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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2024-0189

DIRECT TESTIMONY

OF

JESSICA L. TUCKER

ON BEHALF OF

EVERGY MISSOURI WEST

**Kansas City, Missouri
February 2024**

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DIRECT TESTIMONY

OF

JESSICA L. TUCKER

Case No. ER-2024-0189

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

2 A: My name is Jessica L. Tucker. My business address is 1200 Main Street, Kansas City,
3 Missouri 64105.

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

5 A: I am employed by Evergy Metro, Inc. I serve as Senior Manager, Fuels & Emissions for
6 Evergy Metro, Inc. d/b/a as Evergy Missouri Metro (“Evergy Missouri Metro”), Evergy
7 Missouri West, Inc. d/b/a Evergy Missouri West (“Evergy Missouri West” or “Company”),
8 Evergy Metro, Inc. d/b/a Evergy Kansas Metro (“Evergy Kansas Metro”), and Evergy
9 Kansas Central, Inc. and Evergy South, Inc., collectively d/b/a as Evergy Kansas Central
10 (“Evergy Kansas Central”) the operating utilities of Evergy, Inc.

11 **Q: On whose behalf are you testifying?**

12 A: I am testifying on behalf of Evergy Missouri West.

13 **Q: What are your primary responsibilities?**

14 A: My primary responsibilities include management and oversight of fuel procurement and
15 logistics (apart from natural gas) as well as fuel additive procurement and coal combustion
16 residual product management and marketing for Evergy operated generating stations.

17 **Q: Please describe your education, experience and employment history.**

18 A: I graduated Summa Cum Laude from Kansas State University in December 1999 with a
19 Bachelor of Science degree in Agriculture. I began my career in the energy industry in

1 January 2001 with Aquila as an Associate Hourly Trader. In this role, my efforts were
2 focused on executing short term physical power transactions in the real-time market across
3 various North American Electric Reliability Corporation (“NERC”) regions. My
4 employment with KCP&L began in August of 2002 as an Hourly Trader on the real-time
5 desk. From August 2002 to May 2006, my role focused on buying and selling power in
6 the real-time market. In June 2006, I was promoted to Interchange Marketer, which
7 focused my trading activity on day ahead and monthly power transactions. I was also a
8 part of KCP&L’s Regional Transmission Organization (“RTO”) integration team that
9 prepared the generation dispatching and trading area for participation in the Southwest
10 Power Pool (“SPP”) Energy Imbalance Service (“EIS”) market, which launched on
11 February 1, 2007. In November 2010, I was promoted to Manager, System Operations
12 (Power). My primary responsibility was to oversee 24 x 7 Power Control Center functions,
13 which consisted of real time and day ahead power trading, power scheduling, and
14 generation dispatching operations. This not only included overseeing our participation in
15 the SPP market, but compliance with applicable NERC Reliability Standards. I was also
16 responsible for preparing the dispatching and trading group for participation in the SPP
17 Integrated Marketplace (“IM”), which launched on March 1, 2014. In April 2015, I was
18 promoted to Senior Manager, Power System Operations. In July 2017, I transitioned to the
19 position of Senior Manager, Fuels & Emissions within the Fuels group.

1 **Q: Have you previously testified in a proceeding at the Missouri Public Service**
2 **Commission (“MPSC” or “Commission”) or before any other utility regulatory**
3 **agency?**

4 A: Yes. I have testified before the MPSC and/or the Kansas Corporation Commission. The
5 testimony I gave in those proceedings involved fuel-related issues and issues related to the
6 SPP Integrated Marketplace.

7 **Q: On what subjects will you be testifying?**

8 A: I will be testifying on fuel-related issues. My testimony serves two purposes. First, I am
9 supporting the fuel prices, emission prices, and certain fuel and emission related costs,
10 including fuel inventory, additives, and adders used to develop the Company’s Cost of
11 Service (“COS”) calculations. Second, I will address certain fuel and emission allowance
12 related issues as required when a company seeks to continue a fuel adjustment clause
13 (“FAC”).

14 **I. FUEL IN COST OF SERVICE**

15 **Q: What is the purpose of this portion of your testimony?**

16 A: The purpose of this part of my testimony is to explain how prices for fuel, and fuel-related
17 commodities, were forecast to project fuel expense for the COS included in the Company’s
18 Direct filing. Additionally, I explain how the Company plans to true-up those costs later in
19 this proceeding.

20 **A. Fuel Price Forecast**

21 **Q: What fuel prices did Evergy Missouri West use to develop its COS?**

22 A: Evergy Missouri West used coal prices as projected for June 30, 2024. Oil pricing for
23 model dispatch was determined by using NYMEX contract settlement prices for July 2023

1 – September 2023 and NYMEX heating oil futures contracts for October 2023 through
2 June 2024. With respect to natural gas, the Company used a 3-year average as discussed
3 below. Please refer to the Direct Testimony of Company witness Ronald A. Klote
4 regarding the test year and expected true-up period.

5 **Q: Will these projected prices be replaced with actual prices in the June 2024 true-up?**

6 A: Yes. The Company expects to replace the projected prices for coal, oil, and natural gas
7 with actual prices in the June 2024 true-up.

8 **Q: How did you forecast the coal prices?**

9 A: The June 2024 delivered prices of Powder River Basin (“PRB”) coal were forecast as the
10 sum of the mine price and the transportation rate, inclusive of diesel fuel surcharge. A
11 portion of the coal contracts under which Evergy Missouri West expects to purchase PRB
12 coal in 2024 specify a fixed mine price that is only subject to adjustment for quality or
13 government imposition, such as changes in laws, regulations, or taxes. Those contracts
14 that are not fixed are tied to a market index, or are a combination of both.

15 **Q: How did you forecast the freight rates for moving PRB coal?**

16 A: The freight rate for Jeffrey Energy Center was forecasted based upon the station’s rail
17 contract. The freight rate for Lake Road Generating Station was forecasted as an escalation
18 from their 2023 rail transportation contract, as a contract for 2024 was not yet in place at
19 the time of the forecast. Likewise, the freight rate for Iatan Generating Station was
20 forecasted as an escalation from their Q4 2023 rail rate. The Company compiled a
21 forecasted index from data forecasted by energy industry consultant, JD Energy.

1 **Q: How did you forecast the natural gas prices used to develop the Company's COS?**

2 A: Monthly natural gas prices were derived from the September 25, 2023, NYMEX Henry
3 Hub Natural Gas futures and Intercontinental Exchange (ICE) Southern Star NG Basis
4 futures contract settlement prices from the period of January 2024 through December 2026.
5 Monthly Southern Star outright prices were calculated by adding the monthly Southern
6 Star NG Basis prices to the applicable Henry Hub futures contracts. Then, an average price
7 for each calendar month was calculated from the 2024 - 2026 period to develop the cost of
8 natural gas included in the COS.

9 **Q: How did you forecast the oil prices?**

10 A: Oil is used primarily for flame stability and start-up at the Iatan and Jeffrey coal units. Oil
11 pricing for unit start-up purposes utilized projected June 2024 oil prices as of September
12 25, 2023. Greenwood and most of Lake Road use oil as a backup to natural gas and are
13 assumed to be dispatched on natural gas in the model. Nevada, Lake Road 6, and Lake
14 Road 7 are the only units that use oil as the primary fuel. The dispatch price of oil in the
15 model for each station was developed using NYMEX daily settlement prices for July 2023
16 through September 2023 and NYMEX heating oil futures contracts for October 2023
17 through June 2024 as of August 31, 2023. Although there is considerable storage capability
18 and working inventory onsite, the Company's oil-fired Nevada, Lake Road 6, and Lake
19 Road 7 units were assumed to be dispatched using pricing as discussed above given that as
20 oil is utilized, it must be replaced at market price. The Company expects to true-up oil
21 prices during the course of this proceeding.

1 **B. Fuel Additives and Fuel Adders**

2 **Q: Are there costs related to fuel that are not included in the price?**

3 A: Yes. Generally, those costs fall into two categories: “fuel additives” and “fuel adders.”
4 Common Evergy Missouri West fuel additives include ammonia, lime, limestone, powder
5 activated carbon (“PAC”), and urea, which are used to control emissions or improve boiler
6 performance. Less common fuel additives include anti-slagging chemicals, hydrated lime,
7 Redox, and M-Prove. The fuel adders include unit train lease expense, unit train
8 maintenance, unit train property tax, and unit train depreciation. Additional fuel adders
9 include coal dust mitigation, freeze protection, and costs associated with transporting
10 natural gas. The Company expects to true-up these forecasted costs to actual costs during
11 the course of this proceeding.

