

**BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA**

APPLICATION OF MARK ARGENBRIGHT, )  
 DIRECTOR OF THE PUBLIC UTILITY DIVISION, )  
 OKLAHOMA CORPORATION COMMISSION, )  
 FOR PUBLIC HEARING TO REVIEW AND )  
 MONITOR APPLICATION OF THE FUEL )  
 ADJUSTMENT CLAUSE OF **OKLAHOMA GAS** ) CAUSE NO. PUD 2023-000055  
**AND ELECTRIC COMPANY** FOR THE )  
 CALENDAR YEAR 2022 )  
 AND, )  
 FOR A PRUDENCE REVIEW OF THE ELECTRIC )  
 GENERATION, PURCHASED POWER AND FUEL )  
 PROCUREMENT PROCESSES AND COSTS OF )  
**OKLAHOMA GAS AND ELECTRIC COMPANY** )  
 FOR THE CALENDAR YEAR 2022 )

Direct Testimony

of

Shawn McBroom

on behalf of

Oklahoma Gas and Electric Company

August 29, 2023

Shawn McBroom  
*Direct Testimony*

1 Q. **Please state your name and business address.**

2 A. My name is Shawn McBroom. My business address is 321 North Harvey, Oklahoma City,  
3 Oklahoma 73102.

4  
5 Q. **By whom are you employed and in what capacity?**

6 A. I am employed by Oklahoma Gas and Electric Company (“OG&E” or “Company”) as  
7 Senior Manager, Commercial Operations.

8  
9 Q. **Please summarize your educational background and professional qualifications.**

10 A. I received a Bachelor of Business Administration in Management in 2005 and a Master of  
11 Business Administration in 2008 from the University of Central Oklahoma. I joined the  
12 Company in 2001 and have been involved with generation operations and the energy  
13 markets including the Energy Imbalance Service (“EIS”) market operations and Southwest  
14 Power Pool (“SPP”) Integrated Marketplace (“IM”) design and operations. In 2020, I was  
15 promoted to Senior Manager, Commercial Operations where my responsibilities include  
16 SPP IM activities, fuels procurement, storage and transportation for coal, oil, and natural  
17 gas, and energy settlements for OG&E. I also hold voting representation on the SPP  
18 Market Working Group.

19

20 Q. **Have you previously testified before the Oklahoma Corporation Commission?**

21 A. Yes. I have filed testimony in Case Nos. PUD 2021-00072 and PUD 2022-000057.

22

23 Q. **How is your testimony organized?**

24 A. My testimony is arranged into three parts: **Part I** describes OG&E’s participation in the  
25 SPP IM and **Part II** describes OG&E’s fuel procurement processes and operational  
26 impacts on the fuel purchases. **Part III** describes OG&E’s fuel hedging strategies.

**Part I – OG&E’s Participation in the SPP IM**

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**Q. Please describe OG&E’s generating resources employed during 2022.**

A. OG&E owned and operated four coal-fired generating resources in 2022. This includes Sooner (Units 1 & 2), Muskogee Unit 6, and River Valley. OG&E also owns and operates gas-fired generation facilities at Seminole, Horseshoe Lake, Muskogee, Mustang, and Frontier. In addition, OG&E operates and is the majority owner of two combined cycle gas-fired generation facilities: McClain, and Redbud. During 2022, OG&E owned and operated approximately 449 MW of wind generation and had long term purchase power agreements (PPAs) for approximately 342 MW of wind generation. For additional information on OG&E’s generating resources please see the Direct Testimony of witness Robert Doupe.

**Q. How were OG&E’s generating resources utilized in 2022 in the SPP IM?**

A. OG&E offered all available generating resources into the SPP IM, as prescribed by the SPP market protocols.

**Q. Please briefly describe the SPP IM.**

A. SPP operates an energy market where market participants offer generating resources and bid load into the marketplace. SPP commits and dispatches the lowest cost resources necessary to reliably meet the corresponding SPP load, which includes OG&E’s customer load.

**Q. How does OG&E utilize the SPP IM?**

A. The SPP IM allows OG&E to reduce its fuel expense in serving customer loads. This is accomplished through offering OG&E’s generating resources into the SPP IM at their calculated variable fuel and variable O&M costs, bidding load in the day-ahead market, and participating in the congestion hedging process.

1 Q. **Does OG&E offer its energy and ancillary services into the SPP IM?**

2 A. Yes. OG&E is required to offer all available generating resources into the SPP IM for the  
3 purpose of supporting reliability. SPP has a defined “must-offer” requirement for the day-  
4 ahead and real-time markets, as well as certification processes to qualify to offer the  
5 regulation up and regulation down ancillary service types.  
6

7 Q. **Please explain what constitutes a market offer.**

8 A. Market offers represent both the physical and financial characteristics of the generating  
9 resource and are submitted for each generating unit in the day-ahead and real-time markets.  
10 The SPP IM currently has over fifty offer parameters covering each resource’s physical  
11 and financial characteristics, including start-up time, start-up costs, and minimum runtime.  
12 The physical parameters of a market offer represent the operating characteristics of the  
13 generating resource. The financial parameters of a market offer represent the calculated  
14 variable costs (*i.e.*, fuel and variable O&M) associated with each generating resource.  
15 OG&E’s resources include both company-owned resources and third party owned  
16 resources where OG&E purchases the resource’s output pursuant to a PPA.  
17

18 Q. **Please describe the market offer process.**

19 A. There are two energy markets at the SPP in which offers are submitted: day-ahead and real-  
20 time. Day-ahead market offers are submitted by 9:30am the day before the operating day.  
21 The real-time market offers are submitted at least every four hours for the current operating  
22 day and as needed to ensure the SPP IM has the most current operational data. The general  
23 process is as follows:

- 24 1. Plant personnel communicate any operational changes to the OG&E Market  
25 Operators via OG&E market systems.
- 26 2. OG&E Market Operators review any changes and either accept or deny the  
27 changes. Plant personnel have the ultimate responsibility for the operational  
28 characteristics of the generating resources. This operational change process serves  
29 as a quality checkpoint before the data is used for market offers.

- 1           3.       Once the Market Operators have reviewed and verified the data, the OG&E market  
2                   systems are utilized to calculate the market offers.
- 3           4.       Once calculations are complete, the Market Operators review the calculations and,  
4                   if satisfied with the results, submit them to the SPP IM systems.
- 5           5.       Verification that the SPP IM systems received the submissions are made by the  
6                   OG&E market systems and are viewed in the SPP market user interface by the  
7                   Market Operators.

