ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

1407 W North Temple, Suite 330
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December 31, 2019

VIA ELECTRONIC FILING

Utah Public Service Commission
Heber M. Wells Building, 4th Floor
160 East 300 South
Salt Lake City, UT 84114

Attention: Gary Widerburg
Commission Administrator

RE: **Docket No. 19-035-46**
Rocky Mountain Power's Utah Carbon Reduction Progress Report

In accordance with the Utah Energy Resource Procurement Act, Title 54 Chapter 17 Section 604, Rocky Mountain Power ("Company" or "Rocky Mountain Power") respectfully submits its Carbon Reduction Progress Report to the Public Service Commission of Utah on the development and maintenance of a plan for meeting the targets set forth under Title 54 Chapter 17 Section 602.

The Company respectfully requests that all formal correspondence and requests for additional information regarding this filing be addressed to the following:

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By regular mail: Data Request Response Center
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Portland, OR 97232

Informal inquiries may be directed to Jana Saba at (801) 220-2823.

Sincerely,

Joelle Steward
Vice President, Regulations

Enclosures

CC: Division of Public Utilities
Office of Consumer Services

Rocky Mountain Power
Utah Carbon Reduction Progress Report

December 31, 2019

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Utah Carbon Reduction Progress Report
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Introduction

In accordance with the Utah Energy Resource Procurement Act ("Act"), Title 54 Chapter 17 Section 604, Rocky Mountain Power ("Company" or "Rocky Mountain Power") respectfully submits its Carbon Reduction Progress Report ("Report") to the Public Service Commission of Utah ("Commission") on the development and maintenance of a plan for meeting the targets set forth under Title 54 Chapter 17 Section 602.

Under Section 604 of the Act, the Report is required to set forth:

(a) The actual and projected amount of qualifying electricity through 2025;
(b) The source of the qualifying electricity;
(c) An analysis of cost-effectiveness of renewable energy sources;
(d) A discussion of conditions impacting the renewable energy source and qualifying electricity markets;
(e) Any recommendation for a suggested legislative or program change; and
(f) Any other information requested by the Commission or considered relevant by the electrical corporation.

Summary

As demonstrated in this Report, Rocky Mountain Power is positioned to meet its 20 percent target requirement of an estimated 4,757,463 megawatt-hours of renewable energy in 2025 from existing Company-owned and contracted renewable energy resources. Exhibit A of this Report includes the actual and projected amount of qualifying electricity through 2025 and a list of associated renewable energy resources. Conditions impacting the Company's renewable energy resource and qualifying electricity markets and deployment include applicable laws and the availability of tax incentives, wildlife habitat impacts, changing environmental policies, emerging carbon emissions regulations, the Company's participation in the Energy Imbalance Market ("EIM"), and transmission and infrastructure costs.

Additionally, forecast implementation outcomes reflected in this Report are contingent on factors such as changes in customer demand for electricity; the availability of cost-effective resources; capacity increases; regulatory changes; market, policy and technology development; interest rates; and other market and industry conditions. As such, representations in this Report regarding

implementation plans and future events or conditions are forward-looking statements and may differ from actual future results.

Information provided in this Report and the exhibits referenced herein are supported by the Company's integrated resource planning ("IRP") process, which provides a framework for the Company's future actions in order to continue providing customers reliable, least cost, least risk service.

Title 54 Chapter 17 Section 604 (3) (a) Actual and projected amount of qualifying electricity through 2025 and (b) the source of qualifying electricity;

Pursuant to the Title 54 Chapter 17 Section 604 of the Act, the amount and sources of qualifying electricity through 2025 are provided in Exhibit A of this Report.

Title 54 Chapter 17 Section 604 (3) (c) (i) An analysis of the cost-effectiveness of renewable energy sources for other than a cooperative association; or (ii) an estimate of the cost of achieving the target for an electrical corporation that is a cooperative association;

The Company performs its long-term resource planning activities through its IRP, which is filed with the Commission every other year. The IRP provides a framework for future actions that will be taken to provide reliable, least cost, least risk service to the Company's customers. The IRP is developed with participation from numerous public stakeholders, including regulatory staff, advocacy groups, and other interested parties.

