACK HILLS PARTICIPATING**
4 **DIRECTLY IN THE WEIS AS OPPOSED TO PAYING WEIS COSTS AS A PASS-**
5 **THROUGH FROM PUBLIC SERVICE?**

6 A. Mr. Nelson discusses the benefits of Black Hills' participation in greater detail in his Direct
7 Testimony. For brevity, I summarize the benefits here. Execution of the WJDA and direct
8 participation in the WEIS allows Black Hills the opportunity to include the Company's
9 load and generation resources, as part of the centralized market dispatch. The opportunity
10 for customer benefits and a reduction in Black Hills' production costs is increased when
11 the Company's units are optimized in the market. This also allows Black Hills to
12 participate as a voting member in the Western Markets Executive Committee ("WMEC").

13 **Q. WHAT IMPACT WILL THE COMBINATION OF PUBLIC SERVICE, BLACK**
14 **HILLS, AND PRPA HAVE ON THE WEIS?**

15 A. With the addition of the Public Service, PRPA, and Black Hills' combined generating
16 resources, the WEIS, which traditionally included only the WAPA-Upper Great Plains and
17 WAPA-Rocky Mountain Region BAs, will include all of the major utilities in the
18 intermountain west.¹ Generally speaking, a broader market footprint brings more benefits

¹ The Founding WEIS Participants include Basin Electric Power Cooperative; Municipal Energy Agency of Nebraska; Tri-State Generation and Transmission Association, Inc.; Western Area Power Administration – Colorado River Storage Project Management Center; Western Area Power Administration – Rocky Mountain Region; Western Area Power Administration – Upper Great Plains Region; Deseret Generation & Transmission Cooperative. Though it joined slightly later than the foregoing utilities, Colorado Springs Utilities elected to join the WEIS before Public Service, PRPA and Black Hills, it is also considered a Founding WEIS Participant under the currently effective WJDA.

1 (through lower priced energy) due to the diversity of generation assets owned by its
2 participants and the ability to leverage imbalances and generation over the footprint. In
3 addition, because individual administrative fees are calculated based on the net energy for
4 load of each respective entity, an increase in footprint size should result in a reduction in
5 the administrative expense.

6 **Q. WAS BLACK HILLS ABLE TO OBTAIN FAVORABLE TERMS FOR WEIS**
7 **PARTICIPATION? AND IF SO, PLEASE DESCRIBE THOSE TERMS.**

8 A. Yes. Working with the other JDA participants, Black Hills was able to obtain favorable
9 terms for WEIS participation. The most important of these terms was a limited time
10 commitment and the absence of any exist fee at the end of that limited term commitment.
11 Specifically, the WJDA which Black Hills has signed has a two-year initial term (“Initial
12 Term”). If Black Hills provides appropriate notice in advance of the end of its Initial Term,
13 it can cease participation and withdraw without an exit fee. This provides Black Hills an
14 opportunity to provide short-term benefits to customers through participation, but also
15 flexibility to continue to evaluate other types of beneficial market constructs and pivot
16 towards those opportunities if appropriate in the future. Mr. Nelson also addresses the
17 other negotiated terms that Public Service, Black Hills and Platte River were able to reach
18 with SPP and which are included in each entity’s WJDA.

19 **Q. DOES PARTICIPATION IN THE WEIS CHANGE THE COLORADO PUBLIC**
20 **UTILITIES COMMISSION OVERSIGHT OF BLACK HILLS IN ANY MANNER?**

21 A. No, it does not.

22 **Q. HOW CAN THE COMMISSION BE ENGAGED IN THE WEIS MARKET?**

1 A. The WEIS market charter provides for a “State Commission Liaison” to the WMEC.
2 Particularly, the charter indicates that one commissioner from the regulatory commission
3 of each state in which a WEIS Participant has generation or load participating in the WEIS
4 may participate as a state liaison with the WMEC. The WMEC provides governance
5 oversight with the WEIS in conjunction with the SPP Board. A state liaison is expected to
6 provide advice on all matters pertinent to the participation in the WEIS market and is
7 provided within the context of WMEC meetings. SPP has committed to assist the liaison
8 by providing information and support. The state liaison role is advisory in nature.

