UTAH DEPARTMENT OF COMMERCE
Division of Public Utilities

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Memorandum

To: Public Service Commission of Utah

From: Utah Division of Public Utilities

Chris Parker, Director
Brenda Salter, Assistant Director
Doug Wheelwright, Utility Technical Consultant Supervisor
David Williams, Utility Technical Consultant
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Date: March 29, 2023

Re: **Docket No. 23-035-14,** Division's Audit of PacifiCorp's 2022 Fuel Inventory Policies and Practices

Recommendation (Approve)

The Utah Division of Public Utilities (Division) has reviewed the 2022 "Coal Inventory—Policies and Procedures" of PacifiCorp (the Company) and finds that the Company is generally in compliance with the directive from the Public Service Commission of Utah (Commission) in Docket No. 09-035-23.[1] The Division recommends the Commission approve the Company's 2022 Coal Inventory Policies and Procedures as being compliant with the 2010 Order.

Issue

This memorandum is in response to the Commission's 2010 Order, which directs the Division to "conduct an annual audit of the Company's fuel inventory management policies, procedures, and actual practices and provide a summary of its audit and associated

[1] *In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations*, Docket No. 09-035-23, Report and Order on Revenue Requirement, Cost of Service and Spread of Rates, issued February 18, 2010, p. 106 (2010 Order).

findings to the Commission by no later than March 31 of each year for the previous year's activity."[2]

This memorandum does not preclude the Division's analysis of coal inventory levels or any associated net power cost issues in future Energy Balancing Account filings, in a general rate case, or in other regulatory proceedings.

Background and Discussion

In conducting its review, the Division met with the Company's Fuel Resources Department on March 10, 2023, via conference call. The Company and the Division discussed the inventories at each of the Company's owned and affiliated coal plants and discussed plant deliveries, coal supply, and coal consumption.

On March 9, 2023, the Company submitted the following confidential documents to the Division for review:

- PacifiCorp Fuel Stock Balance Review (Summary Inventory Data)
- PacifiCorp Coal Inventory – Confidential Review of 2022 Inventory Levels with the Division of Public Utilities
- PacifiCorp Coal Inventory – Policies and Procedures – Updated March 10, 2023
    - Redlined PacifiCorp Coal Inventory – Policies and Procedures – Updated March 10, 2023

In 2021 the Company retained Casey Kaptur, formerly from the consulting firm RPMGlobal (RPM),[3] to assist PacifiCorp with its coal inventory policies and to provide recommendations for coal plants operated by PacifiCorp.[4] Using Mr. Kaptur's recommendations, the Company set inventory ranges for each of its operated plants. These target ranges are updated annually as needed. The general goal of coal inventory management is balancing two

[2] *Id.*

[3] RPMGlobal performed the March 2018 updated inventory study for PacifiCorp.

[4] For some coal plants, PacifiCorp is a minority owner and does not have complete control over coal inventory policies. The Company's annual review of coal inventory mainly covers coal plants for which it is the primary operator.

factors: (i) keeping enough coal on hand to avoid coal shortages, which can result in lost electricity sales or generation replacement costs, and (ii) avoiding excess coal inventory, which results in higher carrying costs and coal handling costs. Mr. Kaptur determined the costs of various levels of inventory and balanced those costs against the possibility of foregone generation costs, using stochastic variables simulation analysis to create annual inventory costs for various inventory levels, and created target ranges based on minimum cost curve points. These ranges are reflected in the Company's targets for each relevant plant in its Coal Inventory Policies and Procedures, and summarized in the Fuel Stock Balance Review provided to the Division.

For the review of the 2022 inventories, the Company provided monthly average tonnage levels and end-of-year inventories at each plant, as well as both the previous year's targets and any new adjusted targets. The Fuel Resources Department monitors inventory levels and conducts quarterly aerial surveys for the Company's operated coal plants to determine the stockpile amounts. The Division looked at both historical and average stockpile levels, compared those to the Company's targeted inventory levels, and determined whether the Company met its targeted tonnage levels and days' worth of inventory (days' burn) at each respective coal generating plant. For any plants that were outside the target ranges, the Company and the Division discussed reasons for those inventory levels. The targeted fuel inventory levels and days' burn are based on recommended target levels that were determined in the previous report by RPM and the Confidential 2021 Kaptur Study.

