

**REDACTED**

Docket No. 20000-520-EA-17

Witness: Rick A. Vail

BEFORE THE WYOMING PUBLIC SERVICE  
COMMISSION

ROCKY MOUNTAIN POWER

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**REDACTED**

Supplemental Direct Testimony of Rick A. Vail

January 2018

1 **Q. Are you the same Rick A. Vail who previously provided direct and rebuttal**  
2 **testimony in this case on behalf of Rocky Mountain Power (“Company”), a**  
3 **division of PacifiCorp?**

4 A. Yes.

5 **PURPOSE AND SUMMARY OF TESTIMONY**

6 **Q. What is the purpose of your supplemental direct testimony?**

7 A. Based on the results of the 2017R Request for Proposals (“RFP”), I update the status  
8 of the Aeolus-to-Bridger/Anticline line<sup>1</sup> and network upgrades (collectively, the  
9 “Transmission Projects”) that support the Company’s decision to construct or procure  
10 four new wind resources (“Wind Projects”) (collectively, the “Combined Projects”). I  
11 explain the important progress the Company has made on the Transmission Projects,  
12 as well as their decreasing risk.

13 **Q. Please summarize your testimony.**

14 A. I address the following key issues for the Transmission Projects:

- 15 • An update on the status of:
  - 16 ▪ Expected design and cost for the Transmission Projects based on the
  - 17 outcome of the 2017R RFP;
  - 18 ▪ Engineering, Procurement, and Construction (“EPC”) contracts; and
  - 19 ▪ Required easements.
- 20 • Technical analysis demonstrating that the Company’s Aeolus-to-
- 21 Bridger/Anticline line will enable interconnection of up to 1,270 MW of
- 22 additional resources and increase transfer capability by 750 MW from east to

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<sup>1</sup> As defined in my direct testimony at page 2, lines 4–12.

1 west across Wyoming.

- 2 • The need for the Aeolus-to-Bridger/Anticline line, and its integral role in  
3 regional transmission planning.

4 **UPDATE ON THE TRANSMISSION PROJECTS**

5 **Q. Since the rebuttal filing, has the Company maintained the project schedule and**  
6 **cost estimates for the Aeolus-to-Bridger/Anticline line?**

7 A. Yes. The Company has made significant progress and is on track to meet its  
8 development schedule at or below the costs estimated in its direct filing.

9 **Q. Did the results of the 2017R RFP affect the costs or design of the Aeolus-to-**  
10 **Bridger/Anticline line?**

11 A. No. The results of the 2017R RFP did not affect the estimated costs or the design of the  
12 Aeolus-to-Bridger/Anticline line. The Company is currently in a competitive selection  
13 process for an EPC contractor for the line and the preliminary results of this process  
14 confirm the cost estimates included in the initial filing. As I noted in my rebuttal  
15 testimony, the Aeolus-to-Bridger/Anticline line is approximately 85 percent of the total  
16 costs of the Transmission Projects, and therefore the execution of EPC contracts will  
17 be a significant milestone in confirming final project costs.

18 **Q. What is the current status of the EPC contract?**

19 A. Negotiations are currently ongoing to finalize the terms and conditions, and the  
20 Company expects to complete these negotiations in January 2018. The EPC contracts  
21 for the Aeolus-to-Bridger/Anticline line remain on track to be in place by October 2018.

1 **Q. Have the network upgrades described in your testimony changed because of the**  
2 **final shortlist Wind Projects from the 2017R RFP?**

3 A. Yes, there are changes to the network upgrades resulting from the Wind Projects chosen  
4 for the final shortlist for the 2017R RFP. The Wind Projects are four facilities in  
5 Wyoming totaling approximately 1,170 MW—McFadden Ridge II, TB Flats I and II,  
6 Cedar Springs, and Uinta.

7 **Q. Please describe the updated network upgrades required to interconnect the Wind**  
8 **Projects.**

9 A. The 230 kV network upgrades for the McFadden Ridge II and TB Flats I and II projects  
10 that were identified in my direct testimony are still necessary to interconnect these  
11 Wind Projects because they were selected for the 2017R RFP final shortlist.<sup>2</sup> In  
12 addition, the McFadden Ridge II project will require a new three-breaker 230-kV point-  
13 of-interconnection ring-bus substation on the High Plains-to-Foote Creek 230-kV line,  
14 roughly two miles southwest of High Plains substation, as shown in Exhibit  
15 RMP\_\_\_(RAV-1SD). There are also additional network upgrades required for the other  
16 projects that were selected through the 2017R RFP.

