

REDACTED

Rocky Mountain Power

Exhibit RMP__ (CAT-1SD)

Docket No. 17-035-40

Witness: Chad A. Teply

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

REDACTED

Exhibit Accompanying Supplemental Testimony of Chad A. Teply

Information and Subpart Exhibits For the Cedar Springs Wind Energy Project

January 2018

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In support of the Application, the Company provides the following information and subpart exhibits for the Cedar Springs Wind Energy Project:

1. Name and address of the applicant:

This information was provided in the application filed June 30, 2017.

2. Type of plant, property, or facility proposed to be constructed:

Applicant proposes to construct a nominal 400-megawatt (“MW”) wind-energy generation facility located on a site that consists of approximately 35,000 acres of leased private land located in Converse County, Wyoming.

3. Description of facilities to be constructed including preliminary engineering specifications in sufficient detail to properly describe the principal systems and components:

The Cedar Springs wind energy facility will consist of wind turbine generators (“WTGs”), an electrical collector system, a collector substation, access roads, WTG foundations, an operations and maintenance building, fiber optic and/or microwave communication equipment, supervisory control and operating status data acquisition (“SCADA”) control equipment, and an approximately 20-mile long interconnecting 230 kilovolt (“kV”) transmission tie-line. The anticipated point of interconnection will be at the Windstar substation in Converse County, Wyoming. The WTGs are anticipated to be purchased from competing suppliers, and the balance of project work will be competitively bid and executed under an engineer, procure, and construct (“EPC”) contract.

An overview of WTG placement across the proposed project site is presented in Confidential Exhibit CAT-1SD-1. WTG placement will continue to evolve based on several factors including: field-identified sensitive environmental areas, field-identified cultural areas, landowner commentary received from future reviews of WTG placement, definitive geotechnical site studies, aviation/air-space impact reviews, and wind-resource characteristics.

A site wind-resource assessment has been completed and summary information is presented in Confidential Exhibit RMP___(CAT-1SD-2).

4. Rates to be charged because of the proposed construction:

The impact of the proposed facilities on the Company’s revenue requirement and the Company’s proposed ratemaking treatment is described in the testimony of Ms. Joelle R. Steward. In addition, the Company will provide service on the Transmission Projects subject to the terms and conditions of its Open Access Transmission Tariff (“OATT”).

5. Estimated total cost of the proposed construction:

Estimated project initial capital cost details for the Cedar Springs facility are summarized in Confidential Exhibit RMP___(CAT-5SD).

6. Manner by which the project will be financed:

The Company intends to finance the proposed wind project through its normal sources of capital, both internal and external, including net cash flow from operating activities, public and private debt offerings, the issuance of commercial paper, the use of unsecured revolving credit facilities, capital contributions and other sources. The financial impact of the proposed investment will not impair the Company's ability to continue to provide safe and reliable electricity service at reasonable rates. In addition, preapproval of the Company's resource decision provides important regulatory support for the Company's current credit rating. This is described in more detail in Ms. Cindy A. Crane's testimony.

7. Documentation of the financial condition of the applicant:

Rocky Mountain Power's ("RMP") current financial condition is on file with the Commission in response to the annual reporting requirements through RMP's semi-annual earnings reports or general rate case applications. The Company is financially capable of funding this project.

8. Estimated annual operating revenues and expenses expected to accrue from the project including a comparison of the overall effect on the applicant's revenues and expenses:

PacifiCorp provides the economic analysis presented in Mr. Rick T. Link's testimony and exhibits, which show the revenue stream and expenses associated with the wind projects and demonstrates that the project is a risk-adjusted, least-cost alternative to serve customer loads.

9. Estimated start and completion dates:

The project developer and PacifiCorp will enter into a build-transfer agreement under which PacifiCorp will acquire 50 percent of the project, and the balance of the project will be delivered under a power purchase agreement. The project developer will design, permit, secure property rights, obtain critical agreements, construct, and commission the project. The project developer proposes to complete environmental and cultural surveys in April 2019 and transmission line construction in April 2020. The expected proposed project commercial-operation date is December 2020, under normal construction circumstances, weather conditions, labor availability, materials delivery, and permit and agreement processing durations.

An indicative project schedule is presented in Confidential Exhibit RMP___(CAT-1SD-3).

