

Rocky Mountain Power  
Docket No. 17-035-40  
Witness: Cindy A. Crane

BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

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Direct Testimony of Cindy A. Crane

June 2017

1 **Q. Please state your name, business address, and present position.**

2 A. My name is Cindy A. Crane. My business address is 1407 West North Temple,  
3 Suite 310, Salt Lake City, Utah 84116. I am the President and Chief Executive Officer  
4 of Rocky Mountain Power (“Company”), a division of PacifiCorp.

5 **Q. Briefly describe your professional experience.**

6 A. I joined the Company in 1990 and have served as Director of Business Systems  
7 Integration, Managing Director of Business Planning and Strategic Analysis, Vice  
8 President of Strategy and Division Services, and Vice President of Interwest Mining  
9 Company and Fuel Resources. My responsibilities in these positions included the  
10 management and development of PacifiCorp’s 10-year business plan, directing  
11 operations of the Energy West Mining and Bridger Coal companies, and coal supply  
12 acquisition and fuel management for PacifiCorp’s coal-fired generating plants. In  
13 October 2014, I was appointed to my present position as President and Chief Executive  
14 Officer of Rocky Mountain Power.

15 **Q. Have you testified in previous regulatory proceedings?**

16 A. Yes. I have filed testimony with the public service commissions in all of the states  
17 where the Company serves customers, including the Utah Public Service Commission  
18 (“Commission”).

19 **PURPOSE AND SUMMARY OF TESTIMONY**

20 **Q. What is the purpose of your testimony?**

21 A. My testimony details the Company’s proposal to invest \$2 billion in new wind and  
22 transmission facilities, all of which would be operational by December 31, 2020, as  
23 required to leverage the full benefit of the federal wind production tax credit (“PTC”),

24 the value of which is essential to the combined projects' overall economic viability. The  
25 Wind Projects and Transmission Projects, as defined and described below, are the  
26 cornerstones of PacifiCorp's Energy Vision 2020 strategy. These projects represent an  
27 exciting opportunity for PacifiCorp's customers, who we expect to realize  
28 approximately \$137 million in benefits over time, with initial rate impacts of less than  
29 1.9 percent.

30 My testimony provides an overview of the Company's Application, which  
31 includes a request for an order under Utah Code Ann. § 54-17-302 approving the  
32 Company's "significant energy resource decision" to construct or procure four new  
33 Wyoming wind resources with a total capacity of 860 megawatts ("MW") (collectively,  
34 the "Wind Projects"). The Application also includes a request for an order under Utah  
35 Code Ann. § 54-17-402 approving the Company's "resource decision" to construct the  
36 Aeolus-to-Bridger/Anticline Line and the 230 kV Network Upgrades, as defined and  
37 discussed in more detail later (collectively, "Transmission Projects"). I explain why  
38 these resource decisions are prudent and in the public interest, and describe the  
39 financial ability of the Company to invest in the proposed facilities.

40 **Q. Please summarize your testimony.**

41 A. The Wind Projects and Transmission Projects (collectively, "Combined Projects") are  
42 central to the Company's current long-term energy strategy, Energy Vision 2020, under  
43 which the Company plans to use the opportunities presented by the extension of the  
44 federal PTC to make major resource investments that provide significant savings to  
45 customers over the lives of the resources. The Company identified and presented this  
46 opportunity in its 2017 Integrated Resource Plan ("2017 IRP").

47           The Transmission Projects and Wind Projects are mutually dependent on one  
48 another. The Wind Projects rely on the Transmission Projects for interconnection to the  
49 Company’s transmission system. In turn, the Transmission Projects are supported by  
50 the key economic attributes of the Wind Projects: zero-fuel-cost generation that lowers  
51 net power costs and provides ten years of PTCs. The Wind Projects also generate  
52 renewable energy certificates (“RECs”), which can be sold in the market and lower net  
53 customer costs. The Wind Projects help decarbonize the Company’s resource portfolio,  
54 mitigating long-term risk associated with potential future state and federal policies  
55 targeting carbon dioxide (“CO<sub>2</sub>”) emissions reductions from the electric sector.

