

Docket No. 20000-520-EA-17  
Witness: Rick A. Vail

BEFORE THE WYOMING PUBLIC SERVICE  
COMMISSION

ROCKY MOUNTAIN POWER

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Supplemental Rebuttal Testimony of Rick A. Vail

March 2018

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

3 A. Yes.

4 **PURPOSE AND SUMMARY OF SUPPLEMENTAL REBUTTAL TESTIMONY**

5 **Q. What is the purpose of your supplemental rebuttal testimony in this proceeding?**

6 A. My testimony supports the Company’s application for certificates of public  
7 convenience and necessity (“CPCNs”) to construct the Aeolus-to-Bridger/Anticline  
8 transmission line and the network upgrades (“Transmission Projects”) needed to  
9 construct or acquire the Ekola Flats, TB Flats I and II, Cedar Springs, and Uinta  
10 projects, which are the four new wind resources (“Wind Projects”) included on the final  
11 shortlist for the 2017R Request for Proposals (“RFP”). Specifically, my testimony  
12 responds to the March 2, 2018 testimony filed by Bryce J. Freeman, on behalf of the  
13 Wyoming Office of Consumer Advocate (“OCA”), James R. Dauphinais, on behalf of  
14 the Wyoming Industrial Energy Consumers (“WIEC”), Mark D. Milburn, on behalf of  
15 Rock Creek Wind, LLC (“Rock Creek”), and Kristy V. Thompson, on behalf of the  
16 Rocky Mountain Sheep Company.

17 **Q. Please summarize your testimony.**

18 A. First, many of the Transmission Projects risks have decreased over the course of this  
19 case. Project costs are now more certain, and final contracting and construction is on-  
20 schedule; the Company has made substantial progress scoping, developing, and  
21 preparing the projects to submit the next round of permit applications necessary for  
22 construction and operation; and the ongoing study process continues to affirm that the  
23 Transmission Projects will deliver the expected benefits. Based on its extensive

1 experience developing comparable transmission resources, the Company is confident  
2 that it can deliver the Transmission Projects on-time and at the cost estimates included  
3 in my testimony.

4 Second, the Company did not mismanage its generator interconnection queue  
5 or attempt to use its generator interconnection queue to bias the outcome of the 2017R  
6 RFP, as certain parties assert. The Company’s treatment of all projects in its generator  
7 interconnection queue, whether bidders or not, was consistent with the terms and  
8 conditions of its Open Access Transmission Tariff (“OATT”).

9 **TRANSMISSION PROJECT RISK**

10 **Q. Mr. Dauphinais claims that the Transmission Projects risks have “quite possibly”**  
11 **increased since he filed direct testimony on November 20, 2017 (Dauphinais, Supp.**  
12 **Direct, page 4, lines 18-21). Do you agree?**

13 A. No. Relying on the additional network upgrades identified after the final shortlist was  
14 established, Mr. Dauphinais claims “as a general principle, the more expensive and  
15 complex a project is, the greater the risks involved.” (Dauphinais, Supp. Direct, page  
16 4, lines 20-21). But his testimony ignores several relevant facts that indicate decreasing  
17 risk.

18 First, the Company confirmed through a competitive market solicitation that the  
19 cost estimate for the Aeolus-to-Bridger/Anticline transmission line is valid. Because  
20 the cost of the Aeolus-to-Bridger/Anticline line is approximately 85 percent of the total  
21 cost of the Transmission Projects, cost certainty for that piece decreases the cost risk  
22 for the Transmission Projects as a whole.

23 Second, since November 20, 2017, the Company completed all the

1 interconnection restudies required for the Wind Projects. Although the restudies  
2 indicate the need for additional network upgrades, there is now greater certainty—and  
3 therefore less risk—associated with the required facilities and their costs. The  
4 interconnection restudies also confirm that the network upgrades are fairly routine  
5 projects that the Company regularly performs in the ordinary course of business.

