REDACTED
Rocky Mountain Power
Docket No. 20-035-04
Witness: Robert Van Engelenhoven

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

REDACTED
Direct Testimony of Robert Van Engelenhoven

May 2020

I. INTRODUCTION AND QUALIFICATIONS

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

A. My name is Robert Van Engelenhoven and my business address is 1407 West North Temple, Suite 310, Salt Lake City, Utah 84116. I am currently employed as Resource Development Director. I am testifying on behalf of the Company.

Q. Please describe your education and professional experience.

A. I have a Bachelor of Science in Civil Engineering from Iowa State University and am a licensed structural engineer in Utah and a licensed professional engineer in Wyoming. I have managed major capital projects for the Company for over 20 years.

II. PURPOSE OF TESTIMONY

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

A. The purpose of my testimony is to discuss the Pryor Mountain Wind Project and provide an update on the status of the natural gas conversion of Naughton Unit 3.

First, I explain and support the Company's development and implementation of the Pryor Mountain Wind Project and show that the costs are reasonable. The Pryor Mountain Wind Project, located in Carbon County, Montana, was identified as an opportunity to acquire and implement a late-stage renewables development project to capture 100 percent production tax credits ("PTC") if acted on expeditiously to deliver the project by year-end 2020. In addition to providing PTCs and net power cost benefits, the project also allows the Company to meet a customer need for incremental renewable energy credits ("RECs"), the purchase of which under the Company's Oregon Schedule 272 - Renewable Energy Rider Optional Bulk Purchase Option

("Schedule 272"), further improves the project's economics and associated customer benefits. Mr. Rick T. Link provides the economic analysis demonstrating the net benefits associated with the acquisition of the Pryor Mountain Wind Project.

Second, I give an update of the status of the natural gas conversion of Naughton Unit 3, which was removed from operation as a coal-fired unit on January 30, 2019, to maintain compliance with certain environmental regulations. Conversion of Naughton Unit 3 to a natural gas fueled resource is facilitated by the design of the unit which already incorporates natural gas fueling infrastructure for start-up. This underlying infrastructure can be readily and economically modified to facilitate generation up to 247 megawatts ("MW") of capacity from the unit within applicable environmental permit limits for periods of peak loads across the Company's system to benefit its customers.

Q. Please summarize your direct testimony.

A. My testimony demonstrates that:

- The acquisition and construction of the Pryor Mountain Wind Project is prudent and in the public interest. As with the new wind projects included in Energy Vision 2020 discussed by Mr. Timothy J. Hemstreet, the Pryor Mountain Wind Project has been acquired, developed, and implemented to achieve commercial operation by the end of 2020 to deliver significant PTC benefits, as well as incremental customer benefits derived from the associated REC sale.
- Completion of natural gas conversion of Naughton Unit 3 is prudent and in the public interest. The natural gas conversion project is *de minimis* in scope and

facilitates operation of a significant generation resource during periods of peak loads across the Company's system for the benefit of customers.

II. PRYOR MOUNTAIN WIND PROJECT

Q. Please provide an overview of the Pryor Mountain Wind Project.

A. The Pryor Mountain Wind Project will have a nameplate capacity of 240 MW and is located in Carbon County, Montana, approximately 60 miles south of Billings, Montana. The project consists of 57 Vestas Model V110-2.0 MW safe harbor, 21 Vestas Model V110-2.2 MW safe harbor, four General Electric Model 2.3-116 MW safe harbor, and 32 Vestas model V110-2.2 MW follow-on wind turbine generators ("WTGs"). In addition to the wind turbines, there will be a 34.5 kV collector system, a collector substation with two 34.5 kV to 230 kV step-up transformers, an operations and maintenance ("O&M") building, and site access roads. A new point-of-interconnection substation located on the project site in Montana will also be constructed. The planned in-service date for the project is December 2020. Based on current regulatory practice, the project has been assessed using a depreciable life of 30 years.