8

9   **Q.     Please explain OG&E's philosophy when offering its fossil generation resources into**  
10 **the SPP IM.**

11   A.     OG&E offers the output of each of its available fossil generation resources into the SPP  
12           IM at each resource's calculated variable costs and in compliance with the SPP's must-  
13           offer requirements. By offering each generation resource at its calculated variable costs,  
14           OG&E's generation resources protect OG&E's load from purchasing energy at a cost  
15           greater than OG&E could self-serve. With only a few limited exceptions, OG&E submits  
16           offers with a unit commit status of the market for all its available resources. This allows  
17           the SPP to commit and dispatch all of OG&E's generating fleet.

18   **Q.     Are there other exceptions to OG&E's offer philosophy?**

19   A.     Yes. In some circumstances, OG&E will not offer an OG&E unit into the market for  
20           economic dispatch if that unit must either remain online or be started to conduct testing  
21           (e.g., environmental testing and post-outage testing). The term used by SPP to describe  
22           this scenario is "self-committed." OG&E self-committed less than 0.40 % of the total  
23           available hours in 2022. The other exception involves instances when OG&E is faced with  
24           an environmental or fuel constraint that causes OG&E to offer a unit above the calculated  
25           variable cost. This is done in coordination and consultation with the SPP Market  
26           Monitoring Unit ("MMU").

1 Q. **Please describe the Company's strategy and changes for offering those coal-fired**  
2 **generating units into the SPP IM.**

3 A. OG&E offers all its generating units into the SPP IM and SPP dispatches the lowest cost  
4 generation based on the security constraints on the transmission system. OG&E no longer  
5 dispatches its own generating units based on its own cost determinations. If an OG&E  
6 generating asset is available to the SPP Integrated Marketplace and has low energy  
7 production, this is because the SPP IM is providing a lower cost solution for OG&E's  
8 customers. The main objective of the SPP IM is to minimize costs while maintaining  
9 reliability. This is accomplished through the economic commitment and dispatch of all  
10 available generating assets in the SPP footprint. For example, a potential lowest cost  
11 solution may be that OG&E has no generating assets online and all energy requirements  
12 are being provided by the SPP IM.

13

14 Q. **Did the Company implement any temporary offer strategies related to coal-fired**  
15 **generating units?**

16 A. Yes. In Case No. PUD 2022-000057, I explained how national rail transportation delays  
17 of coal deliveries in 2021 (which continued into 2022) led to declining OG&E coal  
18 inventories. At the same time, natural gas prices were rising thus forcing market  
19 commitments to be strongly focused on coal resources. Beginning in the fall of 2021, the  
20 Company coordinated with the SPPMMU to enact offer strategies that would protect the  
21 rapidly declining coal inventories and prevent OG&E from running out of coal. This initial  
22 offer strategy involved placing a market offer adder on certain coal units during off-peak  
23 hours, thereby burning less coal during the lower-cost energy hours and conserving coal  
24 inventory for the remainder of 2021 as the 2021-2022 winter period approached. As the  
25 rail transportation problem extended into 2022, OG&E continued working with the SPP  
26 and employing this offer strategy to ensure that coal inventory levels did not get too  
27 depleted. Also, OG&E worked with the SPP MMU staff to expedite the development of  
28 Market Protocol Revision Request 502 Opportunity Cost Revisions Addressing Coal  
29 Transportation Issues. *See* Direct Exhibit SM-1. Following the approval of the RR502 in

1 August 2022, OG&E submitted the fleet of coal-fired generating units for Opportunity Cost  
2 Calculator consideration. This more official process allowed OG&E to adjust its coal unit  
3 offers to protect coal inventory levels based on the offer adders calculated and provided by  
4 the SPP MMU.

5  
6 **Q. Please explain the philosophy OG&E follows when it offers the output of its  
7 Company-owned and PPA wind generation resources into the SPP IM.**

8 A. OG&E offers its wind resources into the SPP IM by considering the contract terms of each  
9 of its wind PPAs as well as the value of the production tax credits (“PTCs”) associated  
10 with each MWh of energy produced by the resource.

11  
12 **Q. Can load and ancillary services be purchased from the SPP IM?**

13 A. Yes. The SPP IM is designed such that market participants may bid to purchase all or a  
14 portion of their load in the day-ahead market. However, ancillary services are procured by  
15 the SPP and are allocated, on a load ratio basis, back to each member load.

16  
17 **Q. Please explain the load bidding philosophy OG&E utilizes.**

18 A. OG&E bids to purchase all its forecasted load in the day-ahead market. This reduces the  
19 exposure to real-time market pricing volatility and make-whole distribution charges.

20  
21 **Q. Please describe the bidding process for OG&E’s load.**

22 A. OG&E utilizes a third-party tool to forecast load. This hourly load forecast is the basis for  
23 the day-ahead load bids. The load forecast values are reviewed and then submitted to the  
24 SPP in the day-ahead market by 9:30am.

25  
26 **Q. Please explain OG&E’s congestion hedging philosophy and process.**

27 A. OG&E participates in SPP’s congestion hedging process to reduce the congestion paid by  
28 OG&E’s load through the day-ahead locational marginal price (“LMP”). In 2022, OG&E  
29 sought to acquire financial transmission rights (referred to as “Transmission Congestion  
30 Rights” in the SPP Tariff) to hedge congestion prices on paths that were forecasted to have

1 the largest financial impact on OG&E. OG&E was awarded financial transmission rights  
2 on these paths based on the availability of such rights. In forecasting the value of these  
3 financial paths, OG&E used a combination of historical IM congestion values and forecast  
4 modeling techniques.

5

6 **Q. Was OG&E able to obtain the paths sought in 2022?**

7 A. Yes. OG&E was able to obtain most of the Transmission Congestion Rights (“TCR”) it  
8 sought in 2022.

9

10 **Q. Please describe the SPP IM settlements review process.**

11 A. Each business day, SPP publishes statements that contain market settlements for the initial  
12 standard (operating date + 7 days), the secondary standard (operating date + 53 days), and  
13 the final standard (operating date + 120 days), plus any additional resettlement statements  
14 as applicable. OG&E utilizes a third-party vendor, to both analyze and perform shadow  
15 settlements for each SPP settlement statement. This shadow settlement involves the  
16 recalculation of each settlement charge type using the most relevant independent data as  
17 applicable and comparing the results to the SPP settlement.

18

19 **Q. Please explain how OG&E measures generation performance in the SPP IM.**

20 A. OG&E utilizes an internal operational report to calculate the IM gross margin for each  
21 generating facility. The calculation utilizes the SPP IM generation net revenue (all  
22 generator related charge types) and the variable fuel costs to determine the gross margin  
23 dollars for each generating facility. If this calculation yields a positive value, then the  
24 facility type is reducing load costs; and if this calculation yields a negative value, then the  
25 facility type is increasing load costs.