9 **Q. ULTIMATELY WHY DID BLACK HILLS DECIDE TO PURSUE WEIS**
10 **PARTICIPATION?**

11 A. Black Hills’ customers have seen benefits from participation in the JDA, which is less
12 complex and less sophisticated real-time market, operating in a smaller geographic
13 footprint than the WEIS. Particularly, the generation costs savings that have been achieved
14 for Black Hills’ customers through more economic dispatch has resulted in the following
15 annual cost savings:

- 16 • 2018 \$510,134
- 17 • 2019 \$1,597,212
- 18 • 2020 \$813,218
- 19 • 2021 \$2,295,563

20 As previously explained, with Public Service’s decision to join the WEIS the JDA
21 opportunity will terminate. Black Hills anticipates that the potential exists to achieve
22 savings, under the WEIS, that are greater than those provided through the JDA. The WEIS
23 will have a significantly larger geographic footprint, a more diverse generation pool as
24 compared the JDA, provides a 5-minute optimization of resources, nodal pricing, and a
25 security constrained economic dispatch. The more sophisticated and larger market should

1 allow Black Hills customers to receive similar, if not greater benefits, than what the JDA
2 provided. Finally, as explained previously, Black Hills (together with the other Public
3 Service BA participants) negotiated more favorable terms than those which were available
4 at the WEIS market start-up. For these reasons, Black Hills believes that WEIS market
5 participation is important to its ability to 1) continue providing lower cost energy to
6 customers, 2) is the next logical step to gaining more market experience which will help
7 inform the Company's decisions as the compliance deadlines associated with SB21-072
8 draws near.

9 **III. LEGISLATIVE AND REGULATORY BACKDROP**

10 **Q. HAS THE COMMISSION PROVIDED DIRECTION FOR UTILITIES RELATED**
11 **TO EIM PARTICIPATION?**

12 A. Yes. As a result of the Senate Bill 19-236, the Commission opened Proceeding 19M-04-
13 049E to evaluate the costs and benefits of participating in organized markets. The resulting
14 Commission Order (mailed December 1, 2021) found that participation in an EIM, RTO,
15 power pool of joint tariff was generally in the public interest. The Commission expressed
16 some concern with participation in an RTOs, for a number of reasons, however found that
17 participation in regional markets has the potential to provide significant value to customers
18 through operating cost savings.

19 **Q. HAS THE LEGISLATURE PROVIDED DIRECTION FOR PARTICIPATION IN**
20 **ORGANIZED WHOLESALE MARKETS?**

21 A. Yes. SB 21-072 requires all Colorado Transmission owned utilities to join an Organized
22 Wholesale Market ("OWM") on or before January 1, 2030. OWM is defined as being an
23 RTO or Independent System Operator ("ISO") established for the purpose of coordinating

1 and efficiently managing the dispatch and transmission of electricity among public utilities
2 on a multistate or regional basis.

3 **Q. HAS THE COMMISSION OPENED A RULEMAKING PROCEEDING TO**
4 **ADDRESS OWM PARTICIPATION?**

5 A. Yes, the Commission issued a notice of proposed rule makings for amendments to
6 Commission Rules for Regulated Utilities to implement the provisions of SB21-072
7 regarding transmission utility participation in OWMs (mailed date June 28, 2022). A
8 hearing on this rulemaking is scheduled for October of 2022.

9 **IV. WEIS COSTS**

10 **Q. WHAT COSTS HAS BLACK HILLS INCURRED TO PARTICIPATE IN THE**
11 **WEIS?**

12 A. Consistent with the terms of its executed WJDA, Black Hills has paid a one-time entry fee
13 of \$25,254 to Southwest Power Pool. The entry fee is intended to compensate SPP for the
14 incremental costs associated with integrated Black Hills into the WEIS market and was a
15 requirement for WEIS participation. The Public Service Company BA participants shared
16 the overall one-time integration fee on a load ratio share basis.

17 **Q. WHAT OTHER COSTS WILL THE COMPANY INCUR?**

18 A. At this time, Black Hills anticipates two additional cost categories: internal integration
19 costs and SPP annual administrative costs.

20 Black Hills has engaged a vendor to assist Black Hills in integrating its existing
21 software functions into the WEIS market by April 1, 2023. The cost for this service is
22 approximately \$178,000. The Company may be required to acquire additional software
23 and Information Technology (“IT”) updates to facilitate integration.