12 **Q: Why does Evergy Missouri West need fuel additives?**

13 A: Fuel additives, which include pollution control reagents, are commodities that are
14 consumed in addition to the fuel either through combustion or chemical reaction. For
15 example, ammonia/urea is added to a stream of flue gas where it reacts with nitrogen oxide
16 (“NO_x”) as the gases pass through a catalyst chamber. Lime (or limestone) is added to the
17 flue gas stream in a flue gas desulfurization module to “scrub” sulfur dioxide (“SO₂”).
18 Some units also use PAC as a sorbent for controlling mercury emissions. Anti-slagging
19 additive is used to improve the slag characteristics when coal is burned.

20 **Q: How did you determine the cost of the fuel additives?**

21 A: With the exception of Jeffrey Energy Center dust control and M-Prove, the cost of fuel
22 additives was determined as the quantity times the price. The price was the value projected
23 for the June 2024 true-up, and the quantity was based on historical usage rates applied to

1 volumes developed by Company witness Hsin Foo. For Jeffrey Energy Center dust control
2 and M-Prove, the Company used the test year value to determine projected expense. The
3 Company expects to true-up these costs and usage rates during the course of this
4 proceeding.

5 **Q: How did you determine the cost of the fuel adders?**

6 A: I will address each of the fuel adders in turn, but generally the costs of the various fuel
7 adders were based on a projection of their annual expense.

8 **Please describe the unit train related expenses.**

9 A: Unit train related expenses include:

- 10 ▪ Lease expense (which is separated into two components):
 - 11 ○ Long-term lease expense;
 - 12 ○ Short-term lease expense;
- 13 ▪ Ad valorem private car line taxes;
- 14 ▪ Railcar depreciation;
- 15 ▪ Maintenance expense consisting of:
 - 16 ○ Foreign car repair, which is the cost of repairing railcars that are running in
17 service for Evergy Missouri West but are not owned by or under lease to
18 the Company;
 - 19 ○ Shared expenses which are costs for items like Association of American
20 Railroads publications, Railinc applications and services fees, and railcar
21 management fees that cannot be assigned to an individual car but are
22 “shared” or distributed across the fleet;
 - 23 ○ Maintenance and repair of the owned and leased railcar fleet.

1 ○ Ancillary charges including detention, switching, storage, and out of route
2 costs.

3 **Q: Are there other coal transportation related adders?**

4 A: Yes. Topper agents are applied to the surface of loaded railcars to mitigate the loss of coal
5 dust while in transit. Side-release agents may be applied to railcars and freeze conditioning
6 agents may be applied to coal to minimize the amount of carry-back coal during cold
7 weather. These agents are applied by the coal companies during the loading process at the
8 mines and are used to improve the safety of railroad operations. In addition, body spray is
9 added to Lake Road trains at the mines in order to reduce coal dust during the unloading
10 process.

11 **Q: What are the costs associated with transporting natural gas?**

12 A: The costs for transporting natural gas fall into two categories. The first category are
13 relatively fixed costs which include: reservation or demand charges, meter charges, and
14 access charges. The second category consists of volumetric costs which include:
15 commodity costs, commodity balancing fees, transportation charges, mileage charges, fuel
16 and loss reimbursement, Federal Energy Regulatory Commission (“FERC”) annual charge
17 adjustment, storage fees, and parking fees.

18 **Q: How did you determine the costs associated with transporting natural gas?**

19 A: The costs of transporting natural gas were separated into their various components. For
20 the reservation or demand charges, the pipeline’s current rates were used to calculate the
21 demand or reservation charges we expect to pay for the 12 months of July 2023 through
22 June 2024. For the variable costs, the pipeline’s and local distribution company’s current
23 rates were applied to the volumes developed by Company witness Hsin Foo. Those various

1 components were then aggregated into either commodity-based charges or reservation
2 charges.

3 **C. Emission Allowance Cost**

4 **Q: How did you forecast emission allowance prices?**

5 A: For expense, we used forecasted 2024 pricing, which was the average of the latest available
6 forecasted 2024 price from S&P Global Platts and Energy Ventures Analysis. In terms of
7 emissions allowance pricing in the fuel model, there was no explicit input in the model
8 given that Evergy Missouri West is not expecting to purchase notable volumes of emission
9 allowances, if any at all, under current regulations as discussed later in my testimony. We
10 expect to true-up emission allowance costs.

11 **Q: Do you expect to replace these fuel and fuel-related price or cost estimates with actual
12 prices or costs that are known at true-up?**

13 A: Yes

14 **D. Fuel Inventory**

15 **Q: What is the purpose of this portion of your testimony?**

16 A: The purpose of this portion of my testimony is to explain the process by which Evergy
17 Missouri West determines the amount of fuel inventory to keep on hand and how the level
18 of fuel inventory impacts the Company's COS. It should be noted that for Iatan Station
19 and Jeffrey Energy Center, which are jointly owned generating stations, both the
20 determination of fuel inventory levels and fuel procurement are handled by the station
21 owner-operators, Evergy Metro and Evergy Kansas Central respectively, on behalf of
22 Evergy Missouri West as described below. As it pertains to the following coal inventory

1 discussion, references to Evergy Missouri West or Company may also include Evergy
2 Metro and Evergy Kansas Central as the operators of Iatan and Jeffrey.

3 **Q: Why does Evergy Missouri West hold fuel inventory?**

4 A: The Company holds fuel inventory because of the uncertainty inherent in both fuel
5 requirements and fuel deliveries. Both fuel requirements and deliveries can be impacted
6 by the weather. Fuel requirements can also be impacted by SPP market conditions, the
7 availability of the unit holding the inventory, and the availability of other units in the
8 Evergy Missouri West or Southwest Power Pool system. Additionally, fuel deliveries can
9 also be impacted by breakdowns at a mine or in the transportation system. Events like the
10 1993, 2011, and 2019 Missouri River floods, the 2005 joint line derailments in the Southern
11 Powder River Basin (“SPRB”), the railroad service issues that significantly reduced the
12 delivery of coal to Evergy Missouri West’s plants from March 2013 through September
13 2014 and more recently, over the course of 2021 and 2022. Fuel inventories are insurance
14 against events that interrupt the delivery of fuel or unexpectedly increase the demand for
15 fuel. All of these factors vary randomly. Fuel inventories act like a “shock absorber” when
16 fuel deliveries do not exactly match fuel requirements and enable Evergy Missouri West
17 to continue generating electricity reliably between fuel shipments.

18 **Q: How does Evergy Missouri West manage its fuel inventory?**

19 A: Managing fuel inventory involves ordering fuel, receiving fuel into inventory, and burning
20 fuel out of inventory. Evergy Missouri West controls inventory levels primarily through
21 its fuel ordering policy. The fuel ordering policy occurs where Evergy Missouri West, or
22 the applicable station owner-operator, sets fuel inventory targets and then orders fuel to

1 achieve those targets. Inventory targets are defined as the inventory level that we aim to
2 maintain on average during “normal” times.

3 In addition to fuel ordering policy, plant dispatch policy can be used to control
4 inventory. However, Evergy Missouri West does not solely control the dispatch of its units.
5 Effective March 1, 2014, NERC certified SPP as the Balancing Authority (“BA”) for the
6 SPP region. As the BA and RTO, the SPP optimizes the generation resources for its
7 members using a regional security-constrained, offer-based economic algorithm to
8 dispatch the members’ units. If a plant is low on fuel, SPP might coordinate with the
9 plant owner and/or operator to reduce the operation of that plant to conserve inventory.
10 This could require other plants under SPP’s dispatch to operate and consume more fuel
11 than they normally would. One can view this as a transfer of fuel “by wire” to the plant
12 with low inventory. To determine the best inventory level, the Company balances the cost
13 of holding fuel against the expected cost of running out of fuel.

