

Docket No. 20000-520-EA-17
Witness: Chad A. Teply

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

Second Supplemental Direct Testimony of Chad A. Teply

February 2018

1 **Q. Are you the same Chad A. Teply who previously submitted testimony in this**
2 **proceeding on behalf of Rocky Mountain Power (“the Company”), a division of**
3 **PacifiCorp?**

4 A. Yes.

5 **PURPOSE AND SUMMARY OF TESTIMONY**

6 **Q. What is the purpose of your second supplemental direct testimony in this**
7 **proceeding?**

8 A. I address the limited change to the final shortlist of the Company’s 2017R Request for
9 Proposals (“2017R RFP”) by updating my previous testimony to describe the new wind
10 resources (“Wind Projects”) selected as final shortlist resources in the 2017R RFP and
11 explain how the Wind Projects compare to the original proxy-benchmark resources
12 incorporated into my direct testimony. I also provide the information required by
13 Wyoming Public Service Commission (“Commission”) Rule Chapter 3, Section 21
14 related to certificates of public convenience and necessity (“CPCNs”) for the Wind
15 Projects and the associated facilities necessary to interconnect the Wind Projects.

16 **Q. Please summarize your testimony.**

17 A. The Company has updated the final shortlist for the 2017R RFP and replaced the
18 McFadden Ridge II project with the Ekola Flats project, a benchmark included in the
19 Company’s initial filing. The Ekola Flats project has remained substantively identical
20 to the project described in my direct testimony. The Company is on track to
21 successfully deliver the Combined Projects by year-end 2020 through timely
22 development, procurement, and implementation. All of the steps taken by the Company
23 ensure that the Wind Projects will qualify for production tax credits (“PTCs”).

1 **SECOND SUPPLEMENTAL DIRECT TESTIMONY**

2 **Q. Please describe any changes to the Wind Projects selected to the 2017R RFP final**
3 **shortlist since the Company’s January 16, 2018, supplemental direct testimony**
4 **filing.**

5 A. There is one change to the final shortlist, the 109 megawatt (“MW”) McFadden Ridge
6 II Company benchmark project has been replaced by the 250 MW Ekola Flats
7 Company benchmark project. Thus, the Wind Projects selected to the 2017R RFP final
8 shortlist are still four facilities in Wyoming, which now total approximately 1,311 MW:

- 9 1. Ekola Flats – 250 MW Company benchmark;
- 10 2. TB Flats I and II (combined into single project) – 500 MW Company
11 benchmark;
- 12 3. Cedar Springs – 400 MW third-party build-transfer and power purchase
13 agreement; and
- 14 4. Uinta – 161 MW third-party build-transfer.

15 **Q. How do these projects relate to the benchmark projects included in the initial**
16 **application?**

17 A. The Ekola Flats and TB Flats I and II projects were benchmark projects included in the
18 Company’s initial application. The Cedar Springs and Uinta projects were not included
19 in the Company’s initial application, but were included in the Company’s January 16,
20 2018, supplemental filing.

21 **Q. Has the Ekola Flats project substantively changed since the Company provided**
22 **detailed information in its initial application?**

23 A. No. The Ekola Flats project selected to the updated final shortlist is substantively

1 identical to the project described in the Company’s direct testimony (Teply Direct, page
2 18, lines 7-22 through page 19, lines 1-10; Confidential Exhibit RMP__(CAT-1)).
3 Ekola Flats is still a nominal 250 MW wind facility located in Carbon County,
4 Wyoming. It is currently being developed by a third-party under a build-transfer
5 agreement (“BTA”) and will be delivered by the Company under an engineer, procure,
6 and construct (“EPC”) contractual structure, with a turbine supply agreement (“TSA”)
7 being the other major commercial agreement for the project. Ekola Flats is expected to
8 have approximately 64 2.3-MW-to-4.2-MW wind turbine generators. The facility will
9 consist of an electrical collection system, one (two, if more economic) 34.5-kilovolt
10 (“kV”) to 230-kV collector substation, 230-kV breakers, and 230-kV infrastructure
11 between the wind project and the point-of-interconnection substation, meteorological
12 towers, access roads, required communication and control facilities (*e.g.*, metering,
13 hardware, software, and associated communication circuits and other equipment), and
14 an operations and maintenance (“O&M”) building.