56           The Transmission Projects also provide significant benefits to customers. The  
57 Aeolus-to-Bridger/Anticline Line is a sub-segment of the Company’s Energy Gateway  
58 West transmission project, and is an integral component of the long-term transmission  
59 plan for the region. The Company, with stakeholder involvement, has pursued  
60 permitting of the Energy Gateway West transmission project, which includes the  
61 Aeolus-to-Bridger/Anticline line, since 2008. The Transmission Projects relieve  
62 congestion on the current transmission system in eastern Wyoming, provide critical  
63 voltage support to the Wyoming transmission network, improve overall reliability of  
64 the transmission system, enhance the Company’s ability to comply with mandated  
65 reliability and performance standards, reduce line losses, and create the potential for  
66 further increases to the transfer capability across the Aeolus-to-Bridger/Anticline Line  
67 with the construction of additional segments of the Energy Gateway project.

68           Timing is critical for both of these projects. The Combined Projects must  
69 achieve commercial operation by the end of 2020 to qualify for the full benefits of the

70 PTCs and maintain favorable economics. Thus, the Company must move quickly,  
71 particularly on the Transmission Projects, which will take several years to fully permit,  
72 obtain the necessary rights-of-way, and construct. To complete construction of the  
73 Combined Projects by December 31, 2020, the Company requests that the Commission  
74 adopt the proposed, expedited schedule for review set forth in the Application.

75 Because of the time-sensitivity of the Combined Projects, the Company is  
76 conducting its 2017R Request for Proposals (“2017R RFP”) process simultaneously  
77 with its request for approval of the Wind Projects. Although unusual, this approach is  
78 necessary in this case. If the Company waited until the conclusion of the 2017R RFP  
79 to seek approval, the Combined Projects could not be completed by the end of 2020,  
80 and customers would lose significant PTC benefits. To allow the Combined Projects to  
81 move forward, the Company has pursued the Wind Projects, which will be benchmark  
82 resources in the 2017R RFP and proxy resources for purposes of this Application until  
83 the 2017R RFP is completed.

84 The Company also requests approval of the ratemaking treatment for the  
85 Combined Projects. The Company proposes to match the costs and benefits of the  
86 Combined Projects through the Resource Tracking Mechanism (“RTM”) until the costs  
87 and benefits are reflected in base rates. Variances in PTCs would continue to be tracked  
88 through the RTM after all other costs and a base level of PTCs are reflected in base  
89 rates. This proposed ratemaking treatment will ensure that the costs and benefits of the  
90 Combined Projects are properly matched and customers and shareholders are treated  
91 fairly while delivering long-term benefits.

92                   Using medium price and CO<sub>2</sub> assumptions, the Company's economic analysis  
93 demonstrates a present-value reduction in revenue requirement due to the Combined  
94 Projects of \$137 million over the life of the projects, with a year-one rate impact of less  
95 than 1.9 percent.

96 **Q.    What other witnesses will be testifying on behalf of the Company?**

97 A.    In addition to my testimony, the Company's Application is supported by the testimony  
98 of the following witnesses:

99                   **Mr. Chad A. Teply**, Vice President of Strategy and Development, provides a  
100 detailed description of the Company's proposed acquisition of the Wind Projects.  
101 Mr. Teply describes the Wind Projects, addresses the impact and timing of PTCs on  
102 their acquisition, and provides information to respond to the requirements of Utah  
103 Admin. Code R746-430-2 for the Wind Projects.

104                   **Mr. Rick A. Vail**, Vice President of Transmission, outlines the need for the  
105 Transmission Projects, and provides a detailed description of the transmission facilities.  
106 Mr. Vail also addresses the requirements of Utah Admin. Code R746-440-1 for the  
107 Transmission Projects.

108                   **Mr. Rick T. Link**, Vice President of Resource and Commercial Strategy,  
109 testifies regarding the economic analysis that supports the prudence of the Combined  
110 Projects, and describes the customer benefits resulting from the timely acquisition and  
111 construction of the wind and transmission facilities. Mr. Link explains the planning and  
112 analysis of the Combined Projects in the Company's 2017 IRP. He also provides  
113 background on the pending 2017R RFP for the wind resources.