6 Third, the Company is steadily progressing through the process to acquire  
7 necessary easements and rights-of-way in parallel with the regulatory-approvals  
8 process and, based on the progress to date, remains on track to secure the necessary  
9 easements and rights-of-way to support the construction schedule.

10 Fourth, the Company performed additional transmission studies that confirm  
11 that the construction of the Transmission Projects will allow the interconnection of all  
12 of the Wind Projects.

13 Fifth, the Company has made significant progress towards obtaining its  
14 remaining permits and authorizations including the following:

- 15 • The Company received notice to proceed from the Bureau of Land  
16 Management (“BLM”) for 30 percent of the Plan of Development  
17 appendices required for construction, and will be submitting an  
18 additional 50 percent of required appendices in first quarter 2018.  
19 Preparation and approval of the final appendices remain on track to  
20 secure the Plan of Development in accordance with the project schedule.
- 21 • The Company submitted the Class III Cultural report to the BLM. This  
22 requirement is on track for completion in accordance with the project  
23 schedule.

1 • The Company received confirmation of the Aquatic Resources  
2 Inventory from the U.S. Army Corps of Engineers regarding acquisition  
3 of the required wetlands permits. This significant progress, in  
4 accordance with the project schedule, mitigates most of the project  
5 permitting risk.

6 Mr. Dauphinais’s simplistic assessment that the project risk increased just  
7 because additional network upgrades are needed ignores the substantial progress that  
8 has occurred over the last several months and the fact that the Company has been  
9 managing and mitigating project risk from the beginning of this case. When examined  
10 holistically, the costs and benefits of the Transmission Projects are now more certain  
11 and the development risks continue to decrease.

12 **Q. Mr. Freeman reiterates the same concerns he expressed in his direct testimony**  
13 **related to the risk that the Transmission Projects would not be completed by the**  
14 **end of 2020, thereby jeopardizing the Wind Projects’ eligibility for federal wind**  
15 **production tax credits (“PTCs”) (Freeman Supp. Direct, page 11, line 16 to page**  
16 **17, line 3). How do you respond?**

17 A. In addition to the response provided in my rebuttal testimony (Vail Rebuttal, page 14,  
18 line 11 to page 21, line 6), and as noted above, development efforts that decrease the  
19 risks of delay are continuing to progress. And while landowner interest in this case  
20 suggests that acquisition of the necessary rights-of-way may be more complicated than  
21 anticipated, as Mr. Freeman suggests (Freeman Supp. Direct, page 11, line 7–15), the  
22 Company has made good progress with many landowners, and the presence of a few in  
23 this case does not indicate that the acquisition of the necessary easements or rights-of-

1 way will be more costly than expected, as explained in more detail in the testimony of  
2 Mr. Roderick D. Fisher.

3 **TRANSMISSION LINE NEED**

4 **Q. Mr. Dauphinais testifies that “for the first time,” the Company claims “that there**  
5 **is a need for the Aeolus-to-Bridger/Anticline line, even if the new Wind Projects**  
6 **are not constructed, because it will improve system performance and reliability**  
7 **and directly service customers,” and that this “eleventh hour” claim should be**  
8 **given no weight (Dauphinais Supp. Direct, page 9, lines 1–10). Is this a fair**  
9 **characterization of your testimony?**

10 A. No. Mr. Dauphinais’s testimony ignores the fact that the Company’s direct and rebuttal  
11 testimonies described extensively why there is a need for the Aeolus-to-  
12 Bridger/Anticline transmission line with or without the Wind Projects. In my direct  
13 testimony, I explained that the Aeolus-to-Bridger/Anticline line is necessary to relieve  
14 *existing* congestion on the system (Vail Direct, page 4, lines 4–7) and that without the  
15 new transmission line the Company’s ability to deliver resources to load will remain  
16 constrained (Vail Direct, page 22, lines 17–18). I further described how the North  
17 American Electric Reliability Corporation’s and Western Electricity Coordinating  
18 Council’s standards and criteria influenced the need for the Aeolus-to-  
19 Bridger/Anticline line (Vail Direct, page 19, line 20 to page 22, line 14). The Company  
20 made it clear that the Aeolus-to-Bridger/Anticline line has been an integral component  
21 of the long-term transmission plan for the region long before the Wind Projects were  
22 contemplated (Vail Direct, page 5, lines 3–8).