1 Q. **Is the measurement a fair indication of OG&E’s generator performance in the SPP**  
 2 **IM?**

3 A. Yes. As seen in Table 1 below, the annual generation gross margin total for 2022 is  
 4 \$19.91/MWh or approximately \$283.9 million. The thermal generation and OG&E owned  
 5 wind resources all had positive IM gross margins, which means these resources were  
 6 receiving market revenue greater than the variable fuel costs for each facility type. The  
 7 gross margin calculation for all of OG&E’s PPA resources uses each contract’s variable  
 8 cost charges. For PPA Wind, the total IM revenue was insufficient to cover the contractual  
 9 costs.

**Table 1: 2022 Integrated Marketplace Generation Gross Margin\***

Facility Type	MWh	IM Gross Margin (\$000)	IM Generation Margin (\$/MWh)
<b>Coal</b>	4,422,011	118,876	26.88
<b>Combined Cycle</b>	4,200,271	69,149	16.46
<b>Legacy Gas</b>	3,093,283	34,566	11.17
<b>Combustion Turbines</b>	1,108,969	43,142	38.90
<b>OG&amp;E Wind</b>	718,084	28,728	40.01
<b>PPA Wind</b>	715,117	(10,562)	(14.77)
<b>2021 Total Gen</b>	14,257,735	283,899	19.91

\* Values in the table above represent operational values and will not tie to the accounting values in Schedule A-2.

10 Q. **Please describe the major trends in the SPP IM that affected OG&E during 2022.**

11 A. Below are the main trends impacting OG&E that can be found in the 2022 State of the  
 12 Market Report<sup>1</sup> published May 16, 2023, by the SPP’s Market Monitoring Unit.

- 13 • Wind in the SPP continues to grow. In 2022, an additional 1,500 MW of wind  
 14 generation capacity was added. This brings the SPP total nameplate wind capacity to  
 15 just over 32 GW<sup>2</sup>. Total wind energy production for 2022 accounted for 32% of all  
 16 energy production in the footprint<sup>3</sup>.

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<sup>1</sup> [2022 annual state of the market report.pdf \(spp.org\)](#)

<sup>2</sup> Ibid p.2

<sup>3</sup> Ibid p.2

- 1 • In 2022, the average gas price realized an increase of 69 percent in 2022. The  
2 exculpation of the natural gas commodity brought about day-ahead prices representing  
3 an 80 percent increase, and real-time prices representing a 75 percent increase over  
4 2021.
- 5 • Demand response resource market participation experienced a nearly 50 percent  
6 increase in 2022. While this segment on the marketplace represents less than one  
7 percent of the registered marketplace assets this is a segment that will be rapidly  
8 growing over the next several years.
- 9 • For 2022, coal generation was the second largest energy production segment at nearly  
10 33 percent while wind generation held the top position with 38 percent of total energy  
11 produced.<sup>4</sup>

12  
13 **Part II – OG&E’s Fuel Procurement Practices**

14 **GAS, COAL, AND OIL PROCUREMENT PRACTICES**

- 15 **Q. Please explain OG&E’s purchasing practices as they relate to fuel procurement.**
- 16 A. Historically, OG&E has procured all its fuel using competitive processes, on a semi-annual  
17 basis. OG&E recognizes that natural gas, coal, and fuel oil markets generally possess  
18 commodity market characteristics making competitive procurement an effective tool to  
19 ensure the best price possible for customers.
- 20
- 21 **Q. Did OG&E modify its gas purchase practices in 2021?**
- 22 A. Yes. Following Winter Storm Uri, the natural gas market liquidity shifted, resulting in  
23 buyers and sellers adjusting procurement practices. In response, OG&E procured First of

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<sup>4</sup> Ibid p. 2

1 month (FOM) and Call Cap Options to mitigate the potential of another dramatic increase  
2 in gas costs. These gas purchase practices were continued in 2022.

3  
4 **Q. Please describe OG&E's First of Month procurement process.**

5 A. OG&E followed the competitive bidding process to procure FOM term gas. FOM term  
6 gas allowed for some price surety across a given month period and provided shelter from  
7 daily index price volatility. For 2022, OG&E procured up to 25% of the Company's  
8 Term/Call Gas as FOM contracts.

9  
10 **Q. Please describe OG&E's Call Cap Option procurement process.**

11 A. OG&E followed the normal competitive bidding process to procure Call Cap Options. Call  
12 Cap options gave the Company a price ceiling on the contracted gas volume of  
13 \$50/MMBtu. In the instance that the gas daily index price ever elevated above  
14 \$50/MMBtu, the Company would hold a maximum rate of \$50/MMBtu. OG&E procured  
15 approximately 7-13% of the Company's Term/Call Gas as Call Cap across November 2021  
16 through March 2022 contractual period.

17  
18 **Q. Please describe OG&E's gas procurement process.**

19 A. OG&E uses a more formalized RFP process for purchases of natural gas having a term of  
20 longer than one month. For purchases with a term of one month or less, OG&E uses a less  
21 formal process which is described later in my testimony. A list of OG&E's long-term fuel  
22 solicitations in 2022 is included in Schedule B-4 of the Minimum Filing Requirements  
23 ("MFR").

24 The SPP IM clears every day of the week, but the gas market is operational during  
25 the week with limited ability to purchase gas across the holidays and weekends. The  
26 general process is as follows:

- 27 1. OG&E Fuels and Market Operations review load forecast(s), wind penetration  
28 levels, and OG&E unit availability for each operation day. These variables in  
29 addition to natural gas prices are the main drivers for changes in unit commitments.

- 1           2.       OG&E Fuels review the current gas day's burn and the next day's potential burn to  
2           establish what actions need to be taken.
- 3                   a.       For the current gas day, it is determined if Intra-Day purchases are needed  
4                   and/or if the storage or cash-out process can be utilized more economically.
- 5                   b.       For the next operating day and based on the discussion with OG&E market  
6                   operations, a similar day gas burn is reviewed to estimate the gas needs.
- 7           3.       Based on the discussions above, the Fuels team utilizes Term Gas, Daily Gas,  
8           and/or Call Gas to meet the estimated needs for the next operation day by 8:00am  
9           CPT and has timely nominations completed by 1:00pm CPT. Liquidity of the  
10           natural gas market greatly decreases after 8 AM.
- 11           4.       At 1:00pm CPT when the SPP IM awards are posted, the Fuels team reviews the  
12           Day-Ahead clearing to determine if any further natural gas is needed for the next  
13           operating day. The Fuels team has the option to purchase additional gas or utilize  
14           physical storage or financial cash out as needed.

15  
16   Q.       **Please describe the Term Supply gas procurement process.**

17   A.       In 2022, OG&E issued two Term Supply RFPs. The first was for delivery in the months  
18           of April 2022 through October 2022, and the second was for the months of November 2022  
19           through March 2023. The Company evaluates all complying received bids for price and  
20           delivery points and awards volumes with a focus on price and diversification of supply.