114                   **Mr. Jeffrey K. Larsen**, Vice President of Regulation, explains the Company's  
115 proposal for ratemaking treatment of the costs and benefits of the Combined Projects,  
116 including introducing a new tariff, Schedule 97B – Resource Tracking Mechanism, and  
117 the inter-jurisdictional allocation of costs.

118 **Q. Has the Company developed a schedule that allows the Commission to process**  
119 **this case in an orderly and expeditious manner?**

120 A. Yes. The Company's proposed expedited schedule is included in the Application.

121 **Q. Is the Company requesting approval of the Projects in any other states?**

122 A. Yes. Concurrent with this Application, the Company is requesting approval of the  
123 Combined Projects from the Wyoming Public Service Commission and the Idaho  
124 Public Utilities Commission. There are rate-recovery mechanisms in Oregon and  
125 Washington for investments in renewable resources that provide a path to seek recovery  
126 of the costs and benefits of the Combined Projects closer in time to project completion.  
127 In California, the Company is required to file a general rate case in 2019, which may  
128 include the costs and benefits of the Combined Projects; alternatively, California's  
129 Post-Test Year Adjustment Mechanism may be used to recover costs incurred after the  
130 2019 general rate case.

131                   **OVERVIEW OF COMBINED PROJECTS**

132 **Q. Please describe the Transmission Projects.**

133 A. The Transmission Projects include six major elements:

134                   (1) The 140-mile, Aeolus-to-Anticline line, which includes construction of the new  
135                   Aeolus and Anticline substations;

- 136 (2) The five-mile Anticline to Jim Bridger 345 kV line, which includes  
137 modifications at the existing Jim Bridger substation to allow termination of the  
138 new 345 kV line;
- 139 (3) Installation of a voltage control device at the Latham substation;
- 140 (4) A new 16-mile 230 kV transmission line parallel to an existing 230 kV line from  
141 Shirley Basin substation to the proposed Aeolus substation, including  
142 modifications to the existing Shirley Basin substation;
- 143 (5) The reconstruction of four miles of an existing 230 kV transmission line  
144 between the proposed Aeolus substation and the Freezeout substation, including  
145 modifications as required at the Freezeout substation;
- 146 (6) The reconstruction of 14 miles of an existing 230 kV transmission line between  
147 the Freezeout substation and the Standpipe substation including modifications  
148 as required at the Freezeout and Standpipe substations.

149 Throughout the Company's testimony, items 1-3 above are collectively referred to of  
150 the Aeolus-to-Bridger/Anticline Line, and items 4-6 above are collectively referred to  
151 as the 230 kV Network Upgrades.

152 **Q. What are the system benefits of the Transmission Projects?**

153 A. The benefits of the Transmission Projects fall into three broad categories. First, the  
154 Transmission Projects will relieve congestion in eastern Wyoming, which will allow  
155 greater resource interconnection in that part of the state. The Company's current  
156 transmission system in eastern Wyoming is operating at capacity, which limits transfer  
157 of existing resources from eastern Wyoming and precludes the ability to interconnect  
158 additional resources east of the proposed Aeolus-to-Bridger/Anticline Line. The

159 Transmission Projects will increase the transfer capability from east to west by  
160 750 MW. When the Transmission Projects are complete, they will allow  
161 interconnection of up to 1,270 MW of incremental wind resources, including the Wind  
162 Projects that are the subject of this Application.

163 Second, the Transmission Projects will provide critical voltage support to the  
164 transmission system in southeastern Wyoming. Under certain operating conditions,  
165 voltage control issues have limited the ability to add additional resources, particularly  
166 wind resources. The addition of the Transmission Projects will solve the voltage control  
167 issues.

168 Third, the Transmission Projects will also increase reliability, reduce capacity  
169 and energy losses on the transmission system, and provide greater flexibility to manage  
170 existing generation resources. Currently, outages on the existing 230 kV system in  
171 eastern Wyoming result in deration of the transfer capacity in the area and some outage  
172 scenarios require significant generation curtailment. The new 500 kV transmission  
173 segment will significantly reduce, if not eliminate, many of the impacts caused by the  
174 230 kV outages.