10. Description of the site(s) including:

- a. county,
Converse County, Wyoming
- b. metes and bounds description, and

See Confidential Exhibit RMP___(CAT-1SD-4) for a project description map indicating parcels that are proposed for leased for wind and transmission development. A more specific metes bounds description is presented in Confidential Exhibit CAT-1SD-5. Tie-line property information is presented in Highly Confidential Exhibit CAT-1SD-6.

- c. terrain;
 - i. The project site is located in central Converse County, at an elevation range of 5,000 to 5,500 feet. The terrain consists of rolling range land with a predominant southeast – northwest ridge feature (Box Creek Divide) and a northern plateau (Highland Flats). The land use consists of sheep and cattle grazing, with oil and gas exploration distributed throughout the entire site. Habitat within the project site is predominately herbaceous grasslands and scrub-shrub. Common mixed grass prairie species include needle-and-thread (*Hesperostipa comata*), western wheatgrass (*Pascopyrum smithii*), blue grama (*Bouteloua gracilis*), Sandberg’s bluegrass (*Poa secunda*), prairie junegrass (*Koeleria macrantha*), upland sedges, and Indian ricegrass (*Oryzopsis hymenoides*). The scrub habitats likely consist of sagebrush (*Artemesia tridentata*) and various other shrub species.

11. Geological report including:

- a. foundation and groundwater conditions,
 - i. The dominant wetland type is freshwater emergent wetland within the project site, in addition to a number of scattered ponds throughout the area. Converse County also shows a lake and a few areas mapped as riverine. There are freshwater forested/shrub wetlands located in Converse County within the vicinity of the site.
- b. operating mineral deposits within a one-mile radius, and
 - i. Oil and gas operations are present throughout the site. Anschutz, Chesapeake and other mineral developers are active in the area.
 - ii. In-situ uranium mining occurs in the northwest portion of the site. A historic Exxon open-cut uranium mine exists in the northwest portion of the site, however it is no longer active.
- c. A topographic map showing the area within a five-mile radius.
 - i. A topographical map showing the terrain of the surrounding area of the facility is provided as Confidential Exhibit RMP____(CAT-1SD-1).
- d. Site geotechnical and geologic studies have not yet started.

12. Description of and plans for protecting the surrounding locations:

- a. Scenic,
- b. Historical,
- c. Archeological,
- d. Recreational,
- e. Natural resources,
- f. Plant and animal life,
- g. Land reclamation
 - i. Description of devices to be installed to protect:
 - 1. Air,
 - 2. Water,
 - 3. Chemical,
 - 4. Biological, and
 - 5. Thermal qualities.

ii. Design and tested effectiveness of protection devices to be used; and
iii. Operational conditions under which the protection devices were designed and tested

The Cedar Springs facility is located in an area that is typical of the landscape of the region. The WTGs are not anticipated to significantly degrade the surrounding scenic quality of the area.

The project developer has preliminarily sited project components to mitigate potential environmental and natural resource impacts in the project area. This effort will continue as project details emerge.

Confidential Exhibit RMP___(CAT-1SD-7) presents indicative information regarding critical site environmental features to be addressed as the project proceeds.

The preliminary project layout has been arranged to avoid impacts to cultural resources. Additionally, no project related features will be developed in close proximity to known cultural resources. As part of PacifiCorp's plan for protecting the environment, sensitivity practices would be adhered to and any cultural resources would be afforded appropriate protection if discovered during design and construction.

The project has the flexibility to microsite major project features to avoid or significantly reduce impacts to jurisdictional waters of the U.S. and wetlands. More importantly, no adverse impacts to wetland and water resource bodies are anticipated for this project. Any impact to wetlands and the waters of the U.S., should they arise, will be minimized using best management practices.

At the end of project life, and in accordance with applicable permit conditions PacifiCorp may have reserved funds in its asset retirement obligation ("ARO") account and may use ARO funding to restore the site to near natural conditions.

Lands disturbed during construction would be reclaimed in accordance with applicable permit requirements. Ground disturbance would be minimized and best management practices employed by the construction contractors to minimize environmental impacts. PacifiCorp would also employ an environmental inspector(s) to ensure that environmental considerations, and any unforeseen environmental incidents, are appropriately addressed. This individual would ensure prompt and appropriate response to any identified non-compliance situations and ensure environmental protections are appropriately implemented. Periodic environmental audits of the site will also be conducted by PacifiCorp affiliated personnel that are independent of the project team.