23 I then reiterated these points in my rebuttal testimony, responding explicitly to

1 the argument that there was no need for the Aeolus-to-Bridger/Anticline line (Vail  
2 Rebuttal, page 11, line 1 to page 14, line 10). I testified that there is a need for the  
3 Aeolus-to-Bridger/Anticline line independent of the Wind Projects because the line  
4 will: (1) relieve congestion and increase transmission capacity across Wyoming,  
5 allowing interconnection of new generation resources and enabling more efficient and  
6 flexible dispatch and management of existing resources; (2) provide critical voltage  
7 support to the transmission system; (3) improve system reliability; and (4) reduce  
8 energy and capacity losses (Vail Rebuttal, page 12, line 18 to page 13, line 7). As further  
9 explained in my rebuttal testimony, the Aeolus-to-Bridger/Anticline line and the Wind  
10 Projects are mutually dependent on one another because the Wind Projects affect the  
11 timing of the construction of the line, but not the need (*See, e.g.*, Vail Rebuttal, page  
12 13, lines 3–7). Mr. Dauphinais ignores my rebuttal testimony entirely and, in doing so,  
13 mischaracterizes the record on this point.

14 **Q. Mr. Dauphinais also argues that the fact the Aeolus-to-Bridger/Anticline line is**  
15 **identified in long-term transmission plans does not mean that it will “ultimately**  
16 **be needed” (Dauphinais Supp. Direct, page 9, lines 16–18). How do you respond**  
17 **to this claim?**

18 A. I disagree. While it is true that long-term transmission plans evolve as circumstances  
19 change over time, they remain the most important tool the Company has for  
20 determining the need for transmission resources, particularly because of the long lead  
21 time required for permitting and construction of major transmission facilities. Mr.  
22 Dauphinais’s casual dismissal of resource planning processes is contrary to well  
23 established requirements from both this Commission and the Federal Energy

1 Regulatory Commission (“FERC”), both of which require robust long-term planning  
2 for transmission resources.

3 **Q. Do any other witnesses address the independent need for the Aeolus-to-**  
4 **Bridger/Anticline line?**

5 A. Yes. OCA witness Mr. Freeman testifies that the Transmission Projects will provide  
6 reliability benefits and relieve congestion on PacifiCorp’s eastern Wyoming system.  
7 Specifically, Mr. Freeman states (1) that the system is “heavily utilized” and no  
8 additional resources can be interconnected without transmission upgrades; (2) that the  
9 Transmission Projects will help the Company more efficiently dispatch its resources;  
10 and (3) that the Aeolus-to-Bridger/Anticline line will have a positive impact on voltage  
11 support and dynamic stability in eastern Wyoming and will reduce line losses (Freeman  
12 Supp. Direct, page 4, line 13 to page 5, line 8).

13 **Q. Has the proposed timeline for construction of Segment D of the Energy Gateway**  
14 **Project (which includes the Aeolus-to-Bridger/Anticline line) changed as**  
15 **dramatically as Mr. Dauphinais suggests (Dauphinais Supp. Direct, page 10, lines**  
16 **3–13)?**

17 A. No. In the 2015 IRP, filed on March 31, 2015, Segment D was scheduled to be in-  
18 service by 2024. This timing was the same in the 2015 IRP Update, filed on March 31,  
19 2016. In the 2017 IRP, the only change related to Segment D involved the accelerated  
20 construction of Segment D.2 (the Aeolus-to-Bridge/Anticline line) to take advantage  
21 of PTCs by enabling the interconnection of additional wind resources.