21  
22   Q.       **Please describe the Daily Gas procurement process.**

23   A.       Daily Gas is procured on an as-needed basis. When the Company determines Daily Gas  
24           purchases are needed, OG&E conducts a competitive bid-ask instant message and/or a  
25           telephonic solicitation to acquire additional natural gas requirements for the next day. In  
26           evaluating offers to sell gas to OG&E, the Company uses the ICE trading platform to  
27           evaluate real-time offer prices and to assist in the evaluation of the prices being quoted.

1 Q. **Please describe the Call Gas procurement process.**

2 A. Call Gas is procured as a part of the seasonal RFP solicitation but consists of transactions  
3 where OG&E purchases the right, but not the obligation, to take gas on a day-to-day basis  
4 at a specified volume and a predetermined index price. The reservation fees generally  
5 range from \$0.01-\$0.85 cents per MMBtu and allow OG&E the flexibility to optimize its  
6 gas-fired generating units on short notice in response to generating resource commitments  
7 through the SPP IM.

8

9 Q. **Please describe the Intra-Day Gas Procurement process.**

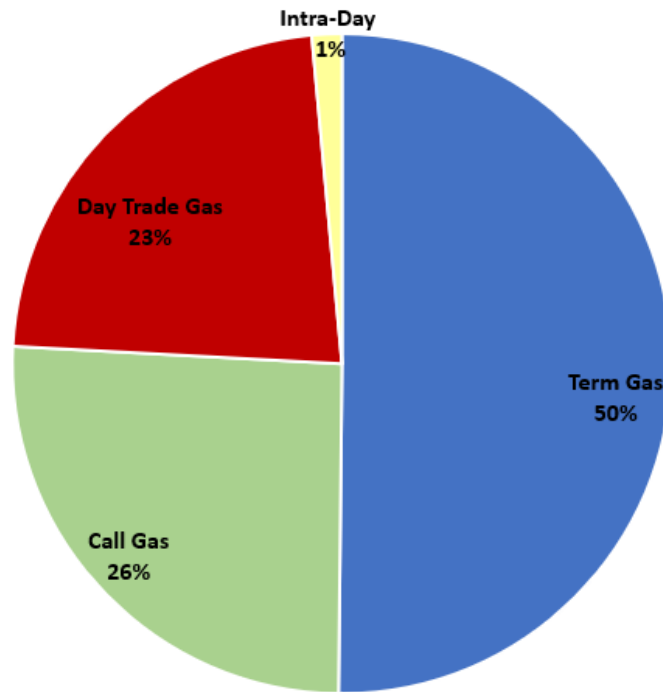
10 A. Intra-Day Gas can be a useful tool to help with balancing supply on a pipeline during the  
11 operating day. Intra-Day gas is purchased after the close of the normal nomination cycle  
12 on an as available basis at a premium to market of roughly \$0.103-\$0.90/MMBtu relative  
13 to the current Daily Gas posted indexes. Currently, there are limited suppliers of intra-day  
14 gas in the market and at times liquidity of volumes in the intra-day market can be an issue.  
15 Historically, intra-day gas procurement opportunity has been the highest priced  
16 commodity, but still stable. Over the past two years intra-day gas volumes and the price  
17 has been volatile. OG&E storage additions in 2022 provide the avenue for the Company  
18 to transition away from intra-day gas procurement.

19

20 Q. **What was the breakdown of natural gas procurement options utilized in 2022?**

21 A. The percentage breakdown by procurement option can be seen in Chart 1 below and the  
22 percentage by vendor can be seen in Table 2.

**Chart 1: 2022 Percentage Breakdown by MMBtu of Procurement Options**



1 The four types of natural gas supply procurement options used are Term Supply (multi-  
2 month or greater), Daily Gas, Call Gas, and Intra-Day Gas. This strategy allows for  
3 flexibility in the quantity of gas purchased based on the level of need that changes on a  
4 daily and monthly basis. This strategy is outlined in more detail in the Fuel Supply  
5 Portfolio and Risk Management Plan which is provided in Schedule B-1 of the MFR  
6 Package.

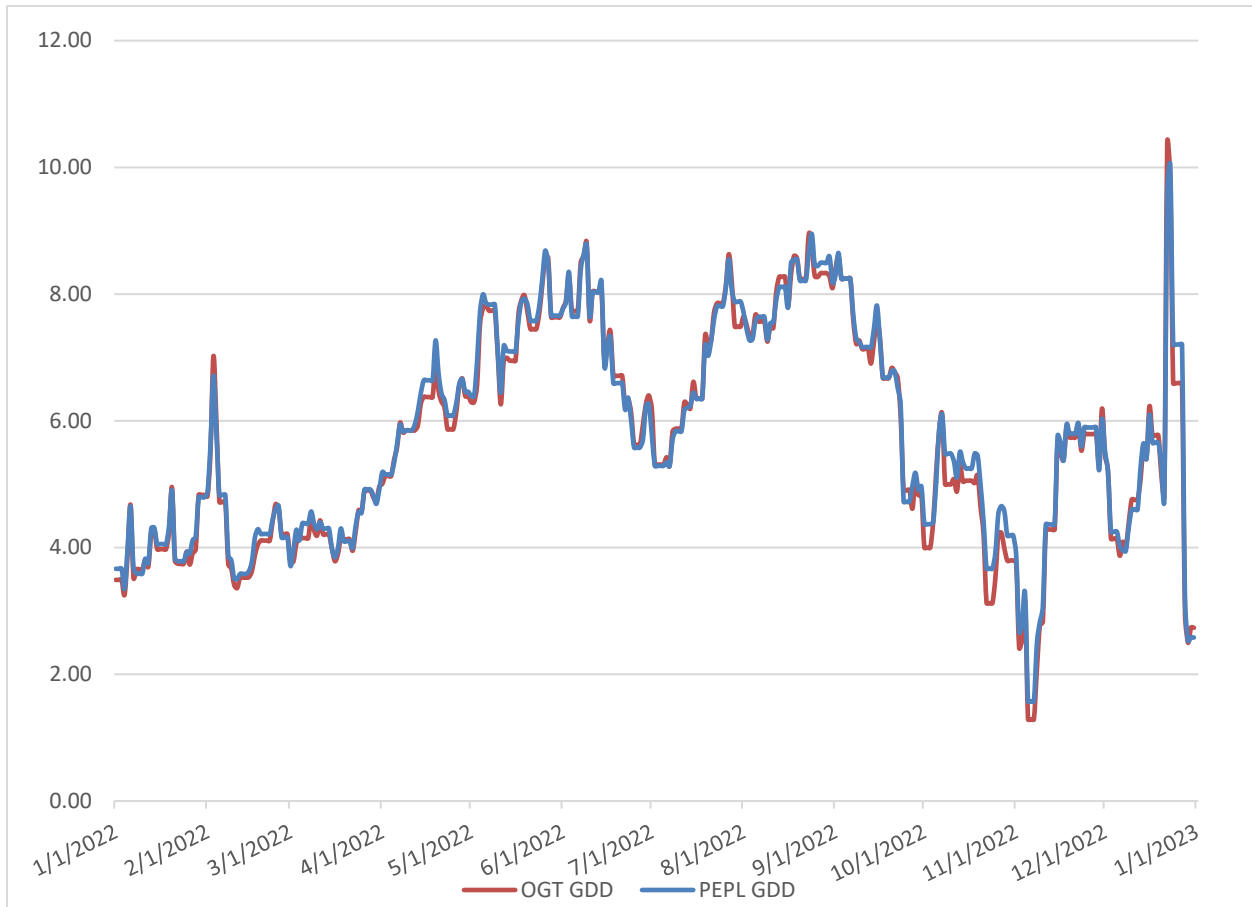
**Table 2: 2022 OG&E Gas Supply by Vendor**