15 **Q. What are the total updated costs for the Wind Projects?**

16 A. The Wind Projects are estimated to cost \$1.46 billion, based on their total nominal
17 capacity of 1,311 MW and recognizing the split procurement attributes of the Cedar
18 Springs facility. This compares to the Company’s initial estimated costs of \$1.37 billion
19 for 860 MW of nominal capacity described in my direct testimony (Teply Direct, page
20 5, line 14).

21 On a cost per kilowatt of installed capacity, the Wind Projects are estimated to
22 cost approximately \$1,310 per kilowatt, again recognizing the split procurement
23 attributes of the Cedar Springs project. This amount is lower than the cost per kilowatt

1 estimate for the initial benchmark projects, as well as the original shortlist projects
2 included in the January 16, 2018, supplemental direct testimony. Thus, the Wind
3 Projects selected to the 2017R RFP final shortlist provide additional capacity while
4 continuing to deliver significant customer benefits. The overall costs of the Combined
5 Projects reflected in this filing are generally consistent with the costs included in the
6 initial filing.

7 **Q. Does the Ekola Flats project rely on the Transmission Projects for**
8 **interconnection?**

9 A. Yes. The Ekola Flats project relies on the construction of the Transmission Projects,
10 which will relieve existing congestion and allow interconnection of the Wind Projects.
11 In total, the benefits generated by the Wind Projects' zero-fuel-cost generation, which
12 lowers net power costs and provides 10 years of federal PTCs, continue to support cost-
13 effective development of the Transmission Projects.

14 **Q. Does the Ekola Flats project meet the Internal Revenue Service's ("IRS") start-**
15 **of-construction criteria to qualify for PTCs?**

16 A. Yes. The Ekola Flats project has sufficient wind turbine generator equipment procured
17 before December 31, 2016, to meet the start-of-construction definition for tax purposes.
18 The procurement transaction for Ekola Flats satisfies the safe-harbor requirements
19 under the PTC guidance issued by the IRS.

20 **Q. How does the Company plan to continue to procure the Ekola Flats project?**

21 A. The Company will continue to engage the Ekola Flats shortlisted EPC and TSA
22 counterparties in negotiations to finalize terms and conditions, with a target for
23 executable definitive agreements by April 16, 2018, to align with the on-going

1 regulatory review proceedings.

2 **CONTINUED DEVELOPMENT, NEGOTIATIONS, AND IMPLEMENTATION**

3 **Q. Does re-introduction of the Ekola Flats project require additional landowner**
4 **notifications?**

5 A. Yes. Under the Wyoming CPCN statute (W.S. § 37-2-205(e)) applicable to 230 kV
6 transmission line facilities, additional landowner notifications are required for the 230-
7 kV interconnection infrastructure for the Ekola Flats project. The Company will make
8 arrangements with the Wyoming Public Service Commission staff to send notifications
9 to landowners within 2,000 feet of each side of the centerline for 230-kV transmission
10 lines related to the Ekola Flats project. This approach is consistent with notifications
11 provided to landowners when the Company filed its direct and supplemental direct
12 testimonies (June 30, 2017 and January 16, 2018 respectively).

13 **Q. Is an application with the Wyoming Industrial Siting Council (“ISC”) for the**
14 **Ekola Flats project being prepared?**

15 A. Yes. The ISC Permit Application for the Ekola Flats project is being developed and will
16 be filed to support year-end 2020 in-service date now that the project has been selected
17 to the 2017R RFP final shortlist. Based upon a review of the shortlisted project
18 schedules, the Company expects the ISC review processes and hearings for the Ekola
19 Flats project will be completed in 2018, subject to updates identified during agency
20 coordination and development of a detailed project implementation plan. The ISC is
21 required to hold a hearing within ninety days of each application under W.S. § 35-12-
22 109.