1 **Q. Are there any other regional transmission plans that also indicate a need for the**  
2 **Aeolus-to-Bridger/Anticline line exists?**

3 A. Yes. The Aeolus-to-Bridger/Anticline line is included in the most recent Regional  
4 Transmission Plan prepared by the Northern Tier Transmission Group (“NTTG”),  
5 which was published January 9, 2018.

6 **Q. Who is the NTTG?**

7 A. The NTTG is a regional planning forum that fulfills the transmission planning  
8 requirements of FERC Order 1000. NTTG members include regional utilities,  
9 consumer groups, and regulators. Both the Wyoming Public Service Commission and  
10 the Wyoming Office of Consumer Advocate are members of NTTG.

11 **Q. Why did the NTTG include the Aeolus-to-Bridger/Anticline line in its most recent**  
12 **Regional Transmission Plan?**

13 A. NTTG concluded that the “NTTG area would be reliably served in the year 2026  
14 only by including” several proposed transmission projects, including the Aeolus-to-  
15 Bridger Anticline line.<sup>1</sup> While the NTTG plan is not intended to replace or supplant  
16 the Company’s more detailed integrated resource planning, the fact that the Aeolus-  
17 to-Bridger/Anticline line is included in the regional plan as a necessary resource  
18 provides additional support for its construction.

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<sup>1</sup> NTTG 2016-2017 Regional Transmission Plan at 24 (Jan. 9, 2018) (available online at [https://www.nttg.biz/site/index.php?option=com\\_docman&view=list&slug=2016-2017-regional-transmission-plan-final&Itemid=31](https://www.nttg.biz/site/index.php?option=com_docman&view=list&slug=2016-2017-regional-transmission-plan-final&Itemid=31))

1 **INTERCONNECTION QUEUE**

2 **Q. Mr. Milburn claims that the Company improperly cut-off bidders in the 2017R**  
3 **RFP if the project's interconnection queue position was lower than Q0712**  
4 **(Milburn Direct Supp., page 6, line 1 to page 7, line 11).<sup>2</sup> How do you respond?**

5 A. As required by FERC and PacifiCorp's OATT, PacifiCorp adheres to a sequential queue  
6 process to evaluate generator interconnection applications. More specifically, under the  
7 OATT, to properly identify a generator's interconnection requirements and determine  
8 cost responsibility for system improvements in an area with multiple proposed  
9 generator interconnections, each project must be evaluated at full output, in sequential  
10 order, and with the assumption that projects that are higher in the interconnection queue  
11 and projects with executed interconnection agreements are in-service. This is critical  
12 in identifying the proper amperage and fault duty required for circuit breakers, circuit  
13 switches, etc., as well as amperage requirements for substation bus work and  
14 transmission lines. To evaluate a project in isolation and out of sequential queue order  
15 would not only be inconsistent with OATT requirements, but would also result in  
16 deficient facility requirements and expose the Company and its retail customers to  
17 considerable costs for infrastructure upgrades that are required to operate in a safe and  
18 reliable manner.

19 In restudying the interconnection queue with the revised assumption that  
20 segment D.2 would be in service by the end of 2020, the Company determined that  
21 projects through queue position 0712 could reliably interconnect with the construction  
22 of segment D.2 and without the need to construct other elements of the long-term

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<sup>2</sup> The lower in the interconnection queue a project is, the higher the project's interconnection queue number.

1 transmission plan. Beginning with the system impact study for queue position 0713,  
2 there is a need to construct additional elements of the long-term transmission plan to  
3 allow reliable interconnection of additional projects.