Q. Please provide background on the Company's development of the Pryor Mountain Wind Project.

A. The opportunity to capture customer benefits resulting from the acquisition, development, and implementation of the Pryor Mountain Wind Project was identified and evolved over a compressed timeline beginning in October 2018 and ending with final terms on all material agreements (*i.e.*, the engineer, procure, and construct contract and WTG supply agreements) completed by September 30, 2019. In parallel,

negotiation of an Oregon Schedule 272 REC purchase agreement for the sale of all RECs associated with the output of the Pryor Mountain Wind Project to Vitesse, LLC began in December 2018 and final terms were reached in late June 2019. The process from initial discussions to negotiation of final terms of the Schedule 272 REC purchase agreement occurred in under six months.

The Pryor Mountain wind project cost forecast included in this case is approximately [redacted].

Q. Please describe the time-sensitive nature of the federal PTCs as it pertains to the Pryor Mountain Wind Project.

A. The time sensitive nature of the federal PTCs for the Prior Mountain Wind Project is similar to the new wind facilities included in the Energy Vision 2020 Projects, which is discussed by Mr. Hemstreet. The time-sensitive nature of the Pryor Mountain Wind Project is primarily driven by the pending phase-out of the federal PTCs for new wind resources. With an in-service date before the end of 2020, the Pryor Mountain Wind Project will be eligible for the full rate (100 percent) of the PTCs as described earlier in my testimony. The Pryor Mountain Wind Project will deploy safe harbor WTG equipment to achieve eligibility. The Company's acquisition and implementation plan for the Pryor Mountain Wind Project is designed to meet the year-end 2020 in-service schedule and provide customers the full economic benefit of the project.

Q. Does the Pryor Mountain Wind Project meet the IRS start-of-construction criteria?

A. Yes. The Pryor Mountain Wind Project will utilize WTG equipment acquired before December 31, 2016. The WTG equipment acquisition satisfies the safe-harbor

requirements under the PTC guidance issued by the IRS.

Q. What approach was taken to secure late-stage development safe harbor WTG equipment and follow-on WTG equipment for the Pryor Mountain Wind Project?

A. The Vestas safe harbor WTG equipment identified above was sourced and will be acquired and transferred under an affiliate transaction with Berkshire Hathaway Energy Renewables ("BHER"). The four General Electric safe harbor WTGs described above were directly procured by the Company in 2016. The Company completed a competitive market solicitation for the follow-on WTG equipment required to complete the nominal 240 MW Pryor Mountain Wind Project. By combining the use of safe harbor equipment, the transferred BHER safe harbor equipment, and competitive market engagement for follow-on WTG equipment, the Company addresses a couple of key risk points for the project. Specifically, through this combination of procurement strategies the Company limits its exposure to competitive market constraints and pricing volatility for 2020 delivery of 100 percent PTC projects with the safe harbor equipment already manufactured and awaiting delivery.

Q. What is the current construction status of the Pryor Mountain Wind Project?

A. The Pryor Mountain Wind Project will primarily be constructed in 2020, although site activities began in 2019 with completion of geotechnical borings and surveys, other site surveys and detailed engineering, construction of a material laydown area, and installation of approximately five percent of the site access roads before winter weather halted construction. The construction contractor re-mobilized in March 2020, and construction is ongoing.

Q. Has the Company performed preliminary evaluations of the wind potential at the Pryor Mountain Wind Project site?

A. Yes. A wind potential study for the Pryor Mountain Wind Project was completed by a third-party wind resource evaluation firm. The wind potential assessments for Pryor Mountain indicate that the site has a favorable wind regime suitable for high performance wind energy generation. The expected capacity factor for the project is [redacted] percent and aligns with the assumptions made in support of the economic evaluation of the project.

Q. Is the Company collaborating with the U.S. Fish and Wildlife Service in developing and implementing the Pryor Mountain Wind Project?