1 **Q. Does the Company anticipate landowner participation in the ISC proceedings**
2 **associated with the Ekola Flats project?**

3 A. Yes. Based upon past experience in siting wind resources in Wyoming, the Company
4 anticipates robust participation of landowners in the ISC proceedings for each of the
5 Wind Projects to ensure that all issues and concerns within the scope of the ISC permit
6 process are fully vetted.

7 **Q. Has the Company described its plans for addressing any split-estate issues on the**
8 **Wind Projects sites?**

9 A. Yes. The Company has provided a general description of its intended approach to
10 engage mineral estate owners or leaseholders to secure appropriate agreements that
11 reasonably accommodate the interests of both parties, where necessary. For the
12 individual Wind Projects, the general descriptions are provided in Confidential Exhibits
13 RMP__(CAT-1SD), RMP__(CAT-2SD), RMP__(CAT-3SD) with the supplemental
14 direct testimony filed on January 16, 2018, and RMP__(CAT-1SS) with this second
15 supplemental filing. As would be expected, the specific actions and resulting
16 agreements, if any, on individual parcels will be driven by the actual recorded interests
17 of the parties involved and complexities including, but not limited to, whether the
18 minerals in question are of commercially exploitable quantities, if mining would be
19 economically feasible, if there is a market for the minerals, and if permitting and
20 licensing of the minerals extraction is reasonably likely.

21 To facilitate consideration of the issue, the Company has provided mineral
22 rights summaries for each of the Wind Projects in Confidential Exhibits RMP__(CAT-
23 1SS-17), RMP__(CAT-2SS-17), RMP__(CAT-3SS-12), and RMP__(CAT-4SS-8).

1 Engagement with mineral rights holders where necessary and appropriate will continue
2 through the development and wind lease acquisition phases of the Wind Projects’
3 schedules.

4 **Q. Has the Company performed preliminary evaluations of the wind potential at the**
5 **Ekola Flats project site?**

6 A. Yes. The Company submitted a third-party wind potential assessment for Ekola Flats
7 as part of its 2017R RFP benchmark proposal. The Company’s 2017 RFP evaluation
8 team also validated wind potential with a third-party wind resource evaluation firm as
9 part of the 2017R RFP process, as described in the Company’s supplemental direct
10 testimony. Wind assessments for the Ekola Flats project indicate that the site has a
11 favorable wind regime suitable for a high performance wind resource. Due to its
12 proximity to the Company’s existing Seven Mile Hill wind project, the Company is
13 confident in the anticipated performance of the Ekola Flats project on a net capacity
14 factor basis.

15 **Q. Has the Company determined who will be responsible for construction of the**
16 **Ekola Flats project?**

17 A. Not yet. The Company is negotiating with shortlisted EPC contractors that submitted
18 formal proposals for the Ekola Flats project in 2017.

19 **Q. Has the Company determined who will supply the wind turbine generators for the**
20 **Ekola Flats project?**

21 A. Yes. The Company is finalizing negotiations with the shortlisted turbine suppliers that
22 submitted formal proposals for the Ekola Flats project follow-on turbines in 2017 and
23 as identified in its 2017R RFP benchmark proposal. The Company has acquired or has

1 rights to acquire safe-harbor wind turbine generator equipment which it proposes to use
2 at the Ekola Flats project as required to meet the IRS's start-of-construction criteria for
3 PTC eligibility.

4 **Q. How did the Company generate the cost information for construction, operation,
5 and maintenance of the Ekola Flats project through its useful life?**

6 A. As discussed in my and Mr. Rick T. Link's supplemental direct testimony in this docket,
7 the Company prepared its capital cost estimates for the Wind Projects using information
8 from a variety of sources. (Teply Supplemental Direct, page 13 lines 4-23 through page
9 14 lines 1-13.)