4 For example, the Q0713 system impact study identified multiple 230 kilovolt  
5 (“kV”) line overloads for loss of the 500 kV elements, even after employing the  
6 proposed Aeolus West generation dropping scheme. Other significant improvements  
7 were identified as well. The Q0713 project therefore triggers the need for substantial  
8 mitigation in east Wyoming to interconnect. The study determined that a new line from  
9 Aeolus to Clover, which is part of the Company’s long-term transmission plan for this  
10 area, is necessary to mitigate the 500 kV outages. Because these major system  
11 improvements cannot be in-service by the 2020 timeframe identified in the RFP, Q0713  
12 could not meet the basic criteria to be included in the final shortlist.

13 Given the sequential nature of interconnection studies, all projects lower than  
14 Q0713 in the interconnection queue that are located in the same constrained area as  
15 Q0713 would require at least the Aeolus to Clover line and, like Q0713, could not be  
16 in-service by 2020.

17 Finally, as discussed by Mr. Rick T. Link, both independent evaluators that  
18 oversaw the 2017R RFP process agreed with the Company’s assessment of the viability  
19 of projects located lower in the interconnection queue than Q0712.

1 **Q. Mr. Milburn also claims that the evaluation of bids in the 2017R RFP did not fully**  
2 **use the 1,510 megawatts (“MW”) of generation interconnection capacity that will**  
3 **result from the construction of the Aeolus-to-Bridger/Anticline transmission line**  
4 **(Milburn Direct Supp., page 8, line 3 to page 9, line 3). How do you respond?**

5 A. I disagree. As the Company has described, the Transmission Projects will allow  
6 interconnection of up to 1,510 MW of new wind facilities. But the 2017R RFP was  
7 allowed to select up to 1,270 MW of wind resources that would rely on the Aeolus-to-  
8 Bridger/Anticline line because of an existing 240-MW qualifying facility (“QF”) with  
9 an executed interconnection agreement. Mr. Milburn claims that the QF is located in  
10 Montana and therefore will not rely on the Aeolus-to-Bridger/Anticline line. This is  
11 incorrect. It is true that the QF is located in Montana, but it will nonetheless still rely  
12 on the Aeolus-to-Bridger/Anticline line for interconnection.

13 Mr. Milburn also claims that the QF has a suspended interconnection queue  
14 position, so it should not have been included in the calculation of the 1,510 MW of new  
15 resources that could be interconnected. But this, too, is incorrect. Projects are permitted  
16 to suspend construction on their interconnection for periods of up to three years under  
17 Section 5.16 of the Company’s OATT. Suspensions are therefore not indefinite.  
18 Importantly, interconnection customers are permitted to come out of suspension and  
19 continue with their interconnection, and the Company must honor those rights and the  
20 associated timing. With respect to Project Q0542, while the project is in suspension,  
21 the Company cannot assume that its current suspension will lead to its termination,  
22 which Mr. Milburn seems to suggest. In addition, the timing of that project coming out  
23 of suspension (which Mr. Milburn points out would be October 2018) led us to account

1 for that project on Segment D.2.

2 **MISCELLANEOUS ISSUE**

3 **Q. Ms. Thompson claims that additional wind resources may damage the grid**  
4 **(Thompson Supp., page 6, lines 127–129). Is this a legitimate concern?**

5 A. Absolutely not. The Company operates its generation and transmission resources in  
6 compliance with all applicable reliability and performance requirements. There is no  
7 evidence that the new wind resources will cause any damage to the transmission grid  
8 in Wyoming or otherwise adversely impact the area’s existing electrical resources.

9 **CONCLUSION**

10 **Q. Does this conclude your supplemental rebuttal testimony?**

11 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

Richard 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 12 day of March, 2018

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

STATE OF Oregon )  
 ) SS:  
COUNTY OF Multnomah )

The foregoing was acknowledged before me by *Richard Vail* on this 12<sup>th</sup> day of March, 2018. Witness my hand and official seal.

  
Notary Public

My Commission Expires:  
March 12, 2019