17 First, to interconnect the Cedar Springs project, the Company must install two  
18 230-kV (3000 ampere) breakers and two line positions with associated switches at  
19 Windstar substation. The Company must also install high-speed relaying to switch off  
20 the shunt capacitor banks at the Riverton 230 kV bus, which are required for high-

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<sup>2</sup> Details regarding these network upgrades can be found in my direct testimony (page 2, lines 13–23) and exhibits (RMP\_\_\_(RAV-1); RMP\_\_\_(RAV-7) through RMP\_\_\_(RAV-18)). The Ekola project that was also included as a benchmark resource in the initial filing did not require network upgrades to interconnect, and therefore all network upgrades discussed in my direct testimony were related to the McFadden Ridge II and TB Flats I and II projects.

1 voltage conditions, and rebuild approximately 56 miles of the Dave Johnston-Amasa-  
 2 Difficulty-Shirley Basin 230-kV line with 2-1272 bundled conductor.

3 Second, to interconnect the Uinta project, the Company must construct a new  
 4 three-breaker 138-kV point-of-interconnection ring-bus substation southwest of the  
 5 Whitney Canyon Tap (near structure 116), with associated switches and line  
 6 terminations. The Company must also reconductor approximately 13.7 miles of the  
 7 Q0715 - Railroad 138 kV line with 1-1272 ACSR/phase (line has 1-795 ACSR/phase),  
 8 and modify the existing Naughton remedial action scheme (“RAS”) to allow redundant  
 9 communication to the project.

10 Exhibit RMP\_\_\_(RAV-1SD) details the specifics of these additional network  
 11 upgrades.

12 **Q. What are the updated costs for the network upgrades?**

13 A. Confidential Table 1 summarizes the updated costs for the network upgrades:

14 **Confidential Table 1**

Network Upgrades	
ITEM	VALUE
Transmission Line	\$ [REDACTED]
Substation	\$ [REDACTED]
Engineering	\$ [REDACTED]
Right-of-Way Acquisition	\$ [REDACTED]
PM/Environmental/Support	\$ [REDACTED]
Indirects	\$ [REDACTED]
	[REDACTED]
<b>TOTAL</b>	<b>\$ [REDACTED]</b>

15 **Q. Have these costs been included in the updated economic analysis included in**  
 16 **Company witness Mr. Rick T. Link’s testimony?**

17 A. Yes.

1 **Q. Why did the network upgrade costs increase by approximately [REDACTED] million**  
2 **compared to the Company's initial estimate?**

3 A. The selection of the Cedar Springs and Uinta projects to the 2017R RFP shortlist  
4 required additional network upgrade costs that were not included in the original  
5 estimate. Notably, however, although the network upgrade costs increased relative to  
6 the initial filing, the overall costs of the Combined Projects remains roughly unchanged  
7 even though customers are now receiving substantially more capacity for the same  
8 overall project cost of approximately \$2 billion, as discussed further by Mr. Link in his  
9 supplemental direct testimony.

10 **Q. Will these additional network upgrades delay the completion of the Transmission**  
11 **Projects?**

12 A. No. The types of additional upgrades needed are fairly routine projects that the  
13 Company performs in the ordinary course of business, and they can be completed well  
14 before the end of 2020. Thus, the status of the Transmission Project design work I  
15 described in my rebuttal testimony remains unchanged.

16 **Q. Have you included the information required by Rule Chapter 3, Section 21, for**  
17 **the new facilities described above?**

18 A. Yes. Exhibit RMP\_\_\_(RAV-1SD) submitted with this supplemental direct testimony,  
19 along with the exhibits that were submitted with my direct testimony, include the  
20 relevant information required for the Commission to grant a CPCN for the additional

1 network upgrades.<sup>3</sup>

2 **Q. What is the current status of the EPC contracts for the network upgrades?**

3 A. The additional network upgrades have not materially changed the Company's timeline  
4 or process for finalizing the EPC contracts. The Company still intends to competitively  
5 source both the transmission line and substation construction via existing term "Line  
6 Service Agreements" the Company holds with over one dozen qualified contractors  
7 capable of working in Wyoming.