175 **Q. Please describe the proposed Wind Projects.**

176 A. The Company requests approval for the construction or acquisition of 860 MW of new  
177 wind resources, which are three 250 MW facilities (referred to as Ekola Flats, TB  
178 Flats I, and TB Flats II) and a fourth 110 MW facility (McFadden Ridge II), all located  
179 in Wyoming. Mr. Teply's testimony provides additional details on the Wind Projects.

180 **Q. Will the Company submit the Wind Projects into the 2017R RFP?**

181 A. Yes. Each of the resources will be included in the 2017R RFP as a benchmark resource.

182 Therefore, if other resources are ultimately selected, they will be equal to or better than  
183 the Wind Projects in the Application. The Company submits this Application to  
184 facilitate review of this time-limited opportunity to secure approval under the expedited  
185 schedule proposed by the Company.

186 **Q. What additional information will be provided once the 2017R RFP shortlist is**  
187 **selected?**

188 A. After the 2017R RFP shortlist is selected, the Company supplement this Application to  
189 provide the Commission and intervening parties with detailed information about the  
190 winning bid(s).

191 **Q. What is the status of the 2017R RFP?**

192 A. The Company filed for acknowledgment or approval of the proposed 2017R RFP with  
193 the Commissions in Utah and Oregon, as required in those states. Following those  
194 proceedings, the Company anticipates issuing the 2017R RFP to the market in August  
195 2017. The Company plans to complete its final shortlist bid evaluation and finalize the  
196 shortlist in early January 2018. Mr. Link's testimony provides additional details on the  
197 RFP process.

198 **Q. Why is the Company requesting approval for both the Transmission Projects and**  
199 **Wind Projects?**

200 A. The Projects are mutually dependent on one another. The Transmission Projects are  
201 necessary to relieve existing congestion and will enable interconnection of the proposed  
202 Wind Projects into the Company's transmission system. The Transmission Projects are  
203 not economic without the incremental, cost-effective Wind Projects generating zero-

204 fuel-cost energy and PTCs. This interdependence requires the Combined Projects’  
205 concurrent development.

206 The renewal of the PTCs has created a unique, time-limited opportunity for the  
207 Company to construct critical transmission facilities in eastern Wyoming, while  
208 providing substantial customer savings. The economics for the Combined Projects,  
209 however, require that they be constructed to meet commercial operation by the end of  
210 2020.

211 **Q. Why must the Combined Projects be in commercial operation by the end of 2020?**

212 A. The substantial customer benefits resulting from the Combined Projects assumes the  
213 Wind Projects will qualify for 100 percent of the PTCs. Each of the Wind Projects are  
214 eligible for 100 percent of the PTC benefits if the Wind Projects and the Transmission  
215 Projects are commercially operational by December 31, 2020. Failing to meet the 2020  
216 deadline puts the Company at risk to lose PTC benefits, and jeopardizes the overall  
217 economics of the Combined Projects.

218 **Q. How will the Company achieve commercial operation by the end of 2020?**

219 A. The Company must obtain approval for the Combined Projects under the expedited  
220 timelines proposed, so that equipment and engineering, procurement, and construction  
221 contracts can be executed shortly thereafter. Because the lead time for constructing the  
222 Transmission Projects is longer than the lead time to construct the Wind Projects, the  
223 schedules for the Transmission Projects dictate this timeline. The testimonies of  
224 Mr. Teply and Mr. Vail provide additional detail on the construction timelines necessary  
225 to complete both projects by the end of 2020.

**PUBLIC INTEREST**

226

227 **Q. In its 2017 IRP, did the Company select the Combined Projects as part of the**  
228 **preferred resource portfolio?**

229 A. Yes. Both resources are least-cost, least-risk resources, as reflected in the Company's  
230 2017 IRP, filed with the Commission April 4, 2017. The 2017 IRP includes the Wind  
231 Projects and Transmission Projects as integral components of the Company's preferred  
232 portfolio.

