

Docket No. 20000-__-EA-17
Witness: Cindy A. Crane

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

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, Suite
3 310, Salt Lake City, Utah 84116. I am the President and Chief Executive Officer of
4 Rocky Mountain Power (“Company”), a division of PacifiCorp.

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

6 A. I joined PacifiCorp in 1990. Since then, I 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 the Company’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 the Company’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 in proceedings before public service commissions in all
17 states in which the Company serves customers, including before the Wyoming Public
18 Service Commission (“Commission”).

19 **PURPOSE AND SUMMARY OF TESTIMONY**

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

21 A. My testimony explains the significant benefits to customers from repowering the
22 Company’s existing wind resources and outlines why wind repowering is a time-
23 limited resource opportunity for customers that is both prudent and in the public

1 interest. I describe the Company’s proposal for innovative or nontraditional ratemaking
2 treatment, and request continued cost recovery of equipment replaced by repowering.
3 I also briefly describe the financial ability of the Company to make the wind
4 repowering investment.

5 **Q. Please summarize your testimony.**

6 A. The Company plans to upgrade or “repower” 999.1 megawatts (“MW”) of Company-
7 owned, installed wind capacity (594 MW in Wyoming, 304.6 MW in Washington, and
8 100.5 MW in Oregon) with longer blades and new technology to generate more energy
9 in a wider range of wind conditions. The upgrades are expected to increase output of
10 the wind facilities by 19 percent on average, extend the operating life of the facilities,
11 and allow the facilities to requalify for federal production tax credits (“PTCs”) for an
12 additional 10 years. To receive the full PTC benefits for customers, the repowered
13 facilities must be commercially operational by the end of 2020.

14 Although wind repowering will cost an estimated \$1.13 billion, the benefits
15 generated by the repowering will produce net savings for customers over the life of the
16 repowered facilities. In addition to customer benefits, wind repowering also advances
17 the public interest in Wyoming by bringing new jobs and needed revenue to the state,
18 and further diversifies Wyoming’s energy economy.

19 Because of the magnitude of this capital investment and the overall scope of the
20 project, the Company requests that the Commission find that wind repowering is
21 prudent now, before the Company commits to the costs of major equipment orders and
22 equipment installation contracts. The Company also requests that the Commission
23 approve its proposed ratemaking treatment for the repowering investment and its

1 proposed continued recovery of the equipment replaced at the time of repowering. The
2 Company's requests rely on W.S. § 37-2-121, which authorizes the Commission to
3 approve "innovative, incentive or nontraditional rate making methods" if they are
4 supported by substantial evidence and "consistent with the public interest." As
5 described here and in the testimony of the Company's other witnesses, wind repowering
6 provides substantial customer benefits and furthers the public interest. The Company's
7 request for approval at this time gives the Commission a meaningful opportunity to
8 evaluate the wind repowering project to ensure that the project is reasonable, prudent,
9 and in the public interest.

10 Repowering is a time-limited resource opportunity for customers because of the
11 challenges of meeting the 2020 PTC-qualification deadline. Therefore, the Company
12 requests that the Commission issue its order approving wind repowering by March 16,
13 2018, to provide the Company sufficient time to execute the necessary contracts and
14 complete the undertaking.

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

16 A. The Company's filing is supported by testimony from the following witnesses:

17 **Mr. Timothy J. Hemstreet**, Director of Renewable Energy Development,
18 provides a detailed scope of the Company's wind repowering project, including
19 technical details, qualification for PTC benefits, increased energy production, reduced
20 operating costs, and continued system reliability. Mr. Hemstreet also addresses the
21 status and timing of wind-turbine-generator ("WTG") equipment purchases,
22 construction requirements, anticipated construction timelines, and the disposition of
23 removed equipment.

1 rotors with longer blades and new nacelles with higher-capacity generators. These plant
2 upgrades significantly increase energy output without changing the footprint, towers,
3 foundations, and energy collector systems of the wind facilities. Longer blades allow
4 wind turbines to produce more energy over a wider range of wind speeds. The nacelle
5 is the housing that sits atop the tower and contains the gear box, low- and high-speed
6 shafts, generator, controller, and brake. The new nacelles will include sophisticated
7 control systems and more robust components necessary to handle the greater loads that
8 come with longer blades.