During construction, each on-site contractor will be expected to develop, publish and orchestrate a site- and project-specific environmental protection plan.

Site specific wildlife management plans will be developed and implemented in accordance with applicable permit requirements.

Confidential Exhibit RMP___(CAT-1SD-8) presents currently known raptor nest information.

The approximate 20-mile long transmission tie-line will be included in the Wyoming Industrial Siting Act permit application for the Cedar Springs facility.

Information regarding the status of project permitting activity is presented in Confidential Exhibit CAT-1SD-9.

13. Description of potential safety hazards;

Prevention of safety hazards and impacts from failure of the project's components would be achieved by a combination of planning and controlled site access. By following industry guidelines and WTG certification processes, the most safe and reliable facility will be constructed. WTGs are equipped with multiple safety systems as standard equipment. For example, rotor speed is controlled by a redundant pitch control system and a backup disk brake system. Critical components have multiple temperature sensors and a control system to shut the system down and take it off-line if overheating conditions are detected. Lightning protection is a standard feature on the WTG, and a specially engineered lightning protection and site grounding system will be installed for the project.

Turbine towers, WTG foundations, and above-ground transmission line support structures will be designed according to applicable building codes and nationally accepted design standards to avoid failure or collapse. The selected WTG and tower combination will be subjected to engineering review to ensure that the design and construction specifications are appropriate for the project. This review will include consideration of code/nationally accepted design standard requirements under various anticipated worst-case loading conditions and will provide a high degree of confidence in the structural adequacy of the towers. The WTGs have been preliminarily sited at locations which exceed a reasonable setback of over one tip-height.

During active construction, the project developer will follow the manufacturers' recommended handling instructions and erection procedures to prevent material damage to towers or blades that could lead to failure. In addition, certification of the WTG to the requirements of the *International Electrotechnical Commission ("IEC") 61400-1* standard will be provided to ensure that the static, dynamic, and defined-life fatigue stresses in the blades will not be exceeded under the combined load combinations expected at the project site. The standard includes safety factors for normal, abnormal, fatigue, and construction loads. This certification, together with regular periodic inspections, will give a high level of assurance against blade failure during operation.

The WTGs will be sited at locations that exceed a reasonable set-back distance to safeguard against ice throw. No ice throw injury has been reported from existing wind generation projects. In general, icing is an infrequent event, and the turbines for this project will be situated in a remote area.

During construction, planned construction safety controls include a "Site Specific Safety Plan."

The WTGs will be grouped in strings, and some of the WTGs will include aviation warning lights, as required by the Federal Aviation Agency ("FAA"). The number of WTGs with lights and the lighting pattern of the WTG will be determined through collaboration with the FAA.

14. Description of real property, fuel and water requirements, including any source of water along which the facility will be constructed or from which it will obtain or return water;

There are no fuel, minerals, or process water requirements for this project.

At the time of this supplemental filing, it is anticipated that during project construction, water will be obtained from a municipal water source, an existing senior water rights holder and trucked to the site, or a new well with a permit issued by the Wyoming State Engineer's Office to appropriate groundwater. Once available on-site, water will either be put to immediate use or placed in an onsite temporary water storage tank. Once the project is in operation, only minimal daily domestic water use will be required. The primary domestic water requirement will occur at the O&M building, and is anticipated to be limited to consumption in restrooms, sinks, washing station(s), showers, internal/external hose use, and as dishwasher.

A septic system and drain field for sanitary sewer waste disposal will be provided once the project is operational.

15. Acquisition status, source and location of:

- a. Real property,**
- b. Right-of-way,**
- c. Fuel, and**
- d. Water requirements**

The Cedar Springs facility will be located on private property currently under long-term lease, the area as described in Confidential Exhibit RMP___(CAT-1SD-4). The transmission tie-line will primarily cross private property and will avoid federal lands to the maximum extent possible. Final transmission routing and ROW acquisition will begin in April 2018.

There are no fuel acquisition requirements for this project. A groundwater use application will be applied for from the Wyoming State Engineer's Office for a new extraction well.

16. Proposed means of transporting fuel and water requirements;

There is no process-related requirement to transport material quantities of fuel and water for this project.