233 **Q. Do the Combined Projects provide significant benefits to customers?**

234 A. Yes. As outlined in Mr. Link's testimony, the Combined Projects will produce customer  
235 benefits that significantly outweigh costs. The Company's economic analysis included  
236 multiple electricity price and carbon-risk scenarios, measured over several different  
237 time periods. In virtually all cases, the Combined Projects result in significant net  
238 customer benefits. For example, with medium natural gas and medium CO<sub>2</sub> price  
239 assumptions over the life of the facilities, the present-value reduction to the change in  
240 revenue requirement due to the Combined Projects is \$137 million. Because the  
241 Company did not quantify the added benefits associated with RECs, the economic  
242 analysis is conservative.

243 **Q. What is the projected rate impact to customers of the Combined Projects?**

244 A. The rate impact to customers is less than 1.9 percent with the first full year of operation  
245 in 2021. While this percentage change reflects the year-one impact to customers, it does  
246 not fully reflect the value of the Combined Projects due to costs avoided over time.  
247 Mr. Link's analysis showing the present-value savings of \$137 million through 2050

248 referenced above demonstrates that although there is an initial increase in cost, the  
249 lifetime savings of the Combined Projects are significant.

250 **Q. After the Company filed its IRP in April, did Company representatives meet with**  
251 **Utah stakeholders to provide an overview of the Combined Projects?**

252 A. Yes. From May 9 to 11, 2017, the Company met with various Utah stakeholders to  
253 review the details of the Combined Projects, explain the RFP for the wind resources,  
254 and discuss the scope and timing of this Application.

255 **Q. In addition to the customer benefits you have already mentioned, do the**  
256 **Combined Projects benefit the public interest in other ways?**

257 A. Yes. The Transmission Projects will relieve transmission constraints that have limited  
258 energy resource interconnection in eastern Wyoming. Once constructed, the  
259 Transmission Projects will allow the Company to more efficiently deliver cost-effective  
260 energy from Wyoming generation resources.

261 **REQUIREMENTS FOR APPROVAL OF RESOURCE DECISIONS**

262 **Q. What are the requirements for the Commission to approve the decisions to**  
263 **construct or acquire the Transmission Projects and the Wind Projects?**

264 A. It is my understanding that approval of the “resource decision” to construct the  
265 Transmission Projects is subject to Utah Code Ann. § 54-17-402 because “resource  
266 decisions” are defined in Utah Code Ann. § 54-17-401 to include those relating to “an  
267 energy utility’s acquisition, management, or operation of energy production,  
268 processing, transmission, or distribution facilities or processes.” The Wind Projects,  
269 however, are a “significant energy resource,” as that term is defined in Utah Code Ann.  
270 § 54-17-102(4), because the projects are 100 MW or more of new generating capacity

271 with a dependable life of 10 or more years. Because the Wind Projects are a “significant  
272 energy resource,” it is my understanding that the Company must obtain Commission  
273 approval under Utah Code Ann. § 54-17-302(1).

274 While each resource is subject to approval under a different statutory provision,  
275 my understanding is that the standards for approval are generally the same. For both  
276 decisions, the Commission must determine if the decision is in the public interest after  
277 considering the following five factors:

- 278 • Whether the decision will most likely result in the acquisition, production, and  
279 delivery of utility services at the lowest reasonable cost to the retail customers  
280 of the utility;
- 281 • Long-term and short-term impacts;
- 282 • Risk;
- 283 • Reliability;
- 284 • Financial impacts on the utility; and
- 285 • Other factors determined by the commission to be relevant.

286 In addition, for the Wind Projects, the Commission must also determine whether the  
287 decision was reached in compliance with a Commission-approved solicitation process.