9 Together, the new rotors and nacelles are estimated to increase generation from
10 the repowered turbines by 13 to 35 percent, resulting in an overall average generation
11 increase of 19 percent (or 21 percent after new interconnection agreements are
12 executed). Mr. Hemstreet's testimony provides greater detail on the technical aspects
13 of the wind repowering project.

14 **Q. Which wind resources will be repowered?**

15 A. The Company proposes to repower most of its Wyoming wind fleet (Glenrock I,
16 Glenrock III, Rolling Hills, Seven Mile Hill I, Seven Mile Hill II, High Plains,
17 McFadden Ridge, and Dunlap); the Marengo I, Marengo II and Goodnoe Hills facilities
18 in Washington; and the Leaning Juniper facility in Oregon. This represents a total of
19 999.1 MW of installed wind capacity, with 594 MW in Wyoming, 304.6 MW in
20 Washington, and 100.5 MW in Oregon.

21 **Q. What is the expected cost of wind repowering?**

22 A. The Company estimates that wind repowering will cost approximately \$1.13 billion.

1 **Q. Why are you proposing to repower the Company’s wind fleet now?**

2 A. On December 18, 2015, Congress enacted changes to the federal Internal Revenue
3 Code that extended the full value of the PTC for wind energy facilities that begin
4 construction in 2015 and 2016. The Internal Revenue Service (“IRS”) has issued
5 guidance that establishes a “safe harbor” for taxpayers to demonstrate the year a facility
6 will be deemed to “begin construction,” thereby setting the value of the PTC.

7 Repowering the Company’s wind fleet now will allow the resources to requalify
8 for PTCs, which will expire 10 years from the original commercial operation date of
9 the resource (expiration dates range from 2016 through 2020). To maximize the PTC
10 benefit, in December 2016, the Company contracted with General Electric, Inc., and
11 Vestas-American Wind Technology, Inc., for the purchase of new WTG equipment.
12 These safe-harbor equipment purchases allow the repowered facilities to qualify for
13 100 percent of available PTC benefits if they are commercially operational within four
14 calendar years—or by the end of 2020. The Company’s purchases last year were
15 important because wind facilities that begin construction after 2016 and come online
16 after 2020 will receive a 20 percent decrease in the tax benefits that can be passed on
17 to customers each year. Thus, a delay in acquiring the safe-harbor equipment would
18 have made the economics of repowering less attractive and deprived customers of the
19 substantial benefits that can be achieved if repowering is completed by the end of 2020.

20 To meet the 2020 deadline, the Company plans to order the necessary
21 equipment and execute the necessary contracts in early 2018 and complete much of the
22 construction in 2019. The renewal of the PTC has dramatically increased the demand
23 for materials, equipment, and labor for wind facilities. By completing construction in

1 2019, the Company will mitigate the risk of construction delays, or delays associated
2 with the procurement of equipment, and allow sufficient time to meet the 2020
3 deadline.

4 In addition, completing the majority of the construction in 2019 will maximize
5 the value of the existing PTCs, while minimizing the period between the expiration of
6 the prior PTCs and the eligibility for the new PTCs. By achieving commercial operation
7 in 2019 for most of the facilities (Dunlap will be completed in 2020), the Company will
8 also minimize the time during which the wind facilities are ineligible for PTCs.

9 **Q. Is the Company requesting continued cost recovery of the equipment that will be**
10 **replaced as part of the wind repowering project?**

11 A. Yes. The Company is requesting to continue full cost recovery of plant equipment that
12 is replaced due to the wind repowering project. The existing net plant is currently in
13 rates and has been assessed as part of the overall economic evaluation of project
14 benefits to customers. The Company's decision to pursue the wind repowering project
15 is dependent on the Company continuing to recover the investments in these Company-
16 owned wind facilities that are currently included in customer base rates.

17 **Q. Given that wind repowering is a time-limited resource opportunity, what is the**
18 **Company seeking in this case?**

19 A. The Company requests that the Commission issue an order by March 16, 2018,
20 determining the wind repowering project is prudent, approving the continued recovery
21 of replaced plant equipment, and approving the Company's proposed ratemaking
22 treatment. This will allow the Company to execute the necessary contracts and procure
23 the equipment required to achieve commercial operation of all repowered units by

1 December 31, 2020.

2 **CUSTOMER BENEFITS**

3 **Q. What are the customer benefits resulting from wind repowering?**

4 A. The customer benefits resulting from wind repowering derive in part from the fact that
5 repowering allows the Company’s existing wind resources to requalify for federal
6 PTCs—which are then passed through to customers. As noted above, the Company
7 expects repowering to cost approximately \$1.13 billion. The customer benefits,
8 however, are expected to exceed that cost—meaning that wind repowering will save
9 customers money.