A. Yes. The Company has engaged the U.S. Fish and Wildlife Service regarding developing and implementing the Pryor Mountain Wind Project. The Company and the project's previous owner and developers began pre-construction usage surveys for various avian, bat, and wildlife species utilizing recommendations from applicable state and federal guideline documents, including the 2012 Land Based Wind Energy Guidelines. The Company will continue to coordinate with county, state, and federal agencies that have jurisdiction over development, permitting, and operations to ensure appropriate environmental and safety measures are implemented throughout the life of the Pryor Mountain Wind Project. The Company is committed to maintaining development and implementation schedules and protocols that recognize potential environmental impacts and strive to mitigate them.

Q. How did the Company assess the customer benefits provided by the Pryor Mountain Wind Project?

A. Mr. Link provides a detailed description of the Company's customer benefits assessment in his testimony. In general terms, the methodology used to perform the economic analysis of the Pryor Mountain Wind Project is consistent with the methodology used to perform the economic analysis of the Energy Vision 2020 Projects. The Company's economic analysis reflects the significant benefits from the sale of RECs associated with the Pryor Mountain Wind Project.

Q. How did the Company generate the cost information for construction, operation, and maintenance of the Pryor Mountain Wind Project through its useful life?

A. The Company assessed life cycle costs for the Pryor Mountain Wind Project using information from a variety of sources. For example, initial installation costs and run rate O&M cost projections were developed through competitive market engagements for project construction and WTG supply and long-term O&M contracts. Transmission interconnection costs were confirmed against the Pryor Mountain Wind Project's transmission interconnection studies. The Company's internal project management and administrative costs were estimated based on the Company's experience with construction of past and current wind facilities and other recent generation resource additions. The Company also applied limited contingencies to the Pryor Mountain Wind Project to account for project uncertainties. O&M cost estimates were developed based on the Company's experience with currently-operating wind facility O&M budgets and third-party contracts for the Company's existing wind facilities. Ongoing

capital costs were estimated based upon the Company's experience and indicative costs provided by WTG suppliers for critical capital components.

Q. Please describe the exhibit for the 240 MW Pryor Mountain Wind Project.

A. The site plan for the 240 MW Pryor Mountain Wind Project is provided in Exhibit RMP__(RV-1) that accompanies my testimony.

Q. Has the COVID-19 pandemic had a material impact on the Company's construction schedule or costs for the Pryor Mountain Wind Project?

A. As a result of the COVID-19 pandemic, the Company has received notices that the suppliers and contractors providing materials to or working on the Pryor Mountain Wind Project may be impacted. However, at this time, there are no demonstrable delays or impacts that are known. The Company will continue to work with its suppliers and contractors to monitor the situation, ensure that appropriate worker and public safety protocols are in place, and mitigate potential impacts to the project as they become known. Fortunately, many of the wind turbine components that will be used at the Pryor Mountain Wind Project have completed manufacturing, helping to mitigate the risk associated with impacts to suppliers' manufacturing facilities as a result of the pandemic.

IV. NAUGHTON UNIT 3 GAS CONVERSION

Q. Please describe why Naughton Unit 3 is being converted to natural gas fueling.

A. The Company was required to cease coal-fired operations in Naughton Unit 3 on January 30, 2019, to maintain compliance with certain environmental regulations. Completion of natural gas conversion of Naughton Unit 3 will increase the unit's

generating capacity when fueled by natural gas from 35 MW (utilizing existing start-up fuel infrastructure) to 247 MW.

Q. Please describe the permitting process for Naughton Unit 3.

A. On July 5, 2013, the Wyoming Department of Environmental Quality ("WDEQ") issued Air Permit MD 14506, which establishes natural gas emission and heat input limits for Naughton Unit 3 which would "become effective upon conversion" of Unit 3 to natural gas firing. On November 28, 2017, the WDEQ submitted to the Environmental Protection Agency ("EPA") a Regional Haze State Implementation Plan ("SIP") revision which required Naughton Unit 3 to cease burning coal no later than January 30, 2019; the SIP proposes federally enforceable emission limits for Naughton Unit 3 to fire on natural gas. The EPA issued its proposed approval of WDEQ's SIP revision on November 7, 2018, seeking public comments on the proposal.