The Commission's Report and Order in Docket No. 09-035-23 states the following goals of the Company's coal inventory policy:

> The policy should provide an overall management strategy, flexibility to react to favorable market conditions, documentation requirements for deviations from the policy with an assessment of the costs and benefits associated with deviations, and tracking and monitoring requirements. In response to this policy, the Division should, during the course of its annual auditing, review inventory levels and compliance with inventory policies.[5]

[5] 2010 Order, p. 106.

As part of its 2022 audit, the Division reviewed the documents listed at the beginning of this section.

Findings

The Division has reviewed the Company's updated Coal Inventory Policies and Procedures and has reviewed the target levels versus actual inventory of coal at the relevant generation plants. The Company's Coal Inventory Policies and Procedures manual is updated each year. The current manual is dated March 10, 2023 (2023 Manual). The 2023 Manual states that the Company strives to "optimize delivered fuel costs and ensure supply reliability while providing appropriate fuel supplies and qualities based upon thermal generating station requirements."[6] In its review, the Division considered issues that affected the Company's fuel inventory levels and its procurement practices in 2022. The following factors influenced coal inventories in 2022:

- Volatility in domestic natural gas and coal prices, especially a spike in natural gas prices;
- The war in Ukraine, which has impacted natural gas costs;
- An ongoing shortage of labor (including truck drivers, freight loaders, and mine workers) and materials (including coal rail cars);
- Ongoing environmental issues, state and federal regulations, and lawsuits;
- Geological and other mine issues, especially the Lila Canyon mine fire;
- General economy-wide inflation which has affected coal mining operations; and
- Ongoing contract negotiations.

The Company must factor in many considerations when managing its coal supply, including the factors mentioned above, a shrinking number of coal suppliers, the need to blend lower-quality coal with higher-quality coal to get optimized fuel burn, planned and unplanned plant outages, planned retirements, fluctuating rail rates, and complex third-party coal contracts.

The Company's fuel procurement policies and practices provide some flexibility for the Company to react to changing market conditions and to maximize contract opportunities

[6] Confidential 2023 Manual, p. 4.

where possible; this enables the Company to manage fuel supply risk at the least cost to customers. Therefore, an inventory outside the target range does not necessarily result from a flawed Company policy.

The determination of inventory levels involves an evaluation of the trade-offs between the costs of coal inventory against the costs associated with coal shortages—lost electricity sales and generation replacement costs.

2022 Coal Inventories

The Division's audit of coal inventories identified the following:

- The Company has formal Coal Inventory Policies and Procedures in place that it adheres to. The inventory targets for the relevant plants in the 2023 Manual were mostly the same as the targets in the previous manual, with one exception.[7]
- Taking all plants as a whole, and accounting for the Company's share of inventory at each of its jointly-owned plants, the Company's actual coal inventory started off 2022 slightly higher than its target. At the end of 2022, the total inventory was slightly lower than its total target range level. The monthly average was within the target range. The Division determined the Company has near-term goals to bring the target levels within range in 2023, subject to coal availability. The Company provided a rationale for the plants that were outside the short-term target range that complies with the Commission's inventory management goals in its 2010 Order (quoted earlier). For example, coal available at prices advantageous to the ratepayer can cause inventories to rise in certain months. At other plants, lower inventories may be appropriate to provide the flexibility leading up to plant closures or divestitures of PacifiCorp's contractual interests. Inventory may also become low due to region-wide demand for coal, as discussed below.
- During 2022, region-wide coal inventories were affected by high natural gas prices (which tended to increase relative demand for coal). These higher natural gas prices were caused by many factors, including the war in Ukraine, which limited gas supply.

[7] In this memo, the Division will avoid discussing specific plant targets except where necessary, so as to keep the Company's specific operational plans confidential.

In addition, coal production in Utah was down, due to the Lila Canyon fire and other factors. These two factors in combination resulted in lower coal supplies region-wide. The Company expects inventories to be within target levels next year, assuming the contracts and logistics are favorable.