10 Wind repowering creates these benefits by:

- 11 • Increasing energy production from the wind facilities between 11 to 35
12 percent because of longer blades and higher-capacity generators;
- 13 • Reducing ongoing operating costs associated with aging wind turbines;
- 14 • Extending the useful lives of the wind facilities by at least 10 years;
- 15 • Reducing customer costs by requalifying the wind projects for PTCs for an
16 additional 10 years; and
- 17 • Improving the ability of the wind facilities to deliver cost-effective,
18 renewable energy into the transmission system through enhanced voltage
19 support and power quality.

20 The repowered facilities will deliver cost-effective energy to Wyoming
21 customers, while saving customers money over the life of the investment.

22 **Q. Did the Company analyze wind repowering in its 2017 IRP?**

23 A. Yes. The Company’s 2017 IRP, which was filed with the Commission April 4, 2017,

1 includes wind repowering as an integral component of the preferred portfolio—
2 meaning that it was selected as a least-cost, least-risk resource option.

3 **Q. Does the Company’s economic analysis demonstrate that the wind repowering**
4 **project will provide net benefits to customers?**

5 A. Yes. The Company’s economic analysis of the wind repowering project demonstrates
6 that it will provide substantial customer benefits. As described in more detail in
7 Mr. Link’s testimony, the Company analyzed nine different scenarios, each with
8 varying natural gas and carbon dioxide (“CO₂”) price assumptions, and all nine
9 scenarios show customer benefits, ranging from \$41 million when assuming low
10 natural gas and zero CO₂ prices to \$589 million when assuming high natural gas and
11 high CO₂ prices. With medium natural gas price and CO₂ price assumptions, wind
12 repowering results in customer benefits of \$359 million.

13 **Q. After the Company filed its 2017 IRP in April, did Company representatives meet**
14 **with Wyoming stakeholders to provide an overview of this filing?**

15 A. Yes. On May 11, 2017, the Company held an informal workshop with Wyoming
16 stakeholders to review the details of its wind repowering proposal and discuss the scope
17 and timing of this filing.

18 **Q. How does the Company plan to reflect the net benefits of wind repowering in**
19 **Wyoming rates?**

20 A. As explained by Company witness Mr. Larsen, the Company proposes a new Resource
21 Tracking Mechanism (“RTM”) to address the proper ratemaking treatment to match the
22 annual costs and benefits of wind repowering until the incremental costs and benefits
23 are fully reflected in base rates, primarily including incremental capital and operating

1 costs, net power costs savings not already captured in the Company's Energy Cost
2 Adjustment Mechanism ("ECAM"), and PTC benefits. This mechanism will align the
3 costs and benefits so that customers receive the full net benefits from the repowering
4 project while shareholders receive appropriate cost recovery of the prudent investment.
5 Once the full costs are reflected in base rates in a general rate case, the Company
6 proposes that the mechanism continue to track only year-to-year changes in PTCs to
7 capture the full impact of the new PTCs.

8 **Q. In addition to the customer benefits outlined above, does wind repowering**
9 **advance the public interest in other ways?**

10 A. Yes. Most of the wind facilities that will be repowered are in Wyoming, and therefore
11 the majority (approximately \$700 million) of the Company's investment, will benefit
12 and diversify the state's economy by: (1) creating approximately 300 construction jobs;
13 (2) increasing tax revenue through the construction process (approximately
14 \$40 million) and between \$1.5 to \$4 million annually through increased wind and
15 property taxes; and (3) by providing safe, reliable, and affordable electricity service.

16 By bolstering wind generation in Wyoming, the Company will help to diversify
17 Wyoming's energy economy and better position both the Company and the state to
18 meet customers' energy needs in the future.