On February 4, 2019, the Company filed a notification to the WDEQ that Naughton Unit 3 had ceased coal combustion; the Company designated Naughton Unit 3 as "temporarily 'mothballed' while awaiting final federal action" from the EPA on approval of the WDEQ SIP. The Company clarified in its notification that Naughton Unit 3 remained capable of generating 35 MW when fueled on natural gas, and that the unit could be considered effectively converted following EPA approval of the Wyoming SIP.

On March 21, 2019, the EPA published its approval of the Naughton Unit 3 conversion to natural gas and incorporated by reference the natural gas emission limits from Wyoming state air permits. The Company submitted a notification to WDEQ on May 24, 2019, for initial startup of Naughton Unit 3 on natural gas and commencement

of construction for additional upgrades supporting the full conversion to 247 MW. The Company removed Naughton Unit 3 from designation as 'temporarily mothballed' and committed to completion of all construction relating to natural gas conversion by June 24, 2021.

The Company filed a notification with WDEQ on July 3, 2019, that Naughton Unit 3 was first fired (initial start-up after being temporarily mothballed) on natural gas on July 1, 2019.

Project activities to date in support of the increase in unit capacity to 247 MW are limited to design engineering and procurement of materials; no physical upgrades have been made as the Company is awaiting material deliveries to initiate construction. The project is expected to be completed by mid-2020.

Q. What is the cost to complete the full conversion of Naughton Unit 3 to a 247 MW natural gas fired generation resource?

A. The cost of the Naughton Unit 3 gas conversion to 247 MW included in this proceeding is [redacted] on a total-company basis.

Q. Does the Naughton Unit 3 gas conversion to a 247 MW natural gas fired generation resource provide customer benefits?

A. Yes. As discussed in the testimony from Mr. Link, full conversion of Naughton Unit 3 to a 247 MW gas fueled resource is projected to provide $62 million to $121 million in PVRR(d) benefit for customers as analyzed in the 2019 Integrated Resource Plan ("IRP") against early retirement of the unit. As such, the 2019 IRP Preferred Portfolio included Naughton Unit 3 gas conversion as a generation resource available to serve customers going forward.

V. CONCLUSION AND RECOMMENDATION

Q. Please summarize your testimony.

A. The Company requests the costs for the Pryor Mountain wind facility be included in revenue requirement because it is prudent and benefits Utah customers. Cost recovery is also appropriate for the Naughton Unit 3 natural gas conversion, which has been prudently analyzed and implemented. The natural gas conversion project is *de minimis* in scope and facilitates operation of a significant (247 MW, post-conversion) generation resource during periods of peak loads across the Company's system for the benefit of customers.

Based on these conclusions, I recommend that the Commission approve these projects for inclusion in rates.

