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*Attorneys for Rocky Mountain Power*

**BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH**

IN THE MATTER OF THE APPLICATION OF )  
ROCKY MOUNTAIN POWER TO IMPLEMENT )  
PROGRAMS AUTHORIZED BY THE ) Docket No. 16-035-36  
SUSTAINABLE TRANSPORTATION AND )  
ENERGY ACT )

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**APPLICATION TO IMPLEMENT PROGRAMS AUTHORIZED BY THE  
SUSTAINABLE TRANSPORTATION AND ENERGY ACT**

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Rocky Mountain Power, a division of PacifiCorp (“Company” or “Rocky Mountain Power”), hereby submits this application to the Public Service Commission of Utah (“Commission”) pursuant to Utah Code Annotated (“U.C.A”) § Section 54-20-101, *et seq.*, also known as Senate Bill 115 – the Sustainable Transportation and Energy Plan Act (“STEP”), signed into law March 29, 2016, requesting authorization to implement three additional innovative utility programs authorized by STEP, specifically, U.C.A. § 54-20-105(1)(h) and § 54-20-107.

The three programs the Company is seeking authorization from the Commission to implement are: (1) the Power Balance and Demand Response to Optimize Charging at Intermodal Hub Project (the “Intermodal Hub Project”); (2) the Wasatch Development Partnership Project for Battery Demand Response (the “Battery Demand Response Project”); and (3) the Advanced

Resiliency Management System Project (the “ARMS Project”). In support of its Application, Rocky Mountain Power states as follows:

1. Rocky Mountain Power is a division of PacifiCorp, an Oregon corporation, which provides electric service to retail customers through its Rocky Mountain Power division in the states of Utah, Wyoming, and Idaho, and through its Pacific Power division in the states of Oregon, California, and Washington.

2. Rocky Mountain Power is a public utility in the state of Utah and is subject to the Commission's jurisdiction with respect to its prices and terms of electric service to retail customers in Utah. Rocky Mountain Power's principal place of business in Utah is 1407 West North Temple, Suite 310, Salt Lake City, Utah 84116.

3. Communications regarding this filing should be addressed to:

Jana Saba  
Utah Regulatory Affairs Manager  
Rocky Mountain Power  
1407 West North Temple, Suite 330  
Salt Lake City, Utah 84116  
E-mail: [jana.saba@pacificorp.com](mailto:jana.saba@pacificorp.com)

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In addition, Rocky Mountain Power requests that all data requests regarding this application be sent in Microsoft Word or plain text format to the following:

By email (preferred): [datarequest@pacificorp.com](mailto:datarequest@pacificorp.com)

By regular mail: Data Request Response Center  
PacifiCorp  
825 NE Multnomah, Suite 2000  
Portland, Oregon 97232

Informal questions may be directed to Jana Saba, Utah Regulatory Affairs Manager at (801) 220-2823.

4. This Application is the fifth tranche of proposed STEP programs for which the Company is seeking authorization. Since receiving authorization from the Commission for the first set of innovative utility programs, the Company has continued to seek potential opportunities to partner with stakeholders on additional innovative utility programs that are in the interest of its customers.

5. Based on those efforts, the Company has identified the three programs described in this Application that will provide a variety of benefits, including: (1) providing experience adaptively managing power flow between the grid and electric vehicle charging infrastructure; (2) helping the Company integrate with new technologies as additional distributed generation resources are deployed on the Company's distribution system; and (3) making the Company's distribution grid more progressive.

**Available STEP Funding**

6. The Company's original application to implement programs authorized by STEP, filed September 12, 2016, ("Original Application") presented a STEP Funding Budget as Table 1 on page 4. The Company has updated that table to show the program budgets for STEP projects approved to date and the remaining available STEP Funding.

Table 1 Updated STEP Funding Budget (\$)

	Note:	2017 (Actual)	2018 (Actual <sup>1</sup> )	2019	2020	2021	Total	Annual Average
EV Charging Infrastructure	Footnote 2	487,502	1,880,703	2,000,000	2,000,000	3,300,000	9,668,205	1,933,641
Clean Coal Technologies								
Woody Waste Co-Fire	Footnote 3	-	230,277	493,620	815,083	-	1,538,980	
Emerging CO2 