Through its IRP, the Company performs a load and resource balance to determine resource needs over a 20-year planning horizon. The Company then develops several different resource portfolio alternatives that could be pursued to meet its projected resource needs and evaluates comparative cost and risk metrics among these resource portfolio alternatives. In developing resource portfolio alternatives, the Company ensures that state resource acquisition mandates and policies, including Utah's renewable energy targets, are met. In selecting its preferred portfolio, the Company considers measures of risk-adjusted portfolio costs, customer rate impacts, potential future carbon dioxide costs, and supply diversity. The selected preferred portfolio is anticipated to be the most cost-effective mix of resources to meet future customer needs, while balancing diverse stakeholder interests and meeting energy resource policies. This comprehensive planning process provides analysis addressing the cost-effectiveness of renewable energy sources in the Company's long-term resource plan.

In its 2019 IRP, filed with the Commission in October 2019, the Company reported significant investments in renewable energy coupled with federal and state tax incentives that allow the Company to deliver hundreds of millions of dollars in savings to its customers. Federal and state

tax credits, declining capital costs, and improved technology performance have put wind and solar "in the money" in areas of high potential. As such, wind and solar will dominate U.S. capacity additions for the next decade. Future natural gas prices, the role of gas-fired generation and the falling costs and increasing efficiencies of renewables are some of the critical factors affecting the selection of the portfolio that best achieves least-cost, least-risk planning objectives.

As the 2019 IRP preferred portfolio illustrates, the Company plans to meet its customers' needs over the next 10 years largely through the acquisition or development of new renewable resources and transmission infrastructure. PacifiCorp meets the Utah 2025 state target to supply 20 percent of adjusted retail sales with qualifying owned and contracted renewable resources. The Company has and will continue to assess the cost-effectiveness of renewable energy sources in its IRP process to ensure its long term planning efforts are aligned with the most current market and policy developments.

Title 54 Chapter 17 Section 604 (3) (d) A discussion of conditions impacting the renewable energy source and qualifying electricity markets;

The following conditions may impact the renewable energy source and qualifying electricity markets:

Federal Tax Credits: The availability of state and federal tax credits provide opportunities for the company to invest in carbon-reducing, zero-fuel-cost resources with tax credit benefits on behalf of its customers. Relevant federal tax credits include:

The *Production Tax Credit* ("PTC"). PacifiCorp customers will benefit from approximately 860 megawatt ("MW") of wind resources and tax credit benefits as part of its Energy Vision 2020 project. These projects are anticipated to capture 100 percent of the PTC value, entering commercial operation before the end of 2020. The PTC, currently 2.3 cents per kilowatt-hour (inflation adjusted), has been extended and phased out for wind property for which construction begins before January 1, 2020, as follows:

- 2015 – 100% retroactive
- 2016 – 100% (construction begins before January 1, 2017)
- 2017 – 80% (construction begins before January 1, 2018)
- 2018 – 60% (construction begins before January 1, 2019)
- 2019 - 40% (construction begins before January 1, 2020)

- The *Investment Tax Credit* ("ITC"). The ITC provides a credit equivalent to 30 percent of project expenditures with no maximum. While the credit is primarily used with solar energy systems, other eligible technologies include fuel cells and small wind turbines (100 kilowatts and less). For geothermal systems, microturbines, and combined heat and power

resources, the credit is 10 percent. This credit expires at the end of 2019 for wind, but continues into the future for solar.

Wildlife Habitat Impacts: Federal and state management and regulation of wildlife and natural habitats can impact renewable resources. The Endangered Species Act, Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and agency regulations, guidelines and permitting requirements associated with these and other laws, can affect the timing, compliance, and other costs associated with new or existing renewable resources.

Carbon Regulations: In June 2019, the EPA issued the final Affordable Clean Energy Rule ("ACE"), replacing the Clean Power Plan following a repeal of the Clean Power Plan in October 2017. This rule establishes emission guidelines for states to use when developing plans to limit carbon dioxide ("CO2") at their coal-fired electric generating units.

Other Environmental Regulations: The EPA has also finalized other environmental regulations that impact fossil fuel-fired electric generating units. Some of the regulations include: Mercury Air Toxic Standards, Regional Haze Rules, Coal Combustion Residuals Rule "Coal Ash Rule", Effluent Limitation Guidelines, Cooling Water Intakes Rule, and National Ambient Air Quality Standards under the Clean Air Act.