<b>Vendor</b>	<b>Vendor Shares of Purchases</b>
Blue Mountain Midstream LLC	1.02%
Castleton Commodities Merchant Trading L.P.	0.01%
Concord Energy	4.650%
Conexus Energy, LLC	0.181%
ConocoPhillips Company	2.10%
Continental Resources	2.56%
Devon Gas Services, L.P.	1.350%
EDF Trading North America, LLC	0.391%
Energy Transfer	2.89%
ETC Marketing, Ltd	0.01
Koch Energy Services, LLC	4.07%
Macquarie Cook Energy, LLC	7.15%
Mercuria	12.12%
MidCoast Marketing (u.s.l.p)	0.02%
Mustang Fuel Marketing Company	0.30%
Nextera	0.37%
Oneok Field Services Company	1.35%
Southwest Energy, L.P.	20.44%
Spire Marketing, Inc.	6.06%
Tenaska Marketing Ventures	28.29%
United Energy Trading LLC	1.65
Vitol, Inc.	0.19
<b>Supply Category Share of Purchases</b>	<b>100.00%</b>

1 Q. **What were the trends in natural gas prices in 2022?**

2 A. As seen in Chart 2 below, there are four indices that OG&E utilizes through its natural gas  
3 purchasing. The supporting Daily Index prices are listed in MFR Schedule C-6.

**Chart 2: 2022 Oklahoma Intrastate Pipeline Natural Gas Indices**



4 Q. **What was the cause of the increase in natural gas price on both intrastate pipelines  
5 near the end of 2022?**

6 A. Winter Storm Elliott occurred from December 21 through December 26, 2022. This event  
7 brought some exceptionally severe weather conditions, leading to a notable rise in demand

1 across the SPP footprint. The increased demand resulted in increased fuel demand and  
2 thus caused natural gas prices to surge.

3

4 **Q. Did the Company purchase natural gas supply from an affiliate in 2022?**

5 A. No. The Company did not purchase gas from Enable Midstream Partners, LLP in 2022.  
6 Enable Midstream Partners was acquired by Energy Transfer LP. It is my understanding  
7 that Energy Transfer is no longer an affiliate of OG&E as of December 31, 2021.

8 **Q. Please explain how the “Cash Out” process works under the Energy Transfer**  
9 **contracts.**

10 A. The Cash Out process is a financial settlement of the daily imbalance on the Energy  
11 Transfer pipeline. OG&E attempts to minimize the imbalances through its purchasing  
12 practices, but at times the cashout process is more economical than purchasing Intra-Day  
13 gas to alleviate negative imbalances. When this occurs, OG&E utilizes the cashout process  
14 to purchase additional natural gas per the contractual terms. Additionally, if OG&E has a  
15 positive imbalance and suppliers are not willing or able to take back excess gas, OG&E  
16 sells gas back to Energy Transfer per the contractual terms.

17

18 **Q. Please summarize OG&E’s coal supply in 2022.**

19 A. Entering 2022, OG&E had contracted for the purchase of coal for the entire 12 months of  
20 2022 from mines located in the Southern Powder River Basin (“PRB”) in Wyoming. In  
21 2022, OG&E took delivery of approximately 3.271 million tons of supply from two coal  
22 supply agreements. OG&E’s 2022 coal suppliers are listed in MFR Schedule C-4.

23

24 **Q. Please describe how OG&E procures its fuel oil supply.**

25 A. Fuel oil is typically purchased as needed and through a telephonic or written solicitation  
26 process with the price including delivery to the plant. While fuel oil comprises less than  
27 1% of OG&E’s fuel procurement, it is important because fuel oil is primarily used for  
28 startup fuel and flame stabilization at the Sooner coal-fired plant. As noted in the MFR

1 Package on Schedule C-4, OG&E purchased fuel oil from Hartland Fuel Products, LLC in  
 2 the amount of 2.85 million gallons at a cost of approximately \$6.17 million.

3

4 **DEVIATIONS BETWEEN PLANNED AND ACTUAL FUEL COSTS**

5 **Q. Did the planned and actual costs for fuel vary significantly in 2022**

6 A. Yes. Table 3 below compares the planned expenditures for the calendar year of 2022  
 7 versus the actual expenditures for each fuel type and the actual amount expended

**Table 3: 2022 Fuel Cost Variance**

<b>Delivered Cost in Millions</b>	<b>Plan</b>	<b>Actual</b>	<b>Change</b>
Natural Gas Cost	\$200.88	\$597.09	\$396.21
Coal Cost	\$122.90	\$147.46	\$24.56

8 **Q. Please explain the cost variance for natural gas.**

9 A. For natural gas, while there was an increase of approximately 20.5 million MMBtu  
 10 compared to the forecast, the actual average gas price of \$7.61 per MMBtu was higher than  
 11 the forecasted price of \$3.46 per MMBtu. These variances resulted in an increase in gas  
 12 costs of approximately \$396.21 million. The increased natural gas burn rate was a direct  
 13 result of the higher than forecasted natural gas prices and the economics of the SPP IM.