8 **Q. What is the status of the technical studies that are necessary to support the**  
9 **Transmission Projects?**

10 A. Now that the Wind Projects have been identified through the 2017R RFP, the Company  
11 has begun additional studies and technical analysis. I expect these studies and analyses  
12 to confirm that the Aeolus-to-Bridger/Anticline line will increase the system's stiffness  
13 factor sufficiently to enable interconnection of up to 1,270 MW of additional resources  
14 and increase transfer capability by 750 MW from east to west across Wyoming.

15 **Q. What is the status of the Company's acquisition of rights-of-way necessary for the**  
16 **Transmission Projects?**

17 A. The Company has contacted all landowners where easements for access or transmission  
18 rights-of-way (or both) are required. To date, 24 offers of options for rights-of-way  
19 have been issued to landowners. Four landowners have accepted and three additional  
20 landowners have provided counteroffers. All remaining offers for the 500 kV project

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<sup>3</sup> It is my understanding that it is unclear whether the Company requires a CPCN for the network upgrades related to the Uinta project because the upgrades are less than 230 kV and are the type of upgrades performed in the ordinary course of business. *See* W.S. § 37-2-205(e) (requiring notice only for transmission projects greater than 230 kV); Rule Chapter 3, Section 21(a)(ii) (CPCN not required for if a project is in the ordinary course of business). If a CPCN is not required, the Company requests that the Commission view this testimony and accompanying exhibit as the notice required by Commission Rule Chapter 21, Section 21(b)(i). The Company waives the requirement that the Commission decide if a CPCN is required within 10 days.

1 will be issued by January 31, 2018. The acquisition of rights-of-way remains on track  
2 to support the planned construction start date of April 1, 2019.

3 **Q. Does the Aeolus-to-Bridger/Anticline line remain a necessary project that is in the**  
4 **public interest even if the Wind Projects are not developed?**

5 A. Yes. There is an independent need for the Aeolus-to-Bridger/Anticline line, even if the  
6 new Wind Projects are not constructed because it will improve system performance and  
7 reliability and directly serve customers. Even if the Wind Projects are not approved, the  
8 Company's—and region's—long-term transmission plans still call for the construction  
9 of the Aeolus-to-Bridger/Anticline line by 2024. Thus, the Company will need to  
10 construct this transmission line in the near future. The question is whether it is built in  
11 2020 when PTC-eligible wind can offset the costs and produce net benefits for  
12 customers, or in 2024 at full cost to customers.

13 **Q. Does this conclude your supplemental direct testimony?**

14 A. Yes.

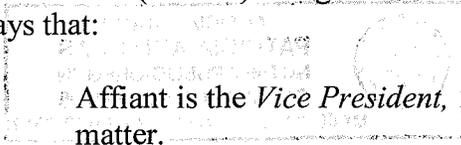
BEFORE THE PUBLIC SERVICE COMMISSION OF WYOMING

IN THE MATTER OF THE )  
APPLICATION OF ROCKY MOUNTAIN )  
POWER FOR CERTIFICATES OF )  
PUBLIC CONVENIENCE AND )  
NECESSITY AND NONTRADITIONAL )  
RATEMAKING FOR WIND AND )  
TRANSMISSION FACILITIES )

DOCKET NO. 20000-520-EA-17  
(RECORD NO. 14781)

AFFIDAVIT, OATH AND VERIFICATION

Rick A Vail (Affiant) being of lawful age and being first duly sworn, hereby deposes and says that:



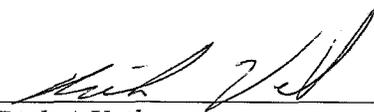
Affiant is the *Vice President, Transmission* for PacifiCorp, which is a party in this matter.

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 his official capacity as *Vice President, Transmission*

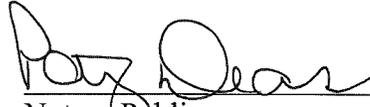
Further Affiant Sayeth Not.

Dated this 11 day of January, 2018

  
Rick A Vail  
Vice President, Transmission  
825 NE Multnomah St, Suite 1600  
Portland, OR 97232  
503-813-6938

STATE OF Oregon )  
 ) SS:  
COUNTY OF Multnomah )

The foregoing was acknowledged before me by *Rick A. Vail* on this 1<sup>th</sup> day of January, 2018. Witness my hand and official seal.

  
\_\_\_\_\_  
Notary Public

My Commission Expires:  
3-12-19