Energy Imbalance Market ("EIM"): PacifiCorp and the California Independent System Operator launched the EIM November 1, 2014. The EIM is a voluntary market and the first western energy market outside of California. The EIM covers eight states in the United States of America and one province in Canada - British Columbia, California, Nevada, Arizona, Idaho, Oregon, Utah, Washington, and Wyoming - and uses CAISO advanced market systems to dispatch the least-cost resources every five minutes. Since its inception, nine participants have joined and 11 additional entities have committed to join by 2022, altogether representing almost 70 percent of the West's total electricity demand. PacifiCorp continues to work with the CAISO, existing and prospective EIM entities, and stakeholders to enhance market functionality and support market growth.

Cost and Performance Implications: Reduced manufacturing costs for some technologies and improved efficiencies and capacity values have increased the cost-effectiveness of renewable resources relative to the wholesale electricity market. Although the integration of intermittent and variable renewable energy resources presents a complex need for acquiring and deploying capacity, PacifiCorp's 2019 IRP preferred portfolio continues to include new renewables, facilitated by incremental transmission investments, demand-side management ("DSM") resources, and for the first time, significant battery storage resources. The preferred portfolio includes nearly 600 MW of battery storage capacity (all collocated with new solar resources), and over 700 MW of incremental energy efficiency and new direct load control resources.

Transmission: In many instances renewable resources are located in areas away from load centers, necessitating the construction of new transmission lines. The additional cost associated with new

transmission, along with the constraints of existing transmission congestion pose challenges for renewable energy development. Further, the siting and permitting of new transmission lines across the western United States have proven to be difficult and lengthy.

Other State and Local Policies: State and local policies can have an impact on the development of renewable resources. The state and local policies the Company are subject to range from state renewable portfolio standards and state tax incentives to local property and sales taxes. As a multi-jurisdictional utility operating across six states, the Company complies with varying state and local policies, while providing safe, reliable, and cost-effective electricity to its customers.

In 2019, Utah governor Gary Herbert signed into law the Community Renewable Energy Act (H.B. 411), which gave authority to the Utah Public Service Commission to approve community renewable energy program and regulate rates associated with the acquisition of energy under such program.

Title 54 Chapter 17 Section 604 (3) (e) Any recommendations for suggested legislative or program change;

The Company makes no recommendations at this time for legislative or program changes.

Title 54 Chapter 17 Section 604 (3) (f) For other than a cooperative association, any other information requested by the commission or considered relevant by the electrical corporation;

The 2019 IRP was filed with the Commission on October 18, 2019. These filings are relevant to the 2019 Utah Carbon Reduction Report. The 2019 IRP incorporated RPS requirements from across the Company's six-state service territory, including Utah's Carbon Emission Reduction Program, in an effort to determine the need for incremental renewable resources for compliance. The 2019 IRP is available on the Web at *https://www.pacificorp.com/energy/integrated-resource-plan.html*.

Title 54 Chapter 17 Section 604 (4) The plan and progress report required by Subsections (1) and (2) may include procedures that will be used by the electrical corporation to identify and select any renewable energy resource and qualifying electricity that satisfy the criteria of Subsection 54-17-201 (2)(c)(ii);

The Company will continue to evaluate the need for resources through its IRP process, which is used to perform comparative cost and risk analysis of resource alternatives over a 20-year planning horizon. As discussed herein, the Company routinely updates its long-term resource plan, capturing changes in market and policy developments that might influence near-term resource acquisition plans. Once the IRP identifies the need for renewable resources, the Company

implements an action plan to procure cost effective resources from the market, consistent with applicable competitive procurement guidelines and/or statutes. Cost-effective renewable resources to be applied to the target renewable energy goal can be acquired via issuance of requests for proposal ("RFPs"), bilateral acquisition of assets or development rights, bilateral acquisition of power purchase agreements, qualifying facilities where the Company holds the rights to the renewable energy credits, and the purchase of renewable energy credits associated with other renewable resources. Consistent with § 54-17-502 of the Act, the Company will notify the Commission when it intends to issue an RFP. The IRP Action Plan is the road map to the renewable resource acquisition strategy that will be implemented through these various acquisition methods.