10 For its Ekola Flats benchmark project, the Company obtained wind turbine
11 costs from solicitations in 2016 to procure the Company's safe-harbor wind turbine
12 generator equipment, and in 2017 for follow-on wind turbine generator equipment. The
13 Company also obtained balance of plant engineering, procurement, construction, and
14 commissioning costs from a solicitation in 2017 to support final submittals in the
15 2017R RFP process. Transmission interconnection costs were estimated using
16 comparable wind facility transmission studies and prior project experience, and internal
17 project development, management and permitting costs were estimated based upon the
18 Company's experience with construction of past wind facilities and other recent
19 generation resource additions. The Company applied contingencies in various cost
20 categories to account for project uncertainties given the current stage of development
21 of the project. O&M cost estimates were developed based upon the Company's
22 experience with wind resource O&M budgets and third-party contracts for the
23 Company's existing wind facilities. Ongoing capital costs were estimated based upon

1 the Company's experience and indicative costs provided by wind turbine generator
2 suppliers for critical capital components.

3 **Q. Will the Company and third-party developers collaborate with the Wyoming**
4 **Game and Fish Department, the U.S. Fish and Wildlife Service, and other**
5 **environmental agencies to develop and implement the Ekola Flats project?**

6 A. Yes. The Company and the third-party project developer have initiated discussions with
7 the Wyoming Game and Fish Department and the U.S. Fish and Wildlife Service
8 regarding developing and implementing the Ekola Flats project. The Company and the
9 third-party project developer have also begun pre-construction usage surveys for
10 various avian, bat, and wildlife species using recommendations from applicable state
11 and federal guideline documents, including the 2012 Land Based Wind Energy
12 Guidelines. The Company and the third-party project developer will coordinate with
13 county, state, and federal agencies that have jurisdiction over development, permitting,
14 and operations to ensure appropriate environmental and safety measures are
15 implemented throughout the life of all of the Wind Projects. The Company is
16 committed to establishing development and implementation schedules and protocols
17 that recognize the potential environmental impacts of all of the Wind Projects and strive
18 to mitigate negative impacts.

19 **Q. Will the Ekola Flats wind turbine generators or associated infrastructure be built**
20 **in Wyoming's Greater Sage Grouse Core area?**

21 A. No. The Ekola Flats wind turbine generators and associated infrastructure will not be
22 located within the current boundaries of Wyoming's Greater Sage Grouse Core area.

1 **Q. How will potential visual and lighting impacts from the Ekola Flats project be**
2 **addressed?**

3 A. State and county permitting regulations contain requirements that recognize and
4 address potential visual and lighting impacts. The Company and the third-party
5 developer will incorporate those applicable measures into the siting, construction, and
6 operations of the Ekola Flats projects as part of the permitting process. Such measures
7 may include: down-shielded lighting on project infrastructure; Federal Aviation
8 Administration approved/recommended turbine lighting protocols; active aviation light
9 management; and use of approved paint colors for turbines.

10 **Q. When will construction of the Ekola Flats project begin and end?**

11 A. As described in detail in the exhibits attached to my testimony, site construction of the
12 Ekola Flats project will begin as soon as the second quarter of 2019. The Company and
13 the third-party developer will not begin construction, however, until all of the necessary
14 regulatory approvals and applicable permits and authorizations from other local, state,
15 tribal, or federal governmental agencies that have jurisdiction over the construction or
16 operation of the Ekola Flats project have been received, including approval from the
17 Wyoming ISC. The Company anticipates that substantial completion for the Ekola Flats
18 project, under normal construction circumstances, weather conditions, labor
19 availability and materials delivery, will be achieved by November 15, 2020, or as
20 otherwise updated during detailed negotiation of project contracts, schedules, and
21 implementation plans.