14 **Q: What are the costs associated with holding fuel inventory?**

15 A: Holding costs reflect cost of capital and operating costs. Holding inventory requires an
16 investment in working capital, which requires providing investors and lenders those returns
17 that meet their expectations. It also includes the income taxes associated with providing
18 the cost of capital. The operating costs of holding inventory include costs other than the
19 cost of the capital tied up in the inventory. For example, the Company recognizes property
20 tax as an operating cost.

21 **Q: Please explain what you mean by the expected cost of running out of fuel.**

22 A: In this context, expected cost means the probability of running out of fuel times the cost of
23 running out of fuel. The cost of running out of fuel at a power plant is the additional cost

1 incurred when a more expensive resource must be dispatched to serve the load that would
2 have otherwise been served by the plant if it had the fuel to do so. If there are not enough
3 resources available to serve load, there could be a failure to meet customer demand for
4 electricity.

5 **Q: How does Evergy Missouri West determine the best inventory level, *i.e.*, the level that**
6 **balances the cost of holding fuel against the expected cost of running out?**

7 A: Except for Lake Road Station coal, the Company uses the Electric Power Research
8 Institute’s Utility Fuel Inventory Model (“UFIM”) to identify those inventory levels with
9 the lowest expected total cost. That is, the Company aims to minimize the sum of inventory
10 holding costs and the expected cost of running out of fuel. With respect to Lake Road coal,
11 the inventory target is determined in collaboration with Station management based upon
12 the unique use of coal (*i.e.*, steam vs. electric) at that location.

13 **Q: How does UFIM work?**

14 A: UFIM uses a Markov decision model which considers uncertainties in fuel requirements
15 and deliveries, the likelihood and severity of disruptions, changes in fuel and power prices,
16 and the cost of carrying inventory. UFIM simulates iterations through various order
17 policies to determine the optimal order policy. The model identifies an inventory target as
18 a concise way to express the following fuel ordering policy:

19
$$\text{Current Month Order} = (\text{Inventory Target} - \text{Current Inventory})$$

20
$$+ \text{Expected Burn this Month}$$

21
$$+ \text{Expected Supply Shortfall}$$

22 That is, UFIM’s target assumes all fuel on hand is available to meet expected burn.
23 “Basemat” is added to the available target developed with UFIM to determine the inventory

1 target. Generally, and in the rest of my testimony, references to inventory targets mean the
2 sum of fuel readily available to meet burn plus Basemat.

3 **Q: What is Basemat?**

4 A: Basemat is the quantity of coal occupying the bottom portion of our coal stockpile
5 footprint. It may or may not be useable due to contamination from water, soil, clay, or fill
6 material on which the coal is placed. Because of this uncertainty about the quality of the
7 coal, Basemat is not considered readily available. However, because it is dynamic and it
8 can be burned (although with difficulty), it is not written off or considered sunk.

9 **Q: How does the UFIM model work?**

10 A: The fundamental purpose of UFIM is to develop least-cost ordering policies, *i.e.*, targets,
11 for fuel inventory. UFIM does this by dividing time into “normal” periods and “disruption”
12 periods, where a disruption is an event of limited duration with an uncertain occurrence. It
13 develops inventory targets for normal times and disruption management policies. The
14 inventory target that UFIM develops is generally that level of inventory that balances the
15 cost of holding inventory with the cost of running out of fuel. It should be noted that UFIM
16 produces output curves which provide for the costs associated with a range of inventory
17 levels. It is not unusual for a small range of inventory levels to have flatter curves (similar
18 costs), thereby providing for some flexibility in terms of target levels depending on the
19 operating environment.

20 **Q: What are the primary inputs to UFIM?**

21 A: The key inputs are: holding costs, fuel supply cost curves, costs of running out of fuel, fuel
22 requirement distributions, “normal” supply uncertainty distributions, and disruption
23 characteristics.

1 **Q: What are the holding costs you used to develop coal inventory levels for this case?**

2 A: The holding costs used to develop coal inventory levels as filed in Direct were based on
3 the cost of capital as of August 31, 2022. As discussed below, the coal inventory targets
4 used in the Direct filing were those in place for most of 2023 but will be updated to the
5 2024 targets in the June 2024 true-up.

6 **Q: What do you mean by “fuel supply cost curves”?**

7 A: A fuel supply cost curve recognizes that the delivered cost of fuel may vary depending on
8 the quantity of fuel purchased in a given month. For example, the Company's fuel supply
9 cost curves for Powder River Basin (“PRB”) coal recognize that when monthly purchases
10 exceed normal levels, the Company may need to lease additional train sets. Those lease
11 costs cause the marginal cost of fuel above normal levels to be slightly higher than the
12 normal cost of fuel.

13 **Q: What did you use for the normal cost of coal?**

14 A: The normal fuel prices underlying all of the fuel supply cost curves were the average
15 quarterly projected price forecasts for 2023.

16 **Q: What did you use for the costs of running out of coal?**

17 A: There are several components to the cost of running out of coal. The first component is
18 the opportunity cost of forgone power sales. The Company developed that cost by
19 constructing a price duration curve derived from the nodal Locational Marginal Prices for
20 each station. The Company supplemented those projections by adding, as the last points
21 on the price duration curves, an estimate of the cost for using oil-fired generation followed
22 by the assumed socio-economic cost of failing to meet load, for which Evergy Missouri
23 West’s assumed cost for unserved load was used. These price duration curves are referred

1 to in UFIM as burn reduction cost curves. Burn reduction cost curves can vary by
2 inventory, location, and disruption.

3 **Q: What fuel requirement distributions did you use?**

4 A: Except for Lake Road, distributions were based on projected fuel requirements.

5 **Q: What do you mean by “normal” supply uncertainty?**

6 A: We typically experience random variations between fuel burned and fuel received in any
7 given month. These supply shortfalls or overages are assumed to be independent from
8 period to period and are not expected to significantly affect inventory policy. To determine
9 these normal variations, the Company developed probability distributions of receipt
10 uncertainty based on the difference between historical burn and receipts.

11 **Q: What are disruptions?**

12 A: A disruption is any change in circumstances that persists for a finite duration and
13 significantly affects inventory policy. A supply disruption might entail a complete cut-off
14 of fuel deliveries, a reduction in deliveries, or an increase in the variability of receipts. A
15 demand disruption might consist of an increase in expected burn or an increase in the
16 variability of burn. Other disruptions might involve temporary increases in the cost of fuel
17 or the cost of replacement power. Different disruptions have different probabilities of
18 occurring and different expected durations.

19 **Q: What disruptions were used in developing Evergy Missouri West’s coal inventory
20 targets?**

21 A: Several types of disruptions were considered in development of its inventory targets:

- 22 ▪ Railroad or mine capacity constraints;
- 23 ▪ Fuel yard failures; and

1 ▪ Major floods / Extreme weather.

2 **Q: Please explain what you mean by disruptions related to railroad or mine capacity**
3 **constraints.**

4 A: Supply capacity is the ultimate quantity of coal that can be produced, loaded, and shipped
5 out of the PRB in a given time period. Constraints to supply capacity can come from either
6 the railroads or the mines, but regardless of which of these is the constraint source, the
7 quantity of coal that can be delivered is restricted. A constrained supply caused by railroad
8 capacity constraints can come from an inability of the railroad to ship a greater volume of
9 coal from the PRB. This type of scenario can arise from not having enough slack capacity
10 to place more trains in-service. Beginning in the winter of 2013-2014 and lasting into the
11 latter part of 2014, there was a serious decline in rail service across the U.S. rail network
12 particularly in the upper Midwest region. Similarly, utilities across the country
13 experienced a consequential decline in rail service over the course of 2021 and 2022,
14 leading to significantly lower than desired coal inventories due to a myriad of operating
15 issues on the part of the railroads. A supply disruption can also come from an infrastructure
16 failure, such as the May 2005 derailments on the joint line in the Southern PRB, which
17 reduced rail capacity and limited coal shipments out of the basin. These degradations in
18 service are examples of the disruptions that the Company refers to as railroad or mine
19 capacity constraints.

20 **Q: Please provide examples of mine issues that constrain supply.**

21 A: A variety of mine issues can constrain supply, such as: a lack of available load-outs or
22 space to stage empty trains, reaching the productive limits of equipment such as shovels,
23 draglines, conveyors, and trucks, or the mine reaching the production limits specified in its

1 environmental quality permits. The Company lumps the mine and railroad capacity
2 constraints together because they can occur simultaneously, and one may mask the other.