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Exhibit A

As defined in the Energy Resource Procurement Act ("Act"), Title 54 Chapter 17 Section 601, Rocky Mountain Power ("Company" or "Rocky Mountain Power") hereby submits the following summary of the retail sales, adjusted retail sales, target renewable energy goal in 2025, and the estimated eligible qualifying electricity in 2025.

	MWh	Comment
Retail Sales	24,409,538	CY 2022 Forecast Retail Sales inclusive of reductions attributed to demand side management.
Adjusted Retail Sales	23,787,314	CY 2022 Forecast Retail Sales reduced by generation from qualifying zero emissions generation and qualifying renewables not used to satisfy Section 54-17-602(1).
Target	4,757,463	20% of Adjusted Retail Sales
Total Qualifying Resources	41,185,098	Estimated amount of qualifying electricity in 2025 inclusive of actual and estimated banked renewable electricity from qualifying renewable energy sources.

Retail Sales

To arrive at the retail sales forecast, the initial load forecast is reduced by Class 2 DSM[1] as well as line losses. The retail sales forecast in the Report is consistent with the load forecast utilized in the 2019 IRP, filed on October 18, 2019.

Adjusted Retail Sales

The adjusted retail sales forecast is based on the (forecast) retail sales, reduced by the:

(a) estimated amount of kilowatt-hours attributable to electricity generated or purchased in a given calendar year from qualifying zero carbon emissions generation; and

(b) estimated amount of kilowatt-hours from electricity generated or purchased from generation located within the geographic boundary of the Western Electricity Coordinating Council that derives its energy from one or more of the eligible resource types defined in Section 54-17-601(1) (b) of the Act but does not satisfy the definition of a renewable energy source or that otherwise has not been used to satisfy Subsection 54-17-602(1).

Qualifying and zero emissions resources and non-qualifying renewable energy is included in determining the adjusted retail sales for the target year: [2]

Ashton	East Side	Lemolo 2	Slide Creek
Bend	Fall Creek	Olmstead	Soda
Big Fork	Fish Creek	Oneida	Soda Springs
Clearwater 1	Grace	Paris	Swift
Clearwater 2	Iron Gate	Prospect 1	Toketee
Copco 1	JC Boyle	Prospect 2	Viva Naughton
Copco 2	Last Chance	Prospect 3	Wallowa Falls
Eagle Point	Lemolo 1	Prospect 4	Yale

[1] Class 2 DSM refers to resources from non-dispatchable, firm energy and capacity product offerings/programs. These programs are those for which sustainable energy and related capacity savings are achieved through facilitation of technological advancements in equipment, appliances, lighting and structures, or repeatable and predictable voluntary actions on a customer's part to manage the energy use at their facility or home. These programs generally provide financial and/or service incentives to customers to improve the efficiency of existing or new customer-owned facilities through the installation of more efficient equipment.

[2] All identified zero emissions and non-qualifying and generation is from hydroelectric resources. Not all resources listed are forecast to generate in the 2022-2025 window. Some portion of these resources – efficiency upgrades and certified low impact hydro - may also be counted as qualifying renewable energy.

Energy Efficiency

The estimated kilowatt-hours attributable to reductions from DSM are based on the Class 2 DSM projections for Utah as reported in the 2019 Integrated Resource Plan ("IRP").

Renewable Energy Source

The following resources are included in the analysis for determining the amount of eligible renewable energy to satisfy Subsections 54-17-602(1).

2019 IRP Solar	Solar
2019 IRP Wind	Wind
Blundell 1	Geothermal
Blundell 2	Geothermal
Campbell Hill - Three Buttes	Wind
Cedar Springs Wind, LLC	Wind
Cedar Springs Wind III, LLC	Wind
Cedar Springs Transmission, LLC	Wind
Chevron Wyoming Wind Farm	Wind
Chiloquin Solar	Solar
Combine Hills	Wind
Dunlap Ranch	Wind
Ekola Flats Wind	Wind
Ewauna Solar/Klamath Falls Solar 2)	Solar
Foote Creek	Wind
Foote Creek II	Wind
Foote Creek III	Wind
Glenrock	Wind
Glenrock III	Wind
Goodnoe Hills	Wind
High Plains	Wind
Hill Air Force Base	Biogas
Latigo	Wind
Leaning Juniper	Wind
Marengo	Wind
Marengo II	Wind
McFadden Ridge I	Wind
Meadow Creek - Five Pine	Wind
Meadow Creek - North Point	Wind
Merrill Solar/Cypress Creek Renewables	Solar