17. Description of all mineral rights associated with the facility and plans for addressing any split-estate issues;

Mineral rights across the site are split between State and Federal governments and third party holdings, the majority of which have been severed from the surface owner. The State's mineral rights are generally tied to the surface rights, however there are rare exception, predominantly near water ways, where there may be exceptions to this.

The project is expecting to enter into accommodation agreements with the mineral rights holders across the project to resolve any split-estate issues.

18. Statement detailing the need for the facility in meeting present and future demands for service in Utah or other states;

Development of the proposed wind generation facility in compliance with regulatory requirements is the risk adjusted least cost alternative to meet service obligations in Utah and other states as represented in the Company's testimony and exhibits. The Company's forward looking generation planning activities are further described in the Company's 2017 IRP.

19. Description of the commodity or service the facility will make available;

The project will generate electricity using wind as the renewable energy source. Fossil fuel consumption and waste residual disposal obligations will be avoided.

20. Statement of the effect on the system stability and reliability; and

The project is not expected to adversely affect the quality, stability, and reliability of the Rocky Mountain Power ("RMP") transmission system or that of other entities. Large generator interconnection "System Impact Re-Study Report" is provided as Confidential Exhibit RMP___(CAT-1SD-10) that summarizes the expected impact.

Confidential Exhibit RMP___(CAT-1SD-11) presents images of the 20-mile 230 kV tie-line and tie-line structures.

21. Status of local, state, Tribal, or federal governmental agency requirements (must file all agencies final orders)

- a. Local – A Wind Energy Conversion System ("WECS") Use Permit is required in Converse County. The project is anticipating filing and obtaining a WECS Use Permit in 2018
- b. State – A Wyoming Department of Environmental Quality Industrial Siting Council ("ISC") Permit is required for wind energy project with 30 or more towers in all phases. An application will be submitted to ISC in 2018 with approval anticipated in late 2018 or 2019.
- c. Federal – No NEPA approval is required for the project.
- d. Tribal – No Tribal permit is required for the project.
- e. A list of the local, state, tribal, and federal governmental agencies having requirements known at the time of this application, which PacifiCorp must meet in connection with the construction and operation of the project is listed, along with their timing and status, in Confidential Exhibit RMP___(CAT-1SD-9). Any unforeseen permit requirements will be adequately addressed.
- f. By applying to and working with the various agencies for the construction/operation permits and the Commission, the major regulatory requirements and critical reviews for the project are being addressed. PacifiCorp's contractors may provide certain permits including permits for construction storm water pollution prevention control, compliance with building regulations through the Carbon County Planning and Zoning Commission, sanitary sewer extensions, and requirements of the Wyoming Department of Transportation. PacifiCorp will monitor and audit the successful completion, maintenance, and closeout of all contractor supplied permits.

The following documents included in Exhibit RMP__(CAT-1SD) are confidential or highly confidential in their entirety:

Confidential Exhibit RMP (CAT 1SD-1)	Cedar Springs WTG Layout
Confidential Exhibit RMP (CAT 1SD-2)	Cedar Sprints Site Wind Resource Data
Confidential Exhibit RMP (CAT 1SD-3)	Cedar Springs Preliminary Project Schedule
Confidential Exhibit RMP (CAT 1SD-4)	Cedar Springs Project Maps
Confidential Exhibit RMP (CAT 1SD-5)	Cedar Springs Metes and Grounds Descriptions
Highly Confidential Exhibit RMP (CAT 1SD-6)	Cedar Springs Generation Landowner Information
Confidential Exhibit RMP (CAT 1SD-7)	Cedar Springs Environmental Studies
Confidential Exhibit RMP (CAT 1SD-8)	Cedar Springs Raptor Nest Information
Confidential Exhibit RMP (CAT 1SD-9)	Cedar Springs Permitting Matrix
Confidential Exhibit RMP (CAT 1SD-10)	Cedar Springs System Impact Re-Study Q712
Confidential Exhibit RMP (CAT 1SD-11)	Cedar Springs 230 kV Tie Line Structure Details

The confidential exhibits listed above are provided on CD.

The highly confidential exhibits contain commercially sensitive information which is considered business confidential information subject to Utah Code 63G-2-305(2) and 63G-2-305(3) to protect it from a Government Records Access and Management Act (GRAMA) request. The Company requests special handling. Please contact Jana Saba at (801) 220-2823 to make arrangements to review.