14

15 **Q. Please explain the cost variance for coal.**

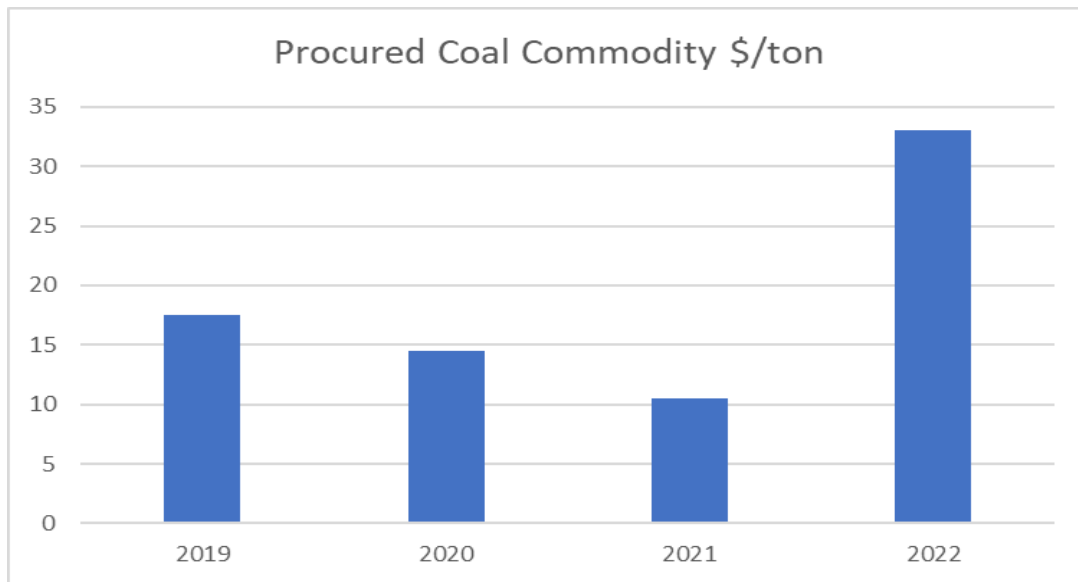
16 A. For coal, there was an increase in burn rate of 13.9 million MMBtu compared to the  
 17 forecast. The actual unit cost of coal was less than expected at \$2.93 per MMBtu compared  
 18 to a forecast of \$3.38 per MMBtu. These effects combined to increase total coal expense  
 19 for the year by \$24.56 million. As with OG&E's gas fleet, OG&E market offers its coal  
 20 generation resources into the SPP IM, and SPP economically commits and dispatches these  
 21 generation resources to meet the SPP load and reserve needs.

**COAL PRICE VOLATILITY**

1 Q. **Has there been an increase in the price of coal for OG&E?**

2 A. With an ever changing environment of regulations and volatility of natural gas prices, the  
 3 coal commodity experienced a substantial demand resurgence in 2022. Following Winter  
 4 Storm Uri and with the natural gas commodity prices remaining high in 2022, the coal  
 5 commodity experienced an unforecasted level of increased demand. As seen in Chart 3  
 6 below, the appearance of this volatility compared to historical is substantial.

**Chart 3 – Coal Commodity**



7 Q. **What has the Company done to hedge against the price volatility of coal?**

8 A. With this increase in coal prices, coal suppliers sought to shift away from engaging in  
 9 shorter contractual terms of 6 months and instead offering multi-year contracts in an  
 10 attempt to lock in higher priced coal deals for a longer period. With coal prices so high,  
 11 OG&E opted to enter into a one-year contract for the higher priced coal and wait to enter  
 12 into multi-year contracts until the price came down. During the second half of 2022, coal  
 13 futures began showing a decline for future years and, the Company elected to execute a  
 14 three-year contract beginning in 2023 to lock in the lower coal price of \$13.50 per ton.

**Part III – OG&E’s Natural Gas Hedging Strategy in 2022**

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**Q. Please explain the Company’s overall objective of its fuel hedging strategy.**

A. OG&E’s natural gas hedging strategy is designed to reduce fuel and purchased power cost volatility for its customers. Historically, customers have benefited from low and stable gas prices, fuel diversity, and participation in the SPP IM. After Winter Storm Uri, in addition to maintaining fuel diversity and continuing to participate in the SPP IM, OG&E began assessing various physical and financial hedging options to enhance the already implemented practices focused on mitigating the risk of fuel cost volatility.

**Q. What major additions has the Company made in 2022 to advance its hedging practices?**

A. As a result of the historic 2021 Winter Storm Uri, OG&E concluded that additional natural gas storage capability would be beneficial. This prompted OG&E to initiate a competitive bidding process for gas storage services in November 2021. The Request for Proposal (RFP), which was supervised by an Independent Evaluator, aimed to explore diverse options that could enhance the reliability and flexibility of OG&E’s gas-fired generating facilities. As a result of the RFP, the Company acquired two storage contracts, totaling three and one half (3.5) BCF of natural gas storage services providing natural gas to the two intrastate pipelines that service the majority of the OG&E natural gas fired generating units. One contract was established with Energy Transfer for two (2) BCF of storage services and the second contract was with ONEOK to provide one and one half (1.5) BCF of storage. These storage services, which became effective in May of 2022, enhance the Company’s capability to ensure a consistent fuel supply during periods of increased demand and to shield customers from abrupt price fluctuations in the commodity natural gas market. This addition of storage services fortifies the Company’s existing strategies.

Additionally, as mentioned earlier, OG&E continued to rely on secure FOM term gas contracts during 2022. As discussed below, OG&E seeks to continue using call caps in its hedging pilot program. Further details about the Company’s storage initiatives and

1 other current hedging activities can be found in the Fuel Supply Portfolio and Risk  
2 Management Plan, provided in Schedule B-1 of the MFR Package.

3  
4 **Q. What beneficial hedge has the new storage services already provided for Customers?**

5 A. As seen in Chart 2 above, price volatility developed during Winter Storm Elliot which  
6 occurred at the end of December 2022. Through OG&E's diversified fuel procurement  
7 strategy and the utilization of the newly added storage services, the Company was able to  
8 provide protection from the price volatility that developed during Winter Storm Elliot.  
9 Having these storage services in place presented an opportunity to not just protect  
10 customers from this volatility but to provide savings of approximately \$1.25 million across  
11 three of the most critical days.

12  
13 **Q. Does the Company take a diversified approach regarding natural gas hedging  
14 activities?**

15 A. Yes. For 2022, the Company took a highly diversified approach to its natural gas hedging  
16 activities. The focus will always be to ensure reliable operation of our customers  
17 generating resources while simultaneously seeking out products that provide price surety  
18 at a reasonable cost to customers.

19  
20 **Hedging Pilot**

21 **Q. Does OG&E propose a new natural gas hedging pilot plan in this case?**

22 A. Yes. Pursuant to a settlement in Case No. PUD 2022-000057, OG&E has developed a  
23 strategy to hedge natural gas in addition to the surety practices that we currently utilize for  
24 prudent management of our customer's fuel expenses. This settlement specified: "The  
25 Stipulating Parties agree that the Company shall file an application within 120 days of a  
26 final order, in this case, proposing a three-year financial hedging pilot program with an  
27 annual cost of financial hedges capped at \$10 million."

1 Q. **What is OG&E proposing as a three-year financial hedging pilot?**

2 A. The Company has drafted a pilot plan that is intended to complement the current OG&E  
3 Natural Gas Hedging Strategy discussed above. During the three-year pilot, the two  
4 hedging products intended for utilization will be fixed price contracts and call cap options.  
5 For further details related to the financial hedging pilot please see Direct Exhibit SM-2.