Oregon Solar Land Holdings	Solar
Pavant II	Solar
Pioneer Wind Park	Wind
Rock River	Wind
Rolling Hills	Wind
Sage Solar I	Solar
Sage Solar II	Solar
Sage Solar III	Solar
Seven Mile Hill	Wind
Seven Mile Hill II	Wind
Sweetwater Solar	Solar
TB Flats Wind I	Wind
TB Flats Wind II	Wind
Top of the World	Wind
Tumbleweed Solar	Solar
Wolverine Creek	Wind
Woodline Solar	Solar
American Fork	Hydro - Utah
Cutler	Hydro - Utah
Draper Irrigation Company	Hydro - Utah
Fountain Green	Hydro - Utah
Granite	Hydro - Utah
Gunlock	Hydro - Utah
Olmstead	Hydro - Utah
Pioneer	Hydro - Utah
Sand Cove	Hydro - Utah
Snake Creek	Hydro - Utah
Stairs	Hydro - Utah
Upper Beaver	Hydro - Utah
Veyo	Hydro - Utah

Mountain Wind I	Wind
Mountain Wind II	Wind
Norwest Energy 9	Solar
Old Mill Solar	Solar
OR Solar 2 (Agate Bay)	Solar
OR Solar 3 (Turkey Hill)	Solar
OR Solar 5 (Merrill)	Solar
OR Solar 6 (Lakeview)	Solar
OR Solar 8 (Dairy)	Solar
Orchard Wind Farm 1	Wind
Orchard Wind Farm 2	Wind
Orchard Wind Farm 3	Wind
Orchard Wind Farm 4	Wind

Weber	Hydro - Utah
Big Fork	Hydro - Upgrade
Condit	Hydro - Upgrade
Copco	Hydro - Upgrade
Cutler	Hydro - Upgrade
J.C. Boyle	Hydro - Upgrade
Lemolo 1	Hydro - Upgrade
Lemolo 2	Hydro - Upgrade
Oneida	Hydro - Upgrade
Prospect	Hydro - Upgrade
Stairs	Hydro - Upgrade
Yale	Hydro - Upgrade

Low Impact Hydro

In its report, the company utilizes 150,000 megawatt-hours per year of resources from hydro certified by the Low Impact Hydro Institute used as qualifying renewable resources.[3]

Ashton	Oneida
Clearwater 1	Prospect 3
Clearwater 2	Slide Creek
Fish Creek	Soda
Grace	Soda Springs
Lemolo 1	Toketee
Lemolo 2	

The generation from existing resources is as reported in the Company's FERC Form 1 for the time period 1995 through 2018. Generation estimates from 2019 through 2025 are forecast.

The allocation of resource generation for Utah is based on the 2017 Protocol. The amounts are estimated based on historical allocation factors. For years 2001-2005, fiscal year end factors are used; in other years, including forecast years, calendar year end factors are applied.

Renewable Energy Credit Transactions

For the time period covered in the analysis, the Company reduced the generation output by the amount of REC that were or are forecast to be monetized. For the historical period through 2018, REC sales allocated to Utah are estimated based on the actual total company REC sales for each given year. In years 2019 through 2025, the analysis includes a forecast amount of RECs that may be sold, and estimated the Utah allocated amount. The Company also reduced the generation output in years 2019-2025 by the amount of forward REC retirement commitments on behalf of its customers.

[3] Section 54-17-601(10)(b)(i) permits entities to use up to fifty average megawatts from a certified low-impact hydro facility. PacifiCorp conservatively utilizes 150,000 megawatt hours per year from its low impact certified facilities as qualifying renewable sources. (50 MW x 40% capacity factor x 8,760 hours per year = 175,200 MWh)

CERTIFICATE OF SERVICE

Docket No. 19-035-46

I hereby certify that on December 31, 2019, a true and correct copy of the foregoing was served by electronic mail to the following:

Utah Office of Consumer Services

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