22 **Q. What is the expected operational life of the Ekola Flats project?**

23 A. The anticipated operational life of the Ekola Flats project has been assessed at 30 years

1 in this filing, which aligns with the Company's currently approved depreciable life for
2 wind resources. The operational life may be reviewed and extended based on advances
3 in turbine technologies or improvements in maintenance processes (or both) through
4 the course of the Company's regular depreciation studies and filings.

5 **Q. Will the Ekola Flats project be decommissioned or repowered at the end of its**
6 **operational life?**

7 A. The Company may dismantle and reclaim the Ekola Flats project at the end of its
8 operational life based upon the requirements of the operating permit. Typically, county
9 and state agencies identify the decommissioning requirements during the permitting
10 process, including expected reclamation efforts and overall decommissioning costs and
11 security requirements. The Company may also consider replacing or upgrading the
12 existing infrastructure at the end of the operational life if conditions (*i.e.*, economics,
13 permitting, customer load needs, etc.) are conducive to reinvestment in the project.

14 **REQUIREMENTS OF COMMISSION RULE CHAPTER 3, SECTION 21**

15 **Q. Please summarize how the Company's filing meets the requirements for a CPCN**
16 **application.**

17 A. My supplemental direct testimony submitted on January 16, 2018, outlined all the
18 required information for the Cedar Springs and Uinta wind projects (Teply
19 Supplemental Direct page 17, lines 11-23 through page 18, lines 1-6 and Teply
20 Supplemental Direct page 19, lines 2-23 through page 20, lines 1-7 respectively). My
21 direct testimony submitted on June 30, 2017, included the required information for TB
22 Flats I and II, and certain information pertaining to that project was also updated in my
23 supplemental direct testimony (Teply Direct page 19 lines 11-20 and Teply

1 Supplemental Direct page 18, lines 7-17).

2 **Q. Please describe the exhibits to this testimony for the nominal 250 MW Ekola Flats**
3 **facility that provide information required by Commission Rule, Chapter 3,**
4 **Section 21(c).**

5 A. The required information for the nominal 250 MW Ekola Flats wind project is included
6 in Confidential Exhibit RMP__(CAT-1SS) to this second supplemental direct
7 testimony. Confidential Exhibit RMP__(CAT-1SS) subparts that have been updated
8 since my direct testimony was filed in this docket are:

- 9 • Confidential Exhibit RMP__(CAT-1SS-1): Updated Wind Turbine Generator Site
10 Layout
- 11 • Confidential Exhibit RMP__(CAT-1SS-7): Updated Project and Property Map
- 12 • Confidential Exhibit RMP__(CAT-1SS-14): Signed Large Generator
13 Interconnection Agreement
- 14 • Confidential Exhibit RMP__(CAT-1SS-16): Third-party Wind Assessments
- 15 • Confidential Exhibit RMP__(CAT-1SS-17): Mineral Rights Summary

16 **Q. Please provide a summary of the capital expenditures required to construct the**
17 **Wind Projects.**

18 A. Confidential Exhibit RMP__(CAT-5SS) to my testimony includes the summary.

19 **CONCLUSION AND RECOMMENDATION**

20 **Q. What do you conclude in your second supplemental direct testimony?**

21 A. The Combined Projects remain well positioned to provide customer benefits and are
22 being effectively developed concurrently with ongoing regulatory proceedings—
23 including the 2017R RFP, procurement activities, and upcoming permitting—to

1 mitigate project risks and deliver desired outcomes. The Company continues to manage
2 project-development activities within a reasonable timeline to assess project risks,
3 incorporate those assessments into decision-making, and allow for changes in project
4 direction (*i.e.*, off-ramps), if necessary. The Company appreciates the parties'
5 engagement, and believes the Combined Projects will benefit from this rigorous
6 stakeholder review before the Company makes major commitments to the projects.

7 **Q. Does this conclude your second supplemental direct testimony?**

8 A. Yes.