3 **Q: Please explain what you mean by disruptions related to fuel yard failures.**

4 A: Disruptions related to fuel yard failures may result from a variety of circumstances that
5 cause significant constraints on a plant's ability to receive fuel. For example, the loss or
6 failure of equipment such as dumpers, coal conveyors, stacker/reclaimers, or other critical
7 fuel yard equipment can materially limit the ability of a plant to receive coal. Depending
8 on the severity of the circumstances, these events can be several days to several months in
9 duration.

10 **Q: Please explain what you mean by "major flood" disruptions.**

11 A: A "major flood" disruption occurs when a flood lengthens railroad cycle times, as railroads
12 reroute trains and curtail coal deliveries to generating stations. Examples of such
13 disruptions include the Missouri River floods of 1993, 2011, and 2019. The "major floods"
14 disruption was modeled after those major flood events.

15 **Q: Please explain what you mean by "extreme weather" disruptions.**

16 A: Extreme weather can cause reduced fuel deliveries, unexpected increase in fuel burn, and
17 increases in the cost of fuel and/or replacement power. For example, extreme winter
18 weather can interfere with the railroad's ability to deliver trains, the availability of oil
19 delivery trucks, and increase fuel burn due to higher electric demand. The "extreme
20 weather" disruption was modeled after the February 2021 arctic winter weather event
21 known as Winter Storm Uri, which brought unprecedented cold temperatures to the
22 Midwest and Midcontinent regions of the country.

1 **Q: What are the coal inventory targets used in this case?**

2 A: The coal inventory targets resulting from the application of UFIM and their associated
3 value for incorporation into rate base are shown in the attached **Confidential Schedule**
4 **JLT-1**. These values are used to determine adjustment RB-74, “Adjust Fossil Fuel
5 Inventories to required levels,” which is included in Schedule RAK-2 of the Direct
6 Testimony of Company witness Ronald A. Klote. Since these coal inventory targets are a
7 function of fuel prices, cost of capital, and other factors that may be adjusted in the course
8 of this proceeding, the Company would expect to adjust the coal inventory targets as
9 necessary. It should be noted that the UFIM inventory targets, as reflected in **Confidential**
10 **Schedule JLT-1**, that were used for Iatan and Jeffrey in the Direct case are 2023 target
11 levels. The 2024 target levels had not yet been established at the time, however, those
12 values will be updated to the 2024 UFIM-based target levels in the June 2024 true-up.

13 **Q: Are the Company’s coal inventory targets within the range established under UFIM?**

14 A: Yes. The Company’s coal inventory targets for Jeffrey and Iatan are towards the upper
15 end of the ranges established under UFIM, which we believe is prudent inventory
16 management given the level of uncertainty and disruption risk involved. Over the course
17 of the past 8 to 10 years the Company has seen an increase in the frequency of coal delivery
18 disruptions via railroad constraints. In the 2013 – 2014 timeframe, rail service across the
19 U.S. rail network, in particular the upper Midwest region, seriously declined in part due to
20 the effort to move oil by rail. In 2019, Missouri River flooding wreaked havoc on the rail
21 networks causing deliveries to substantially decrease, if not stop altogether for a period of
22 time. In late 2020, the Company began to see a slowdown in deliveries due to a series of
23 operational decisions made by the railroads to streamline operations. Thus, there was a

1 decrease in the number of personnel available to operate the rail fleet, which was only
2 compounded by the COVID-19 pandemic and February 2021's Winter Storm Uri along
3 with other winter weather events in the PRB region. The most recent contributor to
4 unreliable rail deliveries was the contract disputes between the railroad companies and the
5 labor unions, which ultimately required federal intervention in 2022. Given the frequency
6 of challenges with getting reliable coal deliveries over the past several years, the inventory
7 levels towards the upper end of the UFIM ranges were used to establish coal target values
8 for Jeffrey and Iatan in order to ensure more reliable fuel availability. While these coal
9 target values are somewhat higher than the lowest point on the curve, the differences in
10 costs are minimal.

11 **Q: Was the UFIM model used for any other inventory targets aside from coal?**

12 A: Yes. As discussed below, the UFIM model was utilized to establish oil inventory targets
13 for Evergy Missouri West's Greenwood, Nevada, and Lake Road Stations.

14 **Q: Was the UFIM model run utilized for the coal targets different than the model run
15 utilized for oil targets?**

16 A: Yes. Nevada and Lake Road Units 6 & 7 are oil-fired peaking type units that are, in
17 general, not expected to run consistently outside of very high demand times or when other
18 units are unavailable. For Lake Road units 1-5, and Greenwood units 1-4, oil is the back-
19 up fuel to natural gas, and therefore, these units do not often run on oil in normal operating
20 conditions. The model run used to determine the oil inventory targets utilized the cost of
21 capital as of May 31, 2021. The normal cost of oil underlying the oil supply cost curves
22 was assumed to be current market pricing at that time. An extreme weather disruption is
23 included in the model as explained above. The price duration curves used to develop the

1 cost of running out of oil was developed using February 2021 power prices. Much like
2 with the coal inventory targets, UFIM produces the recommended targets for available oil
3 such that dead storage gallons are added to the available target volumes to get to the total
4 recommended oil inventory targets.

5 **Q: What are dead storage gallons?**

6 A: Dead storage gallons are that quantity of oil in the storage tank that are unusable for any
7 reason. For example, oil at the bottom of a tank can be unreachable or the quality of oil
8 may render it unusable because the oil is degraded or may contain contaminants such as
9 water.

10 **Q: What are the oil inventory targets for Greenwood, Nevada, and Lake Road Stations**
11 **used in this case?**

12 A: The oil inventory targets resulting from the application of UFIM and the associated value
13 for incorporation into rate base are shown in the attached **Confidential Schedule JLT-1**
14 and are the values used to determine adjustment RB-74, “Adjust Fossil Fuel Inventories to
15 required levels” which is included in Schedule RAK-2 of the Direct Testimony of
16 Company witness Ronald A. Klote. Since these oil inventory targets are a function of fuel
17 prices, cost of capital, and other factors that may be adjusted in the course of this
18 proceeding, the Company expects to adjust the oil inventory targets as necessary. It should
19 be noted that the UFIM recommended target for Lake Road is higher than current onsite
20 storage capability allows for, so the maximum storage capability is used for Lake Road’s
21 target.

1 **Q: How are the oil inventory volumes established?**

2 A: For those units that utilize oil for start-up, volumes are based on average daily inventory
3 for a given period of time. Specifically, for Iatan, oil inventory volumes are based upon
4 12-month average daily inventory from September 2022 through August 2023. Oil
5 inventory volumes for Jeffrey Energy Center are based on average daily volumes from
6 January 2021 through December 2022 due to Jeffrey Unit 3's major forced outage that
7 began in October 2022 and is continuing as of December 2023. Greenwood, Nevada, and
8 Lake Road, which either use oil as the sole fuel source or as a back-up to natural gas, and
9 have significant storage capability onsite, utilize UFIM-based inventory targets or
10 maximum storage capability in the case of Lake Road.

11 **Q: How were the inventory values for coal determined?**

12 A: Inventory values for Iatan and Jeffrey Energy Center PRB coal were calculated using the
13 UFIM-based inventory target values discussed above, multiplied by projected June 2024
14 pricing. The inventory values for coal are shown in **Confidential Schedule JLT-1**.

15 **Q: How were the inventory values for oil determined?**

16 A: Iatan oil inventory value was calculated as the average daily quantity on hand for the 12-
17 month period from September 2022 through August 2023 multiplied by the projected June
18 2024 per unit value as of September 25, 2023. For Jeffrey Energy Center, the oil inventory
19 value was calculated as the projected June 2024 per unit value as of September 25, 2023
20 multiplied by average daily quantity on hand for the 24-month period from January 2021
21 through December 2022. The 24-month period of January 2021 through December 2022
22 was utilized for Jeffrey Energy Center due to the major forced outage event on Jeffrey Unit
23 3 that lasted for most of Q4 2022 and the entirety of operating year 2023. Inventory values

1 for Greenwood, Nevada, and Lake Road were calculated based upon the August 2023
2 month-end inventory price per unit multiplied by the oil inventory targets. The inventory
3 values for oil are shown in **Confidential Schedule JLT-1**.

