REDACTED
Rocky Mountain Power
Docket No. 21-035-01
Witness: Brad Richards

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

REDACTED
Response Testimony of Brad Richards

December 2021

Q. Please state your name, business address, and present position with PacifiCorp d/b/a Rocky Mountain Power (the "Company").

A. My name is Brad Richards. My business address is 1407 West North Temple, Suite 210, Salt Lake City, Utah 84116. My title is Vice President of Thermal Generation.

QUALIFICATIONS

Q. Briefly describe your education and professional experience.

A. I have 21 years of power plant commissioning, operations, and maintenance experience. I was previously the Managing Director of Gas and Geothermal Generation from January 2018 to September 2021. For 17 years before that, I held a number of positions of increasing responsibility within PacifiCorp's generation organization and with Calpine Corporation in power plant commissioning and operations. In my current role, I am responsible for operating and maintaining PacifiCorp's coal, natural gas-fired, and geothermal generation fleet.

Q. Have you testified in previous regulatory proceedings?

A. No.

PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony in this case?

A. My testimony responds to the direct testimonies of Mr. Philip DiDomenico and Mr. Dan F. Koehler of Daymark Energy Advisors, Inc. ("Daymark") who submitted testimony and exhibits on behalf of the Division of Public Utilities ("DPU" or "Division").

Q. To what issues raised by Daymark in its testimony do you wish to respond?

A. My testimony addresses the recommendations contained in DPU Confidential Exhibit

2.3 to disallow recovery of replacement power costs related to two separate outages in 2020 from the deferred EBA costs.

Q. Please list the specific generating units and 2020 outages being discussed.

A. The outages in question occurred at:

1. Hunter Unit 3, on June 28, 2020
2. Gadsby Unit 2, on July 5, 2020

HUNTER UNIT 3 (June 28, 2020)

Q. Please describe the outage at Hunter Unit 3.

A. On June 28, Hunter Unit 3 was removed from service due to high superheater ("SH") differential pressure and high exit gas temperature. The high differential pressure and exit gas temperature were a result of slag build up on the superheater section of the boiler, which was first observed on June 23, 2020. Attempts to remove the slag from the superheater section with the unit in service were unsuccessful, therefore an outage was necessary to access the boiler for cleaning.

Q. What is Daymark's rationale for the proposed disallowance related to this outage?

A. On page 28 of DPU Confidential Exhibit 2.3, Daymark concludes that:

[redacted][1]

Q. Can you please explain the slag build up?

A. On June 23, 2020, plant personnel observed high superheater differential pressure,

[1] DPU Confidential Exhibit 2.3 - Daymark Energy Advisors EBA Audit Report for Calendar Year 2020, page 28.

which is indicative of slag build up on the superheater section of the boiler. Typically, problems associated with slagging are a result of changes in coal quality. Coal quality is measured routinely on belts feeding storage silos; however, there is a delay between the time the measurement is taken and the time the coal enters the boiler. In addition, a particular batch of poor-quality coal, when identified, cannot reasonably be tracked through the coal feeding system relative to the time that it is consumed in the boiler. Because Hunter 3 is considered a flexible load unit, as opposed to a base loaded unit, coal may reside in a silo for greater than eight hours, which results in varying coal quality entering the boiler at any one time and makes it difficult to track poor quality fuel and preemptively apply corrective action in time to compensate for poor-quality fuel.

The Company believes a batch of high calcium coal, which can cause slag, entered the boiler on or around June 23, 2020. Once the slag was identified, attempts to remove it were unsuccessful. Specifically, changes in unit operating parameters to reduce slag such as unit load, air portions, and increased soot blower operations, did not decrease the build up of slag during this event. The slagging continued to build up until June 28, 2020, when the unit entered a forced outage to clean the superheater section of the boiler.

Q. What procedures did the Company have in place at the time of the outage to prevent the type of slag build up that occurred?

A. Plant operators routinely walk the unit down to assess slag/ash fouling relative to soot blowing effectiveness. When a noticeable increase in slag/ash fouling occurs, additional soot blowing is typically the first response. If soot blowing operation is

ineffective, the boiler load can be reduced to aid in combatting pervasive fouling. In this instance, the slagging occurred in an area of the boiler without observation ports, which would allow for direct observation of the effected region. The indicators that are available, primarily the duct pressure differential across superheat elements, provide post-fouling indication. Due to the aggressive nature of this fouling event, by the time the indicative parameters represented a problem slagging controls were ineffective.