Q. Does this conclude your direct testimony?

A. Yes.

Rocky Mountain Power
Exhibit RMP___(RV-1)
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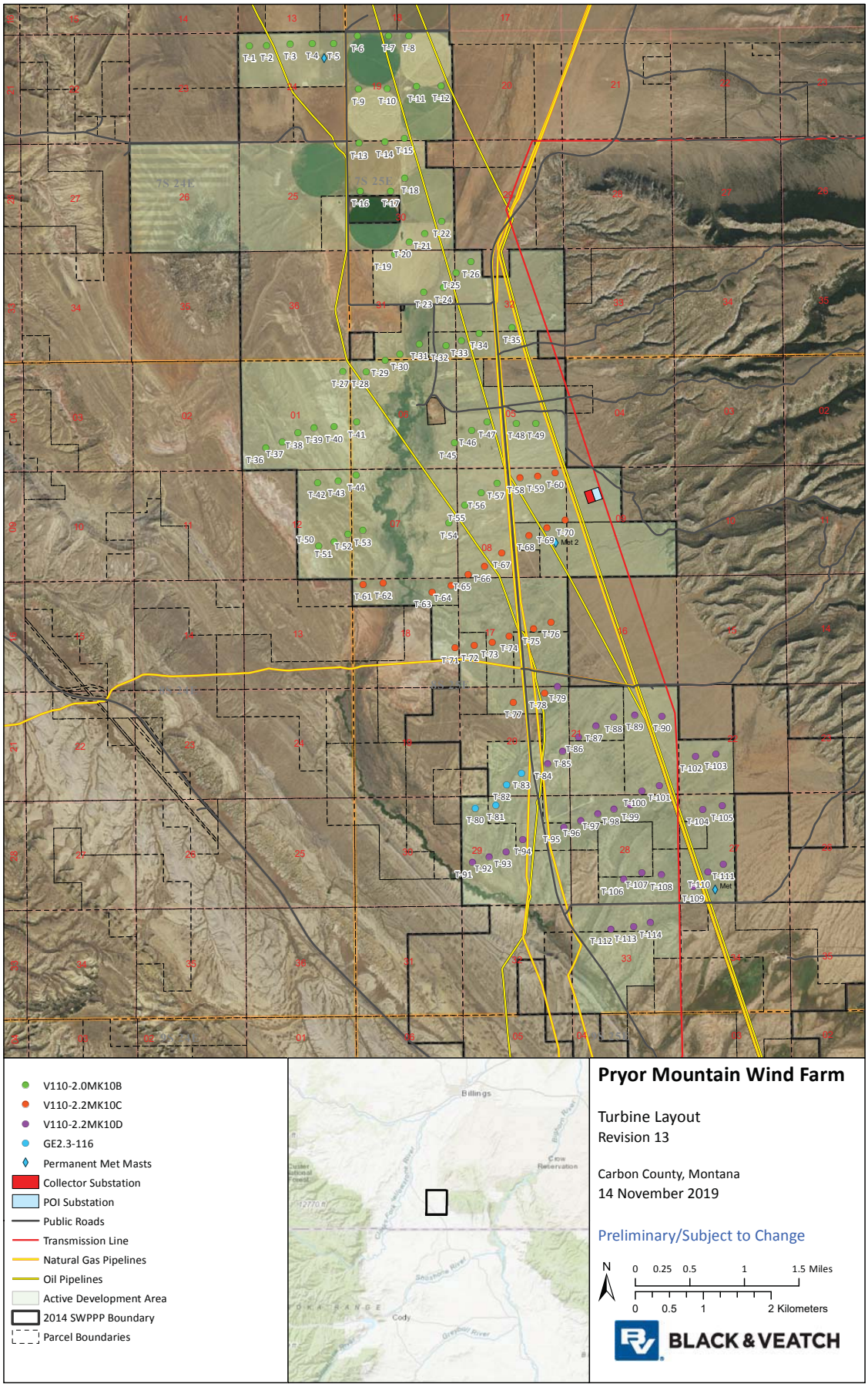
Exhibit Accompanying Direct Testimony of Robert Van Engelenhoven

Site Plan Pryor Mountain

May 2020


V110-2.0MK10B
V110-2.2MK10C
V110-2.2MK10D
GE2.3-116
Permanent Met Masts
Collector Substation
POI Substation
Public Roads
Transmission Line
Natural Gas Pipelines
Oil Pipelines
Active Development Area
2014 SWPPP Boundary
Parcel Boundaries
Billings
Cody
Pryor Mountain Wind Farm
Turbine Layout
Revision 13
Carbon County, Montana
14 November 2019
Preliminary/Subject to Change
N
0 0.25 0.5 1 1.5 Miles
0 0.5 1 2 Kilometers
BLACK & VEATCH
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community