4 **Q: How were the inventory values for fuel additives determined?**

5 A: With the exception of Jeffrey Energy Center, inventory values for fuel additives were
6 calculated as the projected June 2024 per unit value multiplied by the average daily
7 quantity on hand for the 12-month period from September 2022 through August 2023. For
8 most Jeffrey Energy Center fuel additives, the projected June 2024 per unit value was
9 multiplied by the average daily quantity on hand from January 2021 through December
10 2022 for the reasons discussed above. It should be noted that due to difficulty with
11 measuring precise usage, static inventories are utilized for some additives at some
12 locations. M-Prove inventory value was determined from the current inventory volume
13 and value. The inventory values for these additives are shown in **Confidential Schedule**
14 **JLT-1**.

15 **Q: Will you true-up the coal inventory values?**

16 A: Yes. The Company expects to true-up the PRB coal inventory values by applying June
17 2024 pricing to the updated UFIM-based inventory targets for Iatan and Jeffrey. For Lake
18 Road, June 2024 pricing will be applied to the inventory calculation in **Confidential**
19 **Schedule JLT-1**.

20 **Q: Will you true-up the oil inventory volumes and values?**

21 A: Yes. We expect to calculate new 12-month average daily quantities on hand for Iatan and
22 Jeffrey representing July 2023 through June 2024 and will use June 2024 prices to calculate
23 these inventory values at true-up. For Greenwood, Lake Road, and Nevada, the target

1 volumes will be multiplied by the June 2024 month-end inventory prices per unit to
2 determine inventory values at true-up.

3 **Q: Will you true-up the fuel additive volumes and values?**

4 A: Yes. Except for M-Prove, the Company expects to calculate new 12-month average daily
5 quantities on hand representing July 2023 through June 2024, and then use June 2024
6 pricing to calculate inventory values at true-up. For M-Prove, June 2024 inventory volume
7 and value will be used.

8 **II. FUEL ADJUSTMENT CLAUSE**

9 **A. Factors Considered**

10 **Q: Commission Rule 20 CSR 4240-20.090(2)(D) identifies factors the Commission will**
11 **consider in determining which cost components to include in a rate adjustment**
12 **mechanism. Which of those factors will you address?**

13 A: I will address those factors related to the market impact on fuel costs. Specifically, I will
14 discuss:

- 15 1. fuel market volatility and how market volatility impacts fuel costs,
- 16 2. the substantial market impact on fuel costs; and
- 17 3. the market impact on fuel costs is beyond the control of management.

18 **1. Fuel Market Volatility and How Market Volatility Impacts Fuel Costs**

19 **Q: How do changes in fuel markets affect Evergy Missouri West's COS?**

20 A: Changes in fuel markets affect Evergy Missouri West's COS in multiple ways. The first
21 and most obvious impact is the effect of changes in fuel prices and their direct effect on
22 fuel expense. Second, is the effect of changing fuel prices on the cost of electricity
23 production, thus impacting the cost of electricity bought and sold in the SPP market.

1 **Q: How have fuel prices changed over the past few years?**

2 A: Natural gas prices have demonstrated significant levels of volatility over the past few years,
3 driven by a variety of factors. Schedule JLT-2 and Schedule JLT-3 show how fuel prices
4 have changed dramatically over the last 10 years. Schedule JLT-2 shows how from January
5 2020 through December 2023 the price for Henry Hub Natural Gas futures has ranged from
6 \$1.48/million British thermal units (“MMBtu”) to \$9.68/MMBtu. Spot physical natural
7 gas prices, which are more reflective of the Company’s true cost of gas, have demonstrated
8 an even greater range in recent years, with PEPL next day gas prices ranging from
9 \$1.00/MMBtu to \$225.44/MMBtu. PRB coal had previously not exhibited near as much
10 pricing volatility as natural gas in recent years, but that is no longer the case with prices
11 rallying from \$0.68/MMBtu to \$2.10/MMBtu in the second half of 2021 and ranging from
12 \$1.56/MMBtu to \$0.78/MMBtu between January 2022 and December 2023, as shown in
13 Schedule JLT-3.

14 **Q: How do recent prices and volatility compare historically?**

15 A: Since August of 2022, the prompt month Henry Hub Natural Gas futures contract has
16 settled as high as \$9.68/MMBtu and as low as \$1.99/MMBtu. This range can be explained
17 by both real events and market speculation, but it is safe to say that fuel markets in general
18 have recently experienced increased levels of price volatility compared to prior years.
19 Indeed, the period from March 2014 through August 2021 saw Henry Hub prices range
20 from \$1.48/MMBtu to \$4.84/MMBtu, with the vast majority of that time spent in a
21 \$2.00/MMBtu to \$4.00/MMBtu range.

1 **Q: What is driving this volatility?**

2 A: While a large portion of the initial increase in market volatility could be attributed to the
3 COVID-19 pandemic and its impact on global industry, recent domestic price swings have
4 been a function of other factors, discussed below.

5 First, while both domestic supply and demand have increased in recent years, a lack
6 of investment in natural gas transportation and storage infrastructure has placed a greater
7 importance on the existing infrastructure. This translates to more frequent periods of very
8 low or very high pricing.

9 Second, the fact that much of the demand growth has come in the form of natural
10 gas export capacity has meant that the US market is much more exposed to international
11 markets, which have demonstrated even greater volatility in recent years tied to geopolitics,
12 supply/demand logistics, extreme weather events, and the pandemic.

13 Third, the build out of renewable generation capacity and the subsequent retirement
14 of coal generation capacity has put a greater reliance on natural gas to meet the demands
15 of the electric grid. Effectively, this transition has largely removed the electricity market's
16 ability to utilize commodity prices to mitigate demand for one commodity (natural gas in
17 this case) and incentivize demand for another (coal). The result is that natural gas demand
18 for electricity generation in the US has become price inelastic, which is a newer
19 phenomenon within the market.

20 Combined, these factors have contributed to the increased volatility.

21 **Q: Have PRB coal prices, like natural gas, demonstrated significant volatility?**

22 A: While the PRB coal market did experience a period of extreme prices and volatility in 2021
23 and to some extent in 2022, prices have since stabilized at more normal-like levels.

1 Although prices have currently stabilized, the risk of future volatility remains. While
2 renewable generation build-out, exposure (or lack thereof) to international markets, and
3 natural gas certainly can have an impact on the PRB coal markets, a very important piece
4 of the puzzle is the performance of U.S. railroads. During the 2021 and 2022 rail
5 performance meltdown, utility coal stockpiles were drained as the railroads were unable to
6 deliver needed coal to customers. This resulted in the need to rebuild utility stockpiles in
7 2023. As discussed in the UFIM section of my testimony, the Company has seen more
8 frequent disruptions in terms of railroad performance in recent years. Uncertainty
9 pertaining to future rail performance, along with other factors such as continued renewable
10 portfolio expansion or the possibility of prolonged periods of flooding/extreme weather,
11 contribute to the potential for future PRB coal market volatility.

12 **Q: Why are these historical fluctuations in market prices for fuel the expressions of**
13 **volatility the Commission needs to consider when determining which cost components**
14 **to include in a rate adjustment mechanism?**

15 A: Historical fluctuations should be considered because they are the prices the Company faces
16 when it looks to buy fuel. Only after the Company makes a purchase commitment or, if it
17 were to place a hedge, is that volatility mitigated. Moreover, that mitigated price may be
18 quite different than the fuel price embedded in the cost of service calculations upon which
19 the Company's rates are built.

20 **Q: What do you mean by saying the Company faces fluctuations in market prices when**
21 **it looks to buy fuel?**

22 A: Let's start with natural gas. Evergy Missouri West makes purchases on the day it needs
23 the gas, or very close to it. After the Company receives a dispatch instruction for one of

1 its natural gas units, the Company solicits offers for natural gas to support that run. These
2 types of gas purchases are subject to intra-day volatility, in addition to the daily volatility
3 shown by the daily settlement prices in Schedule JLT-2.

4 The Company buys oil much like a consumer buys gas for a car. That is, when the
5 tank is low, the Company refills it. Like with a car, there are times when you have some
6 flexibility about when to refill your tank and there are times when you do not have such
7 freedom. In either case, you do not know whether the price will go up or down after you
8 make your purchase. Even if you did, you may not have the flexibility to wait for the price
9 to go down. Both price and timing are a function of the movement in market prices.