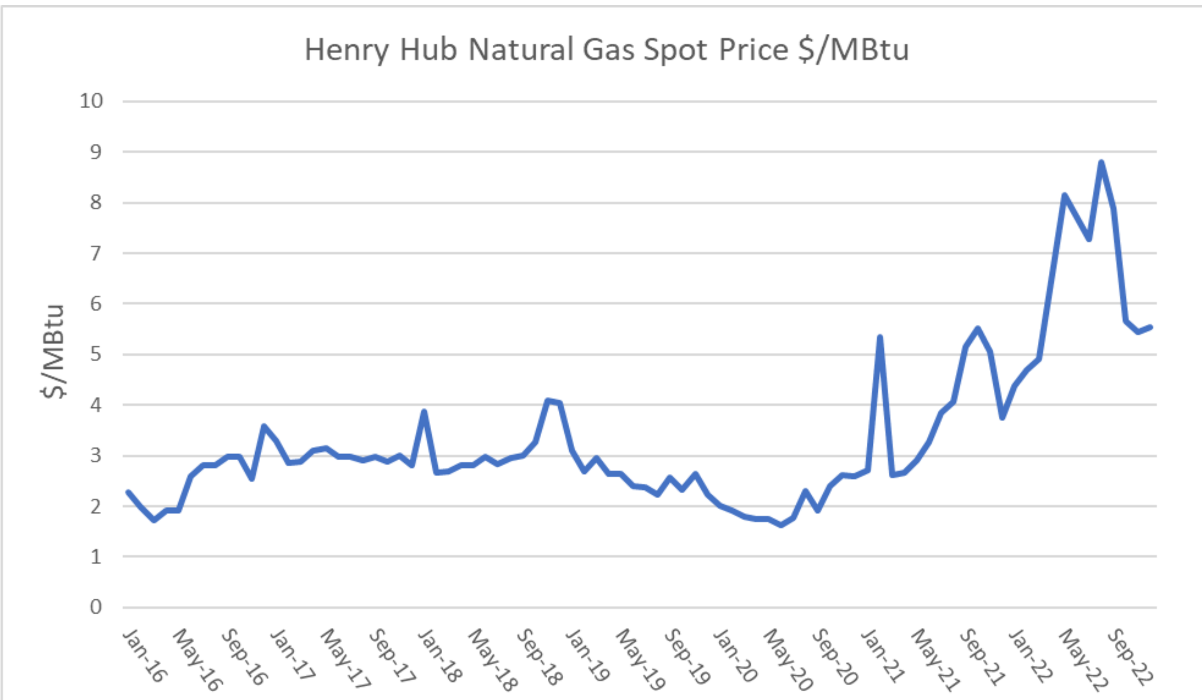
- At the Company's managed southwest Wyoming plants, the 2022 ending inventory was slightly below the target range. This is due to the factors mentioned above. The Company appears to be appropriately managing the southwest Wyoming plants' inventory.
- At the Company's Utah plants, total inventory was lower than target levels at the end of the year. This was a result of the increased coal usage and decreased coal supply, as discussed in this memo. The utilization of Utah coal plants was up, as shown below.
- With respect to the Company's joint-owned plants, in total, the end-of-year coal inventories were within the target ranges. Where the inventories of specific plants were outside the target ranges, inventory levels may not be fully under the Company's control, especially where the Company is not the operator of the joint-owned plant.
- For all relevant plants, to the extent that the Company has control, inventories may deliberately be outside the target ranges for either operational considerations or to take advantage of contract options, which can minimize overall fuel costs. The Division concludes that the Company acted prudently with regard to the plant inventories that are outside the target range.
- The Lila Canyon mine fire has impacted Utah's coal production. The Lila Canyon mine accounts for around a quarter of Utah's coal production.[8] Although the fire has been put out, production at the mine may not begin until late 2024 or early 2025. This and other factors reduced Utah's coal production in the past year, thus lowering

[8] The Bureau of Land Management Issues Decision on Lila Canyon Mine, at https://www.blm.gov/press-release/bureau-land-management-issues-decision-lila-canyon-mine (press release, October 21, 2022).

supply, increasing prices, and limiting the ability to cost-effectively restore inventory).[9]

- The war in Ukraine and other factors in 2022 lowered natural gas supply, thus increasing natural gas costs and making coal generation more attractive. The following chart of historical Henry Hub spot prices (Figure 1) is from the EIA.[10] Russia invaded Ukraine in February of 2022, which is when the Henry Hub prices began an extended stay over five dollars per million Btu. These higher natural gas prices led to increased usage of coal plants in 2022.