6

7 Q. **How will the annual \$10 million cap be allocated?**

8 A. The yearly cap of \$10 million will be evenly allocated between fixed-price contracts and  
9 call cap options.

10

11 Q. **During which time frame will OG&E execute the pilot plan?**

12 A. OG&E will conduct the pilot program throughout the winter season, spanning from  
13 December through February.

14

15 Q. **Why is OG&E selecting fixed price contracts for its pilot plan?**

16 A. Fixed priced contracts for natural gas provide a known price hedge for the entire duration  
17 of the contract. Fixed priced contacts provide the price surety hedge from a known cost  
18 perspective for the period secured. This component of the three year pilot provides an  
19 avenue for evaluating the potential risk of commodity price fluctuations and if longer term  
20 fixed priced contracts can be of measurable value in coordination with OG&E's recent  
21 increase in natural gas storage services. The fixed price component serves a similar  
22 function of financial budgeting as it provides a known rate that can be used in conjunction  
23 with forecasted volumes to provide an estimated cost projection regardless of price  
24 volatility.

25

26 Q. **Why is OG&E selecting call cap contracts for its pilot plan?**

27 A. OG&E intends to reintroduce call cap options across winter months as part of its pilot  
28 hedging plan. As previously mentioned in my testimony, I discussed OG&E's utilization  
29 of the call cap contracts prior to the finalization of the additional storage services. The

1 implementation of the call cap option within the pilot program enables the Company to  
2 assess whether this supplementary insurance level offers valuable protection against  
3 considerable price volatility.

4  
5 **Q. How will the pilot plan be evaluated?**

6 A. Annually, OG&E will perform an evaluation of the benefits of the financial hedging tools  
7 and will provide a summarization of the performance during its annual fuel prudence  
8 reviews.

9  
10 **Q. Are there potential constraints on the utilization of financial hedging instruments?**

11 A. Yes. The plan's targeted products are subject to limitations, with RFP respondents  
12 expected to offer products aligning with specified criteria and prudent pricing conditions  
13 relevant to each specific seasonal period.

14  
15 **CONCLUSION**

16 **Q. Was the Company prudent in 2022?**

17 A. Yes. OG&E acted prudently and, in our customers' best interests regarding the Company's  
18 participation in the SPP IM and its fuel purchase practices. As stated earlier in my  
19 testimony the Company was, is, and will continue to be committed to providing the most  
20 reliable energy possible at the most prudent cost possible. The Company will continue its  
21 focus on hedging advancements to ensure customers are in the best reasonable cost  
22 position.

23  
24 **Q. Does this complete your testimony?**

25 A. Yes.



# REVISION REQUEST SUBMISSION FORM

## SPP STAFF TO COMPLETE

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RR Number: 502

Date: 7/26/2022

RR Title: Opportunity Cost Revisions Addressing Coal Transportation Issues

System changes?  No  Yes

Process changes?  No  Yes

Impact analysis required?  No  Yes

*If no, but system or process changes are expected, please explain why an Impact Analysis will not be performed. (e.g. FERC Order or work included in another Impact Analysis for a related RR):*

Comprehensive Roadmap process?  No  Yes

*If yes, provide SIR# and associated SIR#s:*

## SUBMITTER TO COMPLETE

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### SUBMITTER INFORMATION

Name: Raleigh Mohr

Company: SPP MMU

Email: rmohr@spp.org

Phone: 501-482-2206

*Submitter must be a Qualified Entity. Please check at least one applicable option:*

- SPP Staff
- SPP Market Participant
- SPP Member
- An entity designated by a Qualified Entity to submit a Revision Request "on their behalf"
- SPP Market Monitor
- Staff of government authority with jurisdiction over SPP/SPP member
- Rostered individual of SPP committee, task force or working group
- Transmission customers or other entities that are parties to transactions under the SPP Tariff

## RR DETAILS

Requested resolution timing:  Normal  Expedited  Urgent Action

**Reason for expedited/urgent resolution:** Nationwide rail transportation issues are greatly affecting SPP's coal fleet and may be complicated with the potential for a national rail labor strike this fall. Many, if not all, SPP Market Participants are reporting issues with diminishing coal piles without a resolution for replenishment in sight as the rails consistently under-deliver requested coal. Immediate action is needed to provide MPs a transparent mechanism to conserve coal, in an attempt to increase the availability of coal capacity for the remainder of the summer and for the winter season.

Type of revision (select all that apply):

- Correction *(revising language that is erroneous or needs clean-up for grammatical errors or inconsistency across governing documents; no changes to intent or policy)*
- Clarification *(revising language to better represent existing intent; no changes to functionality or policy)*
- Enhancement *(revising language to expand on existing intent or functionality)*
- New Protocol, Business Practice, Criteria, Tariff *(new language to accommodate new functionality or policy not existing today)*
- NERC Standard impact *(If revision relates to/or impacts NERC Standards, describe and list standard(s))*
- FERC mandate (list order number(s))
- NAESB Standard impact *(If revision relates to/or impacts NAESB Standards, describe and list standard(s))*

## RR OBJECTIVES

What is the objective of this RR?

**Describe the objective and end result**

Opportunity Cost may be a component of mitigated offers under certain circumstances. Currently, market participants with fuel-limited resources are allowed to include opportunity cost in their mitigated offer when the fuel limitation is a result of force majeure. This RR expands the scope of the protocols by allowing a larger group of fuel-limited resources to include opportunity cost in their mitigated offer. With these revisions, market participants experiencing fuel limitations due to abnormal fuel supply or transportation limitations, but not rising to the level of force majeure, may include opportunity cost in their mitigated offer with these revisions.

**Direct Exhibit SM-1**

Surface Transportation Board Chairman Our Martin J. Oberman (05/06/2022): "Our freight rail service hearing highlighted the grave concerns of shippers and others regarding freight rail service. While the railroads have faced certain challenges over the last few years, the evidence produced at last week's hearing is overwhelming that the railroads' longstanding practice of reducing operating ratios by cutting employment levels, mothballing locomotives, and eliminating other essential resources are the central reasons why farmers have been hours away from depopulating herds, manufacturing facilities have reduced operating hours, and shippers cannot get their products to market on time or receive essential raw materials for their companies. These failures are harming the nation's economy and, in my view, are contributing to the inflationary forces affecting food and fuel in particular."

Almost three months later, these issues remain and may be complicated with the potential for a national rail labor strike this fall. Many, if not all, SPP Market Participants are reporting issues with diminishing coal piles without a resolution for replenishment in sight as the rails consistently under-deliver requested coal. Historically high natural gas prices and increasing peak load has left the coal fleet no reprieve, and coal resources are forecasted to continue to use their fuel inventory. The current transportation issues do not meet the definition of force majeure. Therefore, there are no mechanisms in place for participants to conserve coal without physically withholding capacity or being at risk for mitigation. The revisions aim to slow or prevent coal inventories from being completely exhausted by allowing participants experiencing such issues to include opportunity cost in their mitigated offer after an SPP MMU determination of eligibility is made.