10 Coal is somewhat like my oil example above. As a coal buyer, the Company faces the
11 volatility shown in Schedule JLT-3. After the Company signs a contract that fixes the
12 price, the Company mitigates that volatility for its customers. The Company faces that
13 market volatility for all of its fuel requirements that are not already locked in to fixed price
14 contracts.

15 **Q: What are the main volumes that are exposed to market volatility?**

16 A: Regarding coal, as of December 31, 2023, approximately **[REDACTED]** of Eversource
17 West's expected coal burn from 2025 through 2028 was under contract. In other words,
18 Eversource West is exposed to volatile market prices for roughly **[REDACTED]** of its
19 expected coal requirements for the period rates from this proceeding may be effective.

20 Eversource West does not hedge oil, thus, all of the Company's expected oil usage is
21 also exposed to market volatility. The Company does currently have a forward hedging
22 policy in place that includes natural gas, which Eversource formally implemented in mid-2022.
23 However, that policy includes other products and only accounts for a portion of net short

1 positions. Therefore, the majority of natural gas is still procured at spot prices and is
2 exposed to market volatility.

3 **Q: As it relates to natural gas and purchased power hedging, are there any changes that**
4 **the Company would like to make going forward?**

5 A: Yes. As part of the outcome of the last Evergy Missouri West rate case, ER-2022-0130,
6 the Company was granted the ability to defer natural gas and power hedging activity to a
7 regulatory asset or liability to be addressed in this rate case ER-2024-0189. As discussed
8 above, the Company has participated in hedging activities based upon increased volatility
9 observed in the natural gas and purchased power markets. Given that the very costs the
10 hedging policy is designed to hedge occur within the fuel adjustment clause, the results of
11 these hedging activities should be included in the fuel adjustment clause.

12 **Q: Please explain why the Company believes continuing hedging activities is prudent.**

13 A: As Schedule JLT-2 demonstrates, pricing volatility has been observed in the natural gas
14 market over the last 10 years. However, the level of volatility in the market between 2016
15 and 2019 was considerably more muted than what we have observed over the past few
16 years, most notably over the course of 2021-2022. The volatility observed in both the
17 international and domestic natural gas markets is being driven by multiple factors including
18 the lack of investment in natural gas infrastructure, geopolitical issues, government policy,
19 extreme weather events, build-out of renewable generation, and the retirement of coal
20 generators. Evergy believes it is prudent to have the ability to hedge, or offset the risk of,
21 volatile natural gas pricing and its resulting impact on power prices. It is Evergy's
22 recommendation that physical gas, financial gas, physical power, financial power, and
23 option products are approved for inclusion in the fuel adjustment clause. With these tools,

1 Evergy Missouri West will be able to better protect to an expected price of natural gas
2 and/or remove a portion of the negative impact on the price of purchased power from
3 significant increases in the cost of natural gas. The intent of hedging is not that the product
4 always generates a profit. In most situations, the greatest benefit to a portfolio is if a hedge,
5 when viewed in isolation, loses money. It would stand to reason that the rest of the
6 portfolio benefits from the directional move in natural gas and/or purchased power. Much
7 like homeowner's insurance, the product is not designed to financially benefit from, but
8 rather to protect the owner from negative, unexpected financial impacts.

9 **Q: Specifically, why does Evergy Missouri West feel that the capability to cross-hedge is**
10 **critical to their ability to protect customers from significant increases in the cost of**
11 **fuel and its potential impact on the cost of purchased power?**

12 A: There are several factors that drive the need to be able to cross-hedge, which is a strategy
13 used to manage risk in one market or product with a position in a different, yet correlated
14 market or product (e.g. hedging the cost of power with a natural gas position). Market
15 liquidity is an extremely important factor. Liquidity can impact both the volume and
16 pricing on a product. It may be difficult to find a robust enough market to transact at the
17 volumes needed. Lack of liquidity also causes larger gaps between the bid/ask spread and
18 certain products are difficult to find in the market. By having the option to cross-hedge,
19 the Company would have more tools available in which to help protect power prices, and
20 therefore the costs to customers. Ultimately, the purpose of the hedging activity is to
21 mitigate, to the extent possible, negative impacts on the cost of power during fuel price
22 excursions. Another factor to consider is relative value of one product versus another.
23 Natural gas markets and power markets do not move in lock step with each other. The

1 implied heat rate of market prices is always moving and there can be greater value in one
2 product versus the other at any given time. It is also important to consider the correlation
3 to the products available in the market relative to the generator and load node locations that
4 impact fuel and purchase power. For example, the Company may find that transacting at
5 a financial natural gas index price is more correlated to the Evergy Missouri West load
6 node than transacting at the most liquid power hub in the SPP, the SPP South Hub. The
7 impacts of congestion and basis, to name a few, may make cross-hedging a more effective
8 tool to protect customers.

9 **2. Market Impact on Fuel Costs is Substantial**

10 **Q: How might that market price volatility affect Evergy Missouri West?**

11 A: As noted above, because approximately ****[REDACTED]**** of Evergy Missouri West's expected
12 coal burn is not under contract over the four-year period of 2025 through 2028, Evergy
13 Missouri West is exposed to coal price risk. Additionally, as previously noted, the
14 Company is exposed to adverse natural gas and oil commodity price risk for 2025 through
15 2028. Furthermore, in addition to the risk around the cost of fuel itself, there is associated
16 risk to purchased power costs.

17 **Q: Why did you look at the four-year period of 2025 through 2028?**

18 A: Section 386.266.5(3) RSMo. requires a utility with a FAC to file a general rate case with
19 the effective date of new rates to be no later than four years after the effective date of the
20 Commission's order implementing the FAC. Given that we expect the effective date of
21 new rates for this case to be January 1, 2025, the four-year horizon would run from January
22 2025 through December 2028.

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3. Fuel Costs Are Beyond the Control of Management

Q: Can Evergy Missouri West control the fundamentals that drive the fuel markets?

A: No, Evergy Missouri West cannot control the market fundamentals for fuel. Perhaps an easy and somewhat objective way to answer that question is to look at what portion of the market Evergy Missouri West represents. The Company's projected coal burn for 2024 represents roughly 0.4% of the projected PRB production or about 0.2% of total U.S. coal production. The Company's projected 2024 natural gas usage is less than 0.03% of U.S. natural gas production. Both of these markets are driven by factors other than Evergy Missouri West's market share.

Q: What are the fundamental drivers for the fuel markets?

A: The fundamental drivers for the short-term market are different than the key drivers for the long-term market. Short-term markets reflect the convergence of changes in demand expectations and the fundamentals of readily available or stored energy. Some of the short-term fundamental drivers would include events such as storms that might disrupt immediate delivery of the energy. Temperature spikes or drops can also cause short-term imbalances between the demand and the immediately available supply. These weather induced imbalances can cause significant price spikes especially for natural gas and electricity due to their limited storage.

Long-term markets reflect the convergence of expectations of future potential supply, including the cost to produce that supply, and future potential demand. For example, throughout much of the prior decade, the development of shale based natural gas resources greatly increased the expected supply of natural gas. That in turn depressed the long-term outlook for natural gas prices. Recently, that narrative has shifted to one of

1 demand growth exceeding supply growth and fuel prices are higher as a result. Because
2 most natural gas consumers have inelastic demands, but do not have storage, the short-term
3 fundamentals will still drive significant market uncertainty, just at a higher base level than
4 expected compared to the era of shale gas development.

5 **B. 20 CSR 4240-20.090(2)(A) Requirements**

6 **Q: When an electric utility files a general rate proceeding following the general rate**
7 **proceeding that established its rate adjustment mechanism (“RAM”) and requests**
8 **that its RAM be continued or modified, Commission rule 20 CSR 4240-20.090(2)(A)**
9 **requires the electric utility file certain supporting information as part of, or in**
10 **addition to, its direct testimony. Which of those requirements will you address?**

11 A: I will address requirement 12 and explain the rate volatility mitigation features in Evergy
12 Missouri West’s FAC. I will also address the parts of requirement 17 focused on emissions
13 management policy, emissions allowances purchases, and emissions allowances sales. The
14 Direct Testimony of Company witness Hsin Foo will address the other part of requirement
15 17 regarding forecasted environmental investments.

