

KENNECOTT EXHIBIT 2.7

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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

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Direct Testimony of Robert Van Engelenhoven

May 2020

1 **I. INTRODUCTION AND QUALIFICATIONS**

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

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

7 **Q. Please describe your education and professional experience.**

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

11 **II. PURPOSE OF TESTIMONY**

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

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

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

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

27 Second, I give an update of the status of the natural gas conversion of Naughton
28 Unit 3, which was removed from operation as a coal-fired unit on January 30, 2019, to
29 maintain compliance with certain environmental regulations. Conversion of Naughton
30 Unit 3 to a natural gas fueled resource is facilitated by the design of the unit which
31 already incorporates natural gas fueling infrastructure for start-up. This underlying
32 infrastructure can be readily and economically modified to facilitate generation up to
33 247 megawatts (“MW”) of capacity from the unit within applicable environmental
34 permit limits for periods of peak loads across the Company’s system to benefit its
35 customers.

36 **Q. Please summarize your direct testimony.**

37 A. My testimony demonstrates that:

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

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

48 II. PRYOR MOUNTAIN WIND PROJECT

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

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

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

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

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

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

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

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

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

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

92 requirements under the PTC guidance issued by the IRS.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

174 **IV. NAUGHTON UNIT 3 GAS CONVERSION**

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

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

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

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

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

191 On February 4, 2019, the Company filed a notification to the WDEQ that
192 Naughton Unit 3 had ceased coal combustion; the Company designated Naughton Unit
193 3 as “temporarily ‘mothballed’ while awaiting final federal action” from the EPA on
194 approval of the WDEQ SIP. The Company clarified in its notification that Naughton
195 Unit 3 remained capable of generating 35 MW when fueled on natural gas, and that the
196 unit could be considered effectively converted following EPA approval of the Wyoming
197 SIP.

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

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

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

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

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

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

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

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

225

V. CONCLUSION AND RECOMMENDATION

226 **Q. Please summarize your testimony.**

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

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

236 **Q. Does this conclude your direct testimony?**

237 A. Yes.

Rocky Mountain Power
Exhibit RMP___(RV-1)
Docket No. 20-035-04
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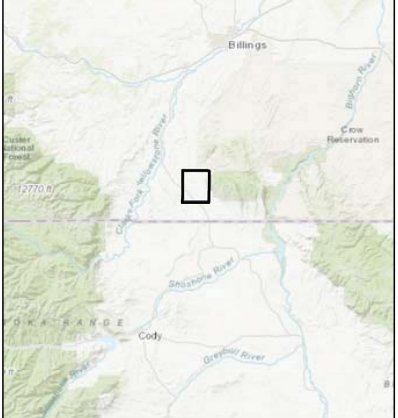
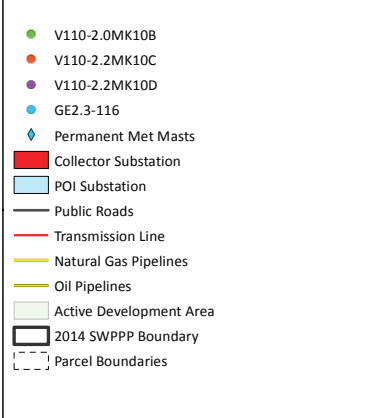
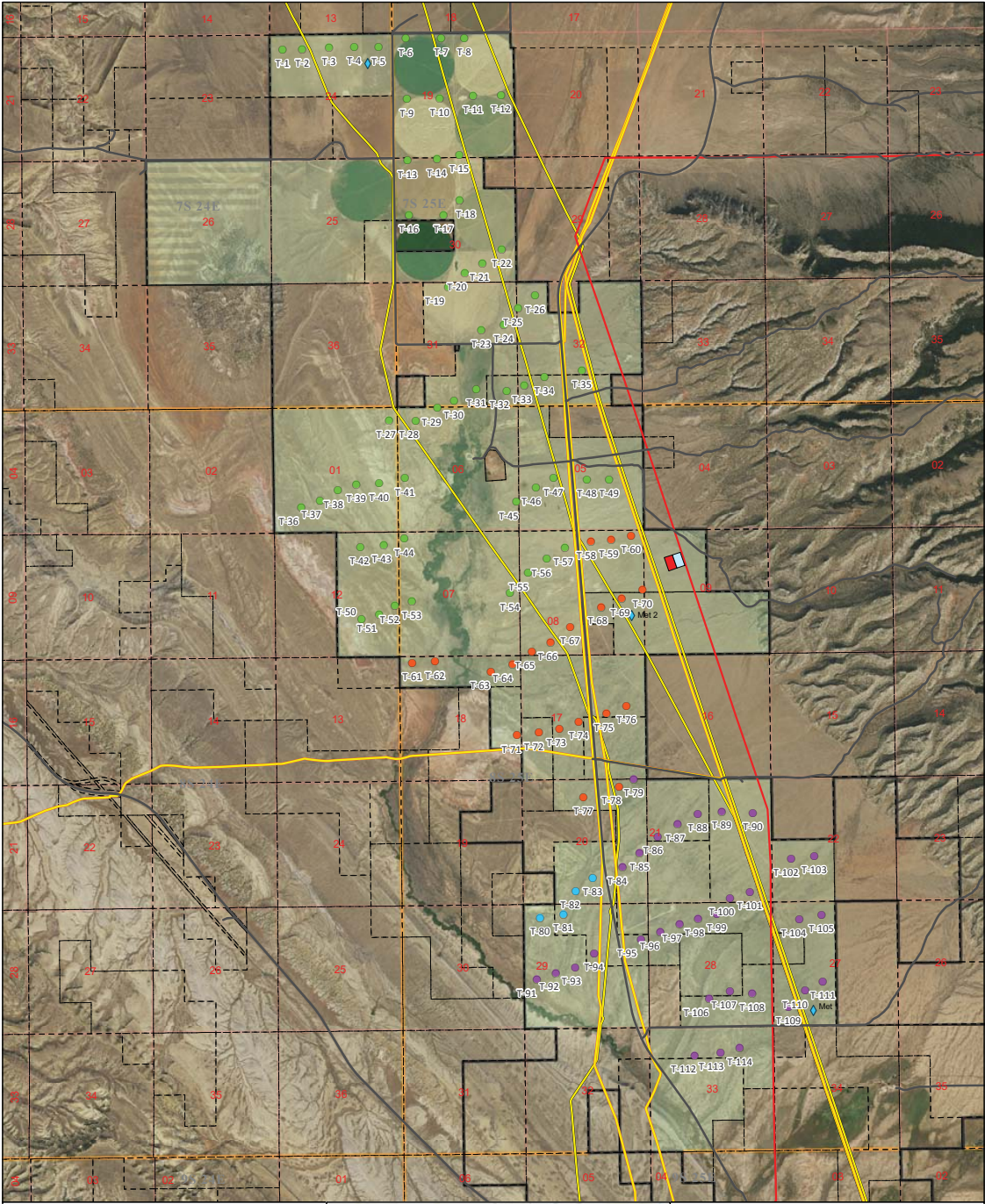
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Robert Van Engelenhoven

Site Plan Pryor Mountain

May 2020



Pryor Mountain Wind Farm

Turbine Layout
 Revision 13

Carbon County, Montana
 14 November 2019

Preliminary/Subject to Change

0 0.25 0.5 1 1.5 Miles
 0 0.5 1 2 Kilometers

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