1 The SPP administrative fee, which is paid by all WEIS Participants, is set annually
2 based on the estimated costs of administering the market for the coming year plus a
3 component that pays back the amortized costs of the original start-up of the WEIS market.
4 The year one administrative fee is estimated to be \$177,827. In a normal operating year,
5 SPP will bill Black Hills annually in December for the next operating year. Because 2023
6 will only be a partial year of participation, Black Hills will incur its first SPP administrative
7 fee in February 2023, which will be prorated for a partial year.

8 **Q. PLEASE DESCRIBE CHARGES AND CREDITS FOR ACTUAL MARKET**
9 **TRANSACTIONS UNDER THE WEIS.**

10 A. Black Hills will have an obligation to pay WEIS for energy purchases and will receive
11 revenue associated with energy sales. If Black Hills' WEIS revenue is greater than the cost
12 of its WEIS purchases, the Company will receive a credit for that period and will credit the
13 ECA. If Black Hills' WEIS revenue is less than its WEIS purchases, the Company will
14 identify a cost in the ECA. Stated similarly, it is Black Hills' understanding that SPP
15 payments or credits will result in a net settlement to Black Hills for the operative period.

16 **Q. HOW WILL THE COMPANY ACCOUNT FOR THESE COSTS/REVENUES?**

17 A. The table below summarizes the costs and accounting treatment for the WEIS costs Black
18 Hills will incur.

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Table MJH-1
Cost Estimates and Accounts

Cost	Description	Estimated Cost	FERC Account
Entry Fee ²	One-time fee	\$25,254 (actual)	556
Annual Admin Fees ³	WEIS Payment	\$177,827	575
Market Transactions	Purchase	TBD	555.009
	Sales	TBD	447.009
Integration Costs	Integration Software IT	\$178,000	

Q. HOW DOES THE COMPANY PROPOSE TO RECOVER THESE COSTS FROM ITS CUSTOMERS?

A. The Company proposes to follow cost-causation principles to determine how these costs should be recovered. The purpose of participating in the WEIS is to achieve energy cost savings. As a result, the Company is proposing to recover WEIS costs through its ECA.

Beginning with the Entry Fee, Black Hills is proposing to amortize the \$25,254 over two years. Two years equates to the minimum time the Company has committed to participate in the WEIS. After two years this cost component will be zero.

Next, Black Hills proposes to recover its annual administrative fees through the ECA. The Annual Administration Fees will be recorded in FERC Account 575. The Company proposes to modify the ECA Tariff to allow for the inclusion of this FERC Account.

Next, the WEIS market transactions will be recorded in FERC Account 555 and FERC Account 457. These accounts are already included in the ECA tariff; however, the

² Black Hills has paid SPP the one-time entry fee, the other cost components are estimates.

³ This is the first year estimated fee and it will change annually.

1 Company will make modifications to the ECA workbook calculation model so that net
2 revenues can be tracked as power sales and net costs can be tracked as power purchases.

3 And last, as described above, the Company has engaged a software vendor to assist
4 the Company to prepare for WEIS integration at an estimated cost of approximately
5 \$178,000. This engagement entails making the Company's existing software systems
6 capable of complying with the requirements for WEIS participation. The Company
7 proposes to amortize this expense over two years and recover it through the ECA.

8 **Q. ARE THERE OTHER POTENTIAL COSTS NOT SPECIFICALLY IDENTIFIED**
9 **ABOVE?**

10 A. Yes. The Company is currently evaluating its staffing needs to implement and manage its
11 participation in the WEIS. The Company has not identified those specific needs and thus
12 is not seeking cost recovery at this time. If additional staffing is needed, the Company
13 anticipates the additional staffing cost would be recovered in the normal course of business
14 and addressed in its next rate review proceeding.

15 **V. ECA TARIFF**

16 **Q. HAVE YOU INCLUDED AN ATTACHMENT TO YOUR TESTIMONY WITH AN**
17 **ILLUSTRATIVE ECA TARIFF?**

18 A. Yes. Attach MJH-2 provides an illustrative redlined tariff that captures the cost recovery
19 proposals described above. The Company proposes the Commission authorize Black Hills
20 to file the necessary tariffs to implement these changes to the ECA tariff through a
21 compliance advice letter filing on not less than two business days' notice.