16 **1. Requirement 12: Mitigating Fuel Market Risk (Price Volatility)**

17 **Q: Does a strategy exist for managing the price risk of Evergy Missouri West coal?**

18 A: Yes

19 **Q: Which stations does Evergy Missouri West’s coal price risk management strategy**
20 **apply to?**

21 A: Coal for the Evergy Missouri West portion of Iatan Station and Jeffrey Energy Center is
22 procured by the owner-operators, Evergy Metro and Evergy Kansas Central, as described
23 below. Coal for Lake Road is generally purchased a few trains at a time, on more of a

1 short-term (prompt or intra-year) basis, given the very small volumes of coal that are
2 burned at the station.

3 **Q: Please describe how price risk is mitigated for Evergy Missouri West coal.**

4 A: In the PRB coal market, the primary means of managing price risk is through a portfolio
5 of forward contracts. Generally, a strategy of laddering into a portfolio of forward contracts
6 for PRB coal is followed. Laddering is an investment technique of purchasing multiple
7 products with different maturity dates. Evergy Missouri West's "laddered" portfolio for
8 Iatan Station and Jeffrey Energy Center consists of forward contracts with staggered terms
9 so that a portion of the portfolio will roll over each year. That strategy may be modified
10 when there are anticipated market price increases, and the choice may be made to either
11 commit for more coal before the increase, or delay committing until after the increase has
12 waned.

13 **Q: What does that laddered portfolio look like?**

14 A: By the end of December 2023, Evergy Missouri West had contractual commitments for
15 **** [REDACTED] **** of its expected coal requirements for 2024 and **** [REDACTED]**
16 **[REDACTED] **** of its expected coal requirements for 2025. It also had commitments for
17 approximately **** [REDACTED] **** of its expected coal requirements for 2026, and **** [REDACTED]**
18 **[REDACTED] **** for 2027, however **** [REDACTED] **** for 2028.

19 **Q: Does Evergy Missouri West update its fuel procurement and planning process to**
20 **adjust for changes in the marketplace?**

21 A: Yes. Evergy Missouri West routinely reviews fuel market conditions and market drivers.
22 The Company monitors market data, industry publications, and consultant reports in an
23 effort to avoid high prices and to take advantage of lower prices.

1 **Q: How has this strategy performed for Evergy Missouri West?**

2 A: Over the last five years (2019-2023), this strategy has helped Evergy Missouri West to
3 mitigate any potential coal market volatility while securing reliable supply at the same
4 time. If we calculate volatility as the standard deviation of average annual coal prices paid
5 by the Company, the standard deviation of the average annual coal prices paid by Evergy
6 Missouri West was \$0.1507/MMBtu. That is less than the \$0.1642/MMBtu standard
7 deviation of the average annual strip prices for the same timeframe.

8 **Q: Please describe how Evergy Missouri West will mitigate some price risk for natural
9 gas and purchased power.**

10 A: As discussed above, Evergy Missouri West has proposed to continue natural gas and power
11 hedging activities and to include the results in the fuel adjustment clause.

12 **2. Requirement 17: Emissions Management Policy, Emissions Allowances Purchases,
13 and Emissions Allowances Sales**

14 **Q: What is the purpose of this portion of your testimony?**

15 A: I will discuss the legal requirements for emissions allowances and explain Evergy Missouri
16 West's current emissions management policy and strategy for meeting those requirements.

17 **Q: For which pollutants is Evergy Missouri West required to hold sufficient emission
18 allowances?**

19 A: Evergy Missouri West is required, for each affected facility, to hold sufficient SO₂ and
20 NO_x allowances. These allowances are issued by the Environmental Protection Agency
21 ("EPA").

22 **Q: Describe Evergy Missouri West's emissions management policy.**

23 A: Evergy Missouri West maintains dedicated internal resources to oversee and maintain the
24 various allowance accounts under each regulatory program. Annually, Evergy Missouri

1 West ensures enough allowances are in each facility account to cover the emissions from
2 each affected unit for the applicable calendar year. All allowance transactions are approved
3 by the management team overseeing the process, which includes both the Acid Rain
4 Program (ARP) and the Cross-State Air Pollution Rule (CSAPR) Designated
5 Representative and Alternate Designated Representative.

6 **Q: What rules or regulations established the need for emissions allowances?**

7 A: Title IV of the 1990 Clean Air Act Amendments established the allowance market system
8 known today as the Acid Rain Program (“ARP”). Title IV set a nationwide cap on total
9 SO₂ emissions and aimed to reduce overall emissions by approximately 50% of 1980
10 levels.

11 In 2011, the EPA finalized the Cross-State Air Pollution Rule (“CSAPR”). The CSAPR
12 limits the interstate transport of SO₂ and NO_x emissions from affected states that EPA has
13 determined interfere with the ability of other states to attain particulate matter (PM_{2.5}) and
14 ozone National Ambient Air Quality Standards (NAAQS).

15 The ARP and the CSAPR are allowance trading programs and any facility specific
16 shortages can be addressed by trading allowances within or outside Evergy Missouri
17 West’s system. The Company anticipates that the ARP annual SO₂ allowances and the
18 CSAPR annual NO_x and SO₂ allowances will be readily available because of the significant
19 reduction in coal generation since the original rules were issued driven by the impact of
20 renewable generation development, the natural gas market, and unit retirements. However,
21 due to the continued ratcheting down of the CSAPR ozone season NO_x program, ozone
22 season NO_x allowances may not be as readily available in the future. Currently, Evergy

1 Missouri West has a sufficient supply of banked ozone season NO_x allowances for future
2 utilization.

3 It is important to note, the ARP allowances cannot be used to comply with the CSAPR and
4 the CSAPR allowances cannot be used to comply with the ARP.

5 **Q: Will emissions allowance costs or sales margins be included in the FAC?**

6 A: Yes.

7 **Q: What are Evergy Missouri West's forecasted allowance purchases and sales?**

8 A: Under current regulations, Evergy Missouri West is not expecting to purchase or sell
9 notable volumes of emission allowances, if any at all.

10 **Q: Does that conclude your testimony?**

11 A: Yes, it does.

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

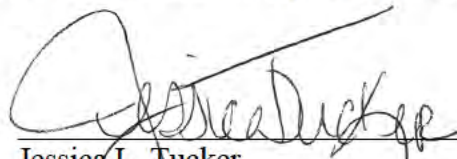
In the Matter of Evergy Missouri West, Inc. d/b/a)
Evergy Missouri West's Request for Authority to) Case No. ER-2024-0189
Implement A General Rate Increase for Electric)
Service)

AFFIDAVIT OF JESSICA L. TUCKER

STATE OF MISSOURI)
) ss
COUNTY OF JACKSON)


Jessica L. Tucker, being first duly sworn on his oath, states:

1. My name is Jessica L. Tucker. I work in Kansas City, Missouri, and I am employed by Evergy Metro, Inc. as Senior Manager, Fuels & Emissions.
2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Evergy Missouri West consisting of thirty-six (36) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.
3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.



Jessica L. Tucker

Subscribed and sworn before me this 2nd day of February 2024.