19 **Q. If wind repowering provides such substantial benefits, why is the Company**
20 **seeking approval now?**

21 A. Because of the magnitude of the investment and the scope of the repowering project,
22 the Company wants to provide the Commission and stakeholders an opportunity to
23 review and provide meaningful input into the wind repowering decision before

1 contracts are executed and construction begins. The Company's approach here is
2 consistent with the policy and purpose underlying the stipulation from the Company's
3 2010 general rate case that provided a process to allow the Commission to review and
4 approve certain transmission and environmental capital projects.¹ Although the wind
5 repowering project does not fall under the terms of the 2010 Stipulation, the Company
6 believes that Commission and stakeholders can benefit from the process set forth in the
7 2010 Stipulation, particularly because the magnitude of the wind repowering
8 investment exceeds the magnitude of many of the investments subject to the
9 2010 Stipulation.

10 In addition, it is important that parties understand the rate treatment of the
11 project before the Company makes this significant investment to ensure that the costs
12 and benefits will be properly matched and customers and shareholders will be fairly
13 treated.

14 **Q. How does the Company intend to finance wind repowering?**

15 A. The Company intends to finance the proposed wind repowering through its normal
16 sources of capital, both internal and external, including net cash flow from operating
17 activities, public and private debt offerings, the issuance of commercial paper, the use
18 of unsecured revolving credit facilities, capital contributions, and other sources.
19 Although repowering is a significant investment on the part of the Company, the
20 financial impact will not impair the Company's ability to continue to provide safe and
21 reliable electricity service at reasonable rates.

¹ *In the Matter of the Application of Rocky Mountain Power for Approval of a General Rate Increase*, Docket No. 20000-384-ER-10, Record No. 12702, Memorandum Opinion, Findings and Order Approving Stipulation (Sept. 22, 2011) ("2010 Stipulation").

1 **Q. How will approval of the Company’s application support the Company’s current**
2 **credit rating?**

3 A. Ratings agencies consider the Company’s regulatory treatment when establishing its
4 credit rating, and particularly focus on the treatment of capital investments. Supportive
5 treatment through approval of an investment of this magnitude provides assurance to
6 ratings agencies and helps maintain the Company’s credit rating. A solid credit rating
7 directly benefits customers by ensuring access to capital markets, reducing immediate
8 and future borrowing costs related to the financing needed to support regulatory
9 operations. Strong ratings will often help the Company avoid costly collateral
10 requirements that are typically imposed on lower-rated companies when securing
11 power in the market. If the Company does not have consistent access to the capital
12 markets at reasonable costs, its debt issuances and the resulting costs of constructing
13 the new facilities become more expensive than they otherwise would be.

14 **CONCLUSION**

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

16 A. I recommend that by March 16, 2018, the Commission issue an order finding that the
17 Company’s decision to repower its wind fleet is prudent and in the public interest,
18 approving the Company’s proposals for innovative or nontraditional ratemaking, and
19 for the continued cost recovery of the replaced equipment. Approval will provide
20 certainty to the Company and enable it to move forward with confidence as it embarks
21 on a project of this magnitude on behalf of its customers.

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

23 A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION OF WYOMING

IN THE MATTER OF THE)	
APPLICATION OF ROCKY)	
MOUNTAIN POWER FOR AN ORDER)	DOCKET NO. 20000-__-EA-17
APPROVING WIND REPOWERING)	(RECORD NO. _____)
)	
)	

AFFIDAVIT, OATH AND VERIFICATION

Cindy A. Crane (Affiant) being of lawful age and being first duly sworn, hereby deposes and says that:

Affiant is the President and Chief Executive Officer of Rocky Mountain Power, a division of PacifiCorp, which is a party in this matter.

Affiant prepared and caused to be filed the foregoing testimony. Affiant has, by all necessary action, been duly authorized to file this testimony and make this Oath and Verification.

Affiant hereby verifies that, based on Affiant's knowledge, all statements and information contained within the testimony and all of its associated attachments are true and complete and constitute the recommendations of the Affiant in her official capacity as President and Chief Executive Officer.

Further Affiant Sayeth Not.

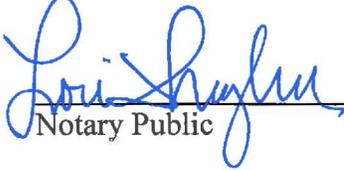
Dated this 29 day of June, 2017



Cindy A. Crane
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STATE OF UTAH)
) SS:
COUNTY OF SALT LAKE)

The foregoing was acknowledged before me by Cindy A. Crane on this 29 day of June, 2017. Witness my hand and official seal.



Notary Public

My Commission Expires: 10/19/2019