Figure 1 Historical Henry Hub Natural Gas Spot Prices

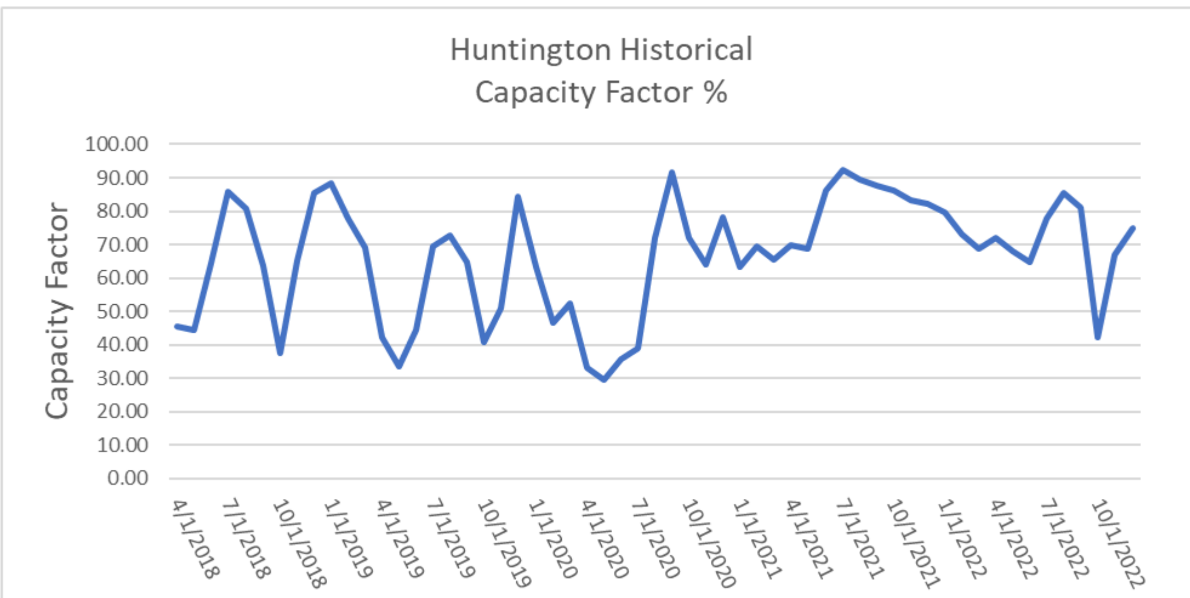


[9] See, e.g., Weekly U.S. Coal Production Overview, released March 16, 2023 (for the 52 weeks ending 3/11/2023, Utah coal production was down 15.5% compared to the 52 weeks ending 3/05/2022), available at: https://www.eia.gov/coal/production/weekly/tables/weekly_production.php

[10] Henry Hub Natural Gas Spot Price, EIA, at https://www.eia.gov/dnav/ng/hist/rngwhhdm.htm (visited March 20, 2023).

- The increased usage of coal plants in 2022 is illustrated by the following chart for Huntington coal plant in Utah.[11] As Figure 2 shows, the typical decrease in capacity factor during spring and fall did not occur in 2021, and the decrease during the spring did not happen in 2022. This was due in part to the natural gas prices discussed above. The higher natural gas prices and increased coal usage resulted in lower coal inventories. The Company is working to replenish any coal inventories that are below target, while negotiating a market that has lower production overall, due to inflationary pressures and equipment shortages (such as coal rail car shortages).

Figure 2 Huntington Coal Plant Historical Capacity Factor



Summary and Conclusion

The Company provided and discussed its most recent Policies and Procedures manual, which was updated in March of 2023. The Division reviewed the 2023 Manual and finds that

[11] The chart in Figure 2 is derived from S&P Capital IQ Data, Huntington Generation Chart, Entire Plant Net Generation. S&P Data is publicly available (for a subscription fee); the data can also be obtained from the Company's FERC filings.

the Company is complying with the Commission's directive in its 2010 Order with respect to the Company's fuel inventory policies and procurement practices.

Although the total inventories for the relevant plants were lower than the target range at the end of 2022, the low inventory was due to market forces that resulted in higher natural gas prices, and subsequently increased coal usage. The Division determined that the Company is in compliance with its policies and procedures and has prudent business reasons for plants that are outside the fuel inventory target ranges. The Division believes the Company is prudently managing its coal inventory and has appropriate plans to bring inventory levels within the target ranges.

The Division concludes that: (1) the Company has formal policies and procedures in place for its fuel procurement and coal inventory levels; (2) the Company generally followed its current policies and procedures in 2022; and (3) the Company's policies provide flexibility for the Company to react to changing market conditions. The Division recommends the Commission find the Company is compliant with the Commission's 2010 Order and with the Company's Coal Inventory Policies and Procedures.

cc: Jana Saba, Rocky Mountain Power
Michele Beck, Office of Consumer Services