Notary Public

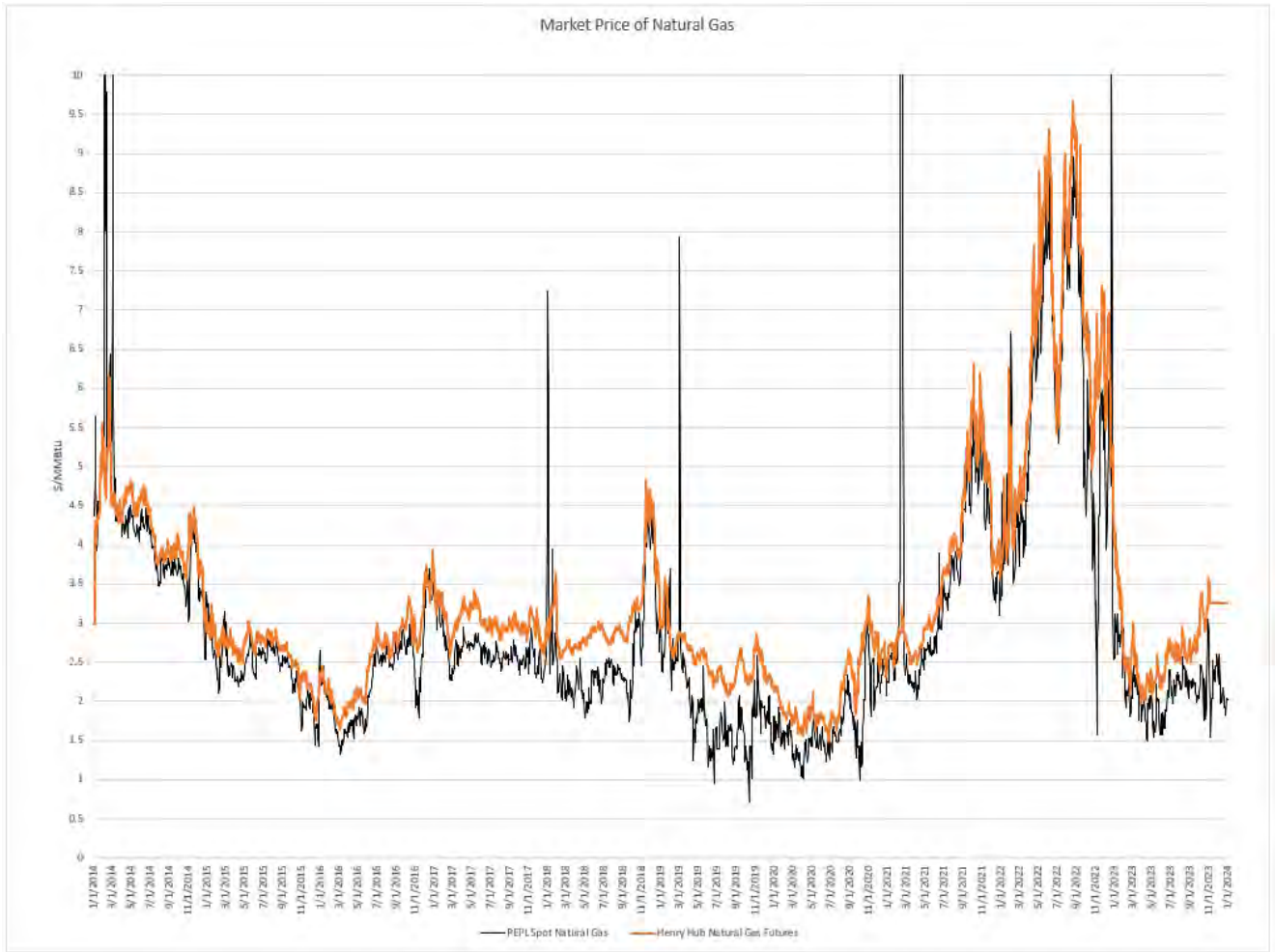
My commission expires: 4/26/2025

ANTHONY R. WESTENKIRCHNER NOTARY PUBLIC - NOTARY SEAL STATE OF MISSOURI MY COMMISSION EXPIRES APRIL 26, 2025 PLATTE COUNTY COMMISSION #17279952
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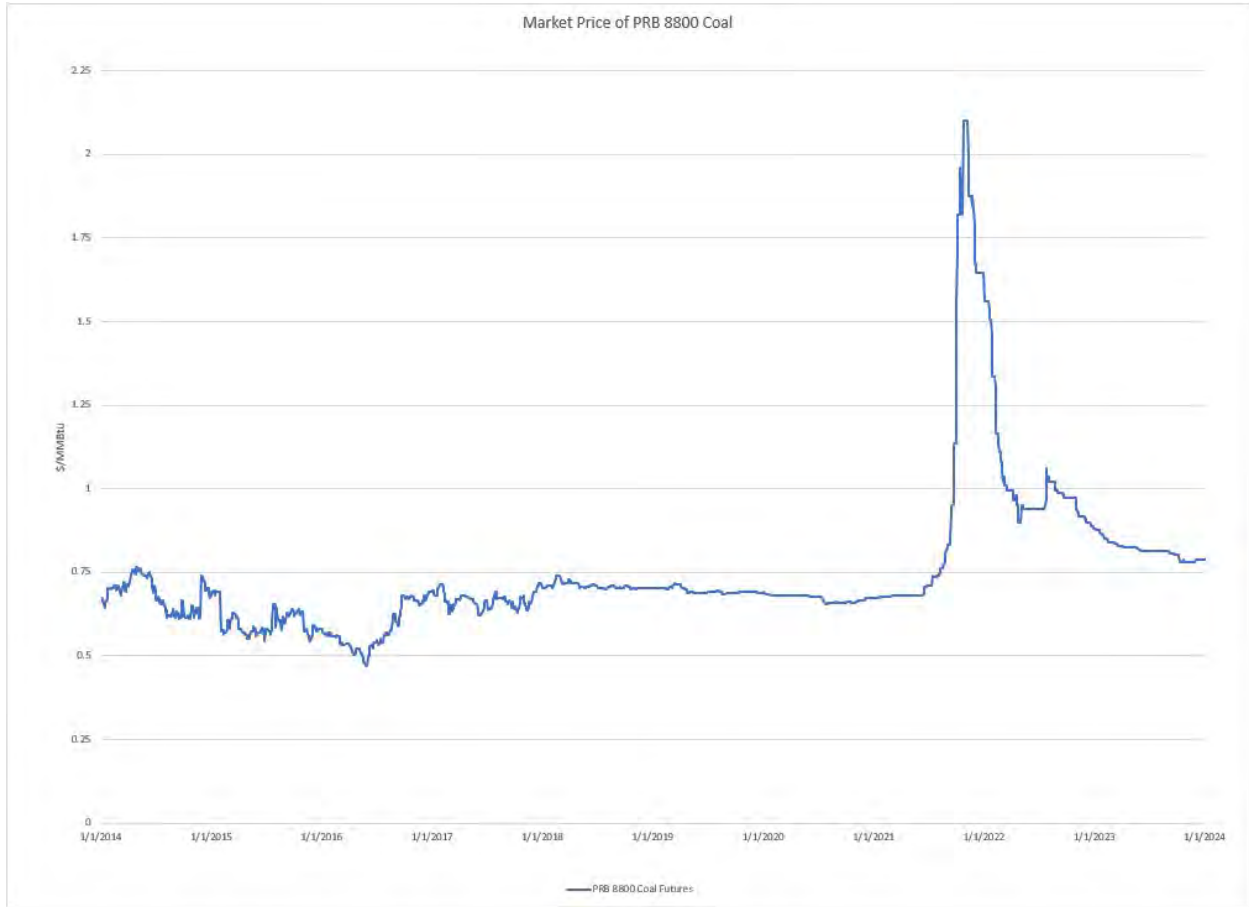
**SCHEDULE JLT-1
CONTAINS CONFIDENTIAL
INFORMATION
NOT AVAILABLE TO THE PUBLIC.**

ORIGINAL FILED UNDER SEAL.

SCHEDULE JLT-2



SCHEDULE JLT-3



**Evergy Metro, Inc. d/b/a Evergy Missouri Metro and
Evergy Missouri West, Inc. d/b/a Evergy Missouri West**

Docket No.: ER-2024-0189

Date: February 2, 2024

CONFIDENTIAL INFORMATION

The following information is provided to the Missouri Public Service Commission under CONFIDENTIAL SEAL:

Document/Page	Reason for Confidentiality from List Below
Jessica Tucker Direct, pp. 27, 30, 33	3, 4, and 6
Schedule JLT-1	3, 4, and 6

Rationale for the “confidential” designation pursuant to 20 CSR 4240-2.135 is documented below:

1. Customer-specific information;
2. Employee-sensitive personnel information;
3. Marketing analysis or other market-specific information relating to services offered in competition with others;
4. Marketing analysis or other market-specific information relating to goods or services purchased or acquired for use by a company in providing services to customers;
5. Reports, work papers, or other documentation related to work produced by internal or external auditors, consultants, or attorneys, except that total amounts billed by each external auditor, consultant, or attorney for services related to general rate proceedings shall always be public;
6. Strategies employed, to be employed, or under consideration in contract negotiations;
7. Relating to the security of a company's facilities; or
8. Concerning trade secrets, as defined in section 417.453, RSMo.
9. Other (specify) _____.

Should any party challenge the Company’s assertion of confidentiality with respect to the above information, the Company reserves the right to supplement the rationale contained herein with additional factual or legal information.