## How RR addresses the objectives:

### **Describe how this RR addresses or solves the objectives**

Edits were made to Integrated Marketplace Protocols Appendix G.13.1.3, creating an additional circumstance in which fuel-limited resources may be eligible to include opportunity cost in their mitigated offer. Subsections "a" and "b" were created; "a" containing the existing force majeure circumstance; and "b" creating the new circumstance for fuel-limitations caused by abnormal fuel supply or transportation limitations not rising to the level of force majeure.

## Benefits RR will provide:

- **Market benefits:** The revisions allow fuel-limited resources, that are fuel-limited for reasons that are abnormal fuel supply or transportation limitations but outside of meeting a force majeure definition, to conserve available fuel in a transparent way to the market by pricing the opportunity cost of the remaining fuel.
- **Reliability benefits:** These revisions may slow down or prevent the immediately pressing concern with coal transportation constraints causing a large portion of the SPP coal fleet to be unable to replenish their fuel inventory and eventually completely exhaust their fuel-on-hand. The intended effect of the revisions are to conserve fuel for fuel-limited resources meeting the provisions at G.13.1.3 of the Marketplace Protocols. Without these changes, resources not

**Direct Exhibit SM-1**

meeting the current provisions in G.13.1.3 may not have a mechanism to conserve fuel unless at the direction of SPP Operations.

- **Administrative benefits:** N/A
- **Other qualitative or quantitative benefits:** N/A

## RISK DRIVERS

Are there existing risks to one or more SPP members or the bulk electric system driving the need for this RR?  Yes  No

If yes, explain the risk and associated timelines:

Compliance (SPP Tariff, NERC, other):

**Reliability/Operations:** Given current rail limitations in meeting requests for coal delivery and the current pricing parity with natural gas, coal piles are diminishing. To the extent that resources cannot effectively manage coal piles to meet system needs, this could create challenges meeting system demand in either the late summer or winter periods.

Financial:

## DOCUMENTS REQUIRING REVISION

Select all documents impacted by this RR and indicate the section of the document being revised.

- Tariff** Section:
- Market Protocols** Section: G.13.1.3 Version: 89.b
- Operating Criteria** Section:
- Planning Criteria** Section:
- Business Practice** Number:
- Integrated Transmission Planning (ITP) Manual** Section:
- Minimum Transmission Design Standards for Competitive Upgrades** Section:
- Reliability Coordinator and Balancing Authority Data Specifications** Section:
- SPP Communications Protocols** Section:

**Revision Request Process** Section:

## DOCUMENT REVISIONS

*In the appropriate sections below, please provide the language from the current document(s) for which you are requesting revision(s), with all edits redlined.*

### MARKET PROTOCOLS

#### **G.13.1.3 Non-Regulatory Opportunity Cost: Fuel Limitations**

Fuel Limitations are eligible for Non-Regulatory Opportunity Costs for a fuel supply limitation or transportation limitation, for up to one year, resulting from (a) an event of force majeure, or (b) other circumstances verified by the SPP MMU.

- a. Force Majeure is defined as: Any cause beyond the control of the affected Interconnection Party or Construction Party, including but not restricted to, acts of God, flood, drought, earthquake, storm, fire, lightning, epidemic, war, riot, civil disturbance or disobedience, labor dispute, labor or material shortage, sabotage, acts of public enemy, explosions, orders, regulations or restrictions imposed by governmental, military, or lawfully established civilian authorities, which, in any of the foregoing cases, by exercise of due diligence such party could not reasonably have been expected to avoid, and which, by the exercise of due diligence, it has been unable to overcome. Force Majeure does not include (i) a failure of performance that is due to an affected party's own negligence or intentional wrongdoing; (ii) any removable or remediable causes (other than settlement of a strike or labor dispute) which an affected party fails to remove or remedy within a reasonable time; or (iii) economic hardship of an affected party.
- b. Fuel Limitations resulting from other circumstances may include, but are not limited to, abnormal fuel supply or transportation limitations. These other circumstances need not be unforeseeable. They may include unusual market conditions and provisions considered in but not rising to the level of force majeure. Market Participants must provide evidence to the SPP MMU supporting a request for application of this alternative. The SPP MMU will determine whether this provision applies case-by-case and such determination will be made in a non-unduly discriminatory manner. The SPP MMU may periodically review the continuing applicability of its determination, in light of the purpose for this provision, which is to aid in the conservation of scarce fuel resources, and may revoke its application if that goal is not being achieved.

## OG&E Financial Hedging Natural Gas Pilot Strategy

Pursuant to order 733777 in case number PUD 2022-000057, the Stipulating Parties agree that the Company shall file an application within 120 days of a final order, in this case, proposing a three-year financial hedging pilot program with an annual cost of financial hedges capped at \$10 million. OG&E has developed a strategy to hedge natural gas in addition to the surety practices that we currently utilize for the prudent management of our customer's fuel expenses.

### Proposed Order 733777 Financial Hedging Pilot Plan<sup>1</sup>

OG&E is proposing the following financial hedging additions to the Company's natural gas hedging plan. The proposed additions will hold a planned cap of \$10 Million annually for the next three years for following hedge service/demand fees (not physical fuel) in accordance with order 733777:

- Fixed Price Seasonal Term Gas (approx. 50% of annual plan)– price fixed for the period; targeted to secure during winter (December, January, February).
- Call Cap Option Term Gas (approx. 50% of annual plan)– adder fixed for a term with a maximum price per MMBtu; targeted to secure during the winter period (December, January, February). There will remain a daily adjusting index; demand fee to call on option, and no payment for fuel unless call option is activated.

### Pilot Post-Performance Evaluation Plan

Annually the Company will perform an evaluation of the benefits of the above stated financial hedging tools and provide a summarization of performance during its annual fuel prudence review.

- Fix-priced Seasonal Term Gas contracts will be measured based on the Gas Daily Index basis for the associated index point against the fixed price contract.
- Call Cap Option Term Gas contracts will be measured as a comparison between the dollars spent on the demand fee to dollars saved for all occurrences in which the index exceeds the secured price cap per MMBtu.

Financial Hedging Details (December-February)			
Year	Planned Cap	Total Winter Requirements (%)	Approx. Volume (MMBtu)
2024 Plan	\$10 million	20%	42,000

Financial Hedging Performance Summary (MMBtu)				
Year	Fixed Price		Call Option with Cap	
	Plan	Actual	Plan	Actual
2024	14,000 <sup>2</sup>		28,000 <sup>2</sup>	
2025	TBD		TBD	
2026	TBD		TBD	

<sup>1</sup> The plan product targets are limited to RFP respondents providing products that meet the requested specifications within prudent pricing terms relevant to each specific seasonal period.

<sup>2</sup> Assumptions are \$4.00 per/MMBtu per day for fixed price contract and \$2.00 per day for Call Cap Option.