Q. What steps has the Company taken since the forced outage to respond to the event?

A. In review of the event, the Company identified several process and procedure changes that may enhance its response to future fuel quality issues. When the boiler was designed there were no observation ports installed where the slag build-up for this event occurred. The Company determined several projects to reduce the likelihood of reoccurrence, which are scheduled to occur at the next planned overhaul: 1) enhancing the soot blowing capacity in the affected region, and 2) creating additional observation ports to enhance visibility to impacted section of the boiler. Additionally, a slag-specific operational procedure was developed to include lowering the differential pressure alarm across the superheat assemblies and specific action item relative to differential pressure indications.

Q. How do you respond to the recommended disallowance for this outage?

A. I recommend that the Commission reject the adjustment proposed by Daymark. Daymark's suggestion that the Company did not have plans for routine slag build up in place at the time of the outage is inaccurate. The Company routinely monitors for slag in the boiler and clears it while the unit is online. During this event, the standard

practice for clearing the slag build up was ineffective due to unusually poor coal quality and gaps in the observation points for slag build up, not because of any problem with the Company's procedures. The Company has since identified an opportunity to improve operating practices to minimize chances of the event recurring.

GADSBY UNIT 2 (July 5, 2020)

Q. Please describe the background of the Gadsby Unit 2 outage.

A. On July 5, 2020, Gadsby Unit 2 was brought offline due to a generator hydrogen seal failure. Prior to the event, a mechanical float failed in a generator seal oil vacuum tank, requiring repairs to ensure proper tank level could be maintained. When draining the tank to repair the float, a backup oil regulator failed to maintain the necessary system pressure. The lack of adequate system oil pressure caused a generator hydrogen seal to overheat and fail, which required a unit outage to repair.

Q. Please explain how the Company's actions were appropriate during the event.

A. The Company followed the Original Equipment Manufacturer ("OEM") procedures for bypassing the vacuum tank when the unit is in operation. There was no indication that the backup oil regulator would not function as designed; therefore, there was no reason to believe verifying functionality was necessary prior to performing maintenance.

Q. What steps has the Company taken to ensure that this situation does not recur?

A. The Company conducted a root cause analysis to determine how it could prevent recurrence. In review of the event, the Company determined revisions to the operating procedure would minimize the potential of reoccurrence. Specifically, the Company found the OEM operating procedure for removing the vacuum tank from service did not identify the verification of the backup regulator as part of the process. As a

corrective action identified in review of the event, the Company added regulator functional testing to its normal operating procedure, ensuring the performance of the regulator is tested on a routine basis. The Company's significant event report identifies [redacted] as the root cause of the outage. Although it was not recommended by the OEM, the Company has added a backup regulator functional test to its operating procedures. It would penalize the Company for seeking to improve OEM or plant procedures if that served as evidence of a [redacted][2]

Q. What is your recommendation to the Commission with respect to the Gadsby Unit 2 adjustment proposed by Daymark?

A. I recommend that the Commission reject the adjustment proposed by Daymark. The Company utilized the best available OEM procedures for this system. Daymark's assertion that the Company has shown [redacted] does not consider the operating procedures that were in place and looks at the situation with the advantage of hindsight. The expectation that the Company be held to a standard of perfection is unreasonable. The Company acted prudently by following the OEM procedure during an abnormal repair event with no indication the backup regulator would not function as designed.

FLEET-WIDE SHARING OF LESSONS LEARNED

Q. Did Daymark raise any other issues that you wish to address?

A. Daymark makes a general assessment [redacted]

[2] DPU Confidential Exhibit 2.3 - Daymark Energy Advisors EBA Audit Report for Calendar Year 2020 page 29.

[redacted]

Q. How do you respond?

A. Daymark's assessment is inaccurate. The Company shares significant event details with all generating facilities for the purposes of minimizing future outages. Root causes and corrective actions from an event are reviewed by subject matter experts at each plant for applicability. The Company's generation fleet consists of equipment diverse in geographic location, style, OEM, date of installation, and usage; therefore, corrective actions for an equipment or process failure at one facility do not necessary apply at others. Subject matter experts identify and implement pertinent corrective actions when appropriate.

Q. What is your recommendation to the Commission?

A. I recommend that the Commission reject the calculated disallowances for the two outages addressed above. My testimony demonstrates the Company was prudent in its actions.

Q. Does this conclude your testimony?

A. Yes.