22

23

VI. BILL IMPACTS

Q. HAVE YOU PREPARED AN EXHIBIT THAT IDENTIFIES THE BILL IMPACTS FROM THE PROPOSED CHANGES TO THE ECA?

A. Yes. Attachment MJH-4 provides the bill impacts. It is worth noting that this estimate has the projected costs that I have discussed above which includes an entry fee of \$25,254. integration consulting costs of approximately \$178,000 (both of which are amortized over two years) and estimated first year WEIS administrative fee of \$177,827. This bill impact analysis does not include an estimate of the Company's production cost savings associated with the WEIS market costs/revenues. The Company believes the revenues will outweigh the costs resulting in overall reduced energy costs to customers, thus the bill impacts are a conservative estimate. The bill impact to the average residential customer would be \$0.09/month, or a 0.07 percent increase.

Q. WHEN DOES THE COMPANY ANTICIPATE THAT IT WILL FIRST PASS THE COSTS AND BENEFITS DESCRIBED HEREIN THROUGH ITS ECA?

A. Black Hills anticipates starting to pass through its WEIS costs (see table above) in the second quarter 2023 ECA. Because full market operations will begin on April 1, 2023, market purchases and sales will begin passing through the third quarter 2023 ECA.

VII. CONCLUSION

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

Appendix A

Statement of Qualifications

Michael J. Harrington

Mr. Harrington graduated from the University of North Texas in 2003 with a Bachelor of Business Administration with a concentration in Economics. In 2007, Mr. Harrington received a Master's of Business Administration from Texas Woman's University. In addition, Mr. Harrington has attended several utility industry training seminars including utility rate making, regulatory finance, and utility tax.

In 2004, Mr. Harrington began his career as a Property Tax Appraiser for the Tarrant County Appraisal District in Fort Worth Texas. He was responsible for appraising commercial and business personal property for property tax purposes. He negotiated settlements of disputed property values and testified before the Appraisal Review Board.

In 2008, Mr. Harrington was employed by Atmos Energy as a Sr. Rate Analyst. In that role he prepared various regulatory filings including cost of service studies, class cost of service studies, annual earnings reports, gas infrastructure replacement filings, and other various reports for several state regulatory commissions. He also assisted in preparing, writing, and analyzing expert testimony and he represented the company in meetings with state regulators.

In 2010, Mr. Harrington was employed by Xcel Energy as a Principal Rate Analyst. In that role he was responsible for managing the FERC Jurisdictional Formula Rate Templates for Public Service Company of Colorado and Northern States Power - Wisconsin. Mr. Harrington was responsible for preparing other various regulatory filings before the FERC. In addition, Mr. Harrington was responsible for preparing the cost-of-service studies for Xcel Energy's New

Mexico jurisdiction. Mr. Harrington represented the Company in numerous presentations, settlement negotiations, and in other meetings with state and federal regulators.

In 2014, Mr. Harrington was employed by SourceGas Utility Holdings, LLC as Manager, Rates and Regulatory. In that role he had overall responsibility for the Company's regulatory filings and tariff management before the Colorado Public Utilities Commission. Mr. Harrington was responsible for implementing the regulatory strategy in Colorado. He represented the Company in numerous presentations, settlement negotiations, and sponsored expert testimony before the Colorado Public Utilities Commission.

In February 2016, Black Hills Utility Holdings, Inc. ("BHUH") acquired SourceGas Utility Holdings and, shortly thereafter, Mr. Harrington assumed the role of Manager - Regulatory for BHUH. In this position, Mr. Harrington was responsible for managing various regulatory filings for Black Hills Colorado Electric, LLC. He represented the Company in stakeholder/regulatory presentations, settlement negotiations, and sponsored expert testimony before the Colorado Public Utilities Commission.

In December 2019, Mr. Harrington assumed to the role of Sr. Manager of Regulatory & Finance. In this position, Mr. Harrington continued his responsibility for managing various regulatory filings for Black Hills Colorado Electric, LLC. In addition, he was responsible for managing the development, analysis, and interpretation of financial forecasts, including budgets and strategic plans for Black Hills Colorado Electric, LLC.

In November 2020, Mr. Harrington was promoted to Director of Regulatory & Finance. In this position, Mr. Harrington is responsible for managing all aspects of the regulatory and financial process for Black Hills natural gas local distribution company, intra-state natural gas pipeline, and its electric utility in Colorado.