288 **Q. Is the Company’s decision to construct or acquire the Combined Projects**  
289 **prudent?**

290 A. Yes. As described above, and in more detail in the testimonies of Messrs. Teply, Vail,  
291 and Link, the Combined Projects are the least-cost, least-risk resource option for the  
292 Company and will provide substantial customer benefits. Indeed, as discussed above,  
293 the Combined Projects will save customers money over the long-term. The Combined

294 Projects are also consistent with the analysis and modeling in the Company's 2017 IRP,  
295 where both resources are included in the near-term action plan as part of the preferred  
296 portfolio. Thus, the decision to construct or acquire the Combined Projects will most  
297 likely result in the acquisition, production, and delivery of utility services at the lowest  
298 reasonable cost to the Company's retail customers.

299 **Q. Will the Transmission Projects increase the reliability of the Company's**  
300 **transmission system?**

301 A. Yes. Mr. Vail's testimony describes the reliability benefits that will result from the  
302 construction of the Transmission Projects.

303 **Q. How does the Company intend to finance the Combined Projects?**

304 A. The Company intends to finance the Combined Projects through its normal sources of  
305 capital, both internal and external, including net cash flow from operating activities,  
306 public and private debt offerings, the issuance of commercial paper, the use of  
307 unsecured revolving credit facilities, capital contributions and other sources. Although  
308 the Combined Projects are a significant investment on the part of the Company, the  
309 financial impact will not impair the Company's ability to continue to provide safe and  
310 reliable electricity service at reasonable rates.

311 **Q. How will approval support the Company's current credit rating, thereby**  
312 **providing customer benefits?**

313 A. Ratings agencies consider the Company's regulatory treatment when establishing its  
314 credit rating, and particularly focus on the treatment of capital investments. Supportive  
315 treatment through approval of an investment of this magnitude provides assurance to  
316 ratings agencies and helps maintain the Company's credit rating. A solid credit rating

317 directly benefits customers by ensuring access to capital markets and reducing  
318 immediate and future borrowing costs related to the financing needed to support  
319 regulatory operations, and strong ratings will often allow the Company to avoid having  
320 to meet costly collateral requirements that are typically imposed on lower-rated  
321 companies when securing power in the market. If the Company does not have  
322 consistent access to the capital markets at reasonable costs, its debt issuances and the  
323 resulting costs of constructing the new facilities become more expensive than they  
324 otherwise would be.

325 **Q. Will the Company's construction or acquisition of the Wind Projects comply with**  
326 **a solicitation process approved by the Commission?**

327 A. Yes. The Company has requested approval of the 2017R RFP from the Commission  
328 and anticipates issuing the Commission-approved RFP to the market in August 2017.  
329 After the 2017R RFP, the Company will provide a supplemental filing in this case  
330 reflecting the resources that were ultimately selected and demonstrating that the  
331 selected resources were chosen in compliance with the Commission-approved  
332 solicitation process.

333 **PROPOSED RATEMAKING TREATMENT**

334 **Q. Please describe the Company's proposed ratemaking treatment for the investment**  
335 **in the Combined Projects.**

336 A. The Company proposes a new RTM to address the proper ratemaking treatment to  
337 match the costs and benefits of the Combined Projects until the costs and benefits are  
338 fully reflected in base rates. This primarily includes new capital and operating costs,  
339 net power costs savings not already captured in the Company's Energy Balancing

340 Account (“EBA”), and PTC benefits. This mechanism will align the costs and benefits  
341 so that customers receive the benefits from the Combined Projects while shareholders  
342 receive appropriate cost recovery of the prudent investments. Once the costs are fully  
343 reflected in base rates, the Company proposes that the mechanism continue to track and  
344 true-up PTCs on an ongoing basis because the PTC value is significant and because the  
345 wind generation is highly dependent on weather, varying from year-to-year as weather  
346 patterns fluctuate, with the actual output beyond the control of the Company. Mr.  
347 Larsen’s testimony provides additional detail on the proposal and further demonstrates  
348 how it is consistent with the public interest.

#### 349 CONCLUSION

350 **Q. What is your recommendation to the Commission?**

351 A. The Company recommends that the Commission approve the Combined Projects on  
352 the timeline requested by the Company. The Combined Projects will provide  
353 substantial customer benefits and advance the public interest in Utah. The Company  
354 also requests that the Commission approve the Company’s proposed ratemaking  
355 treatment for the investment in the Combined Projects.

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

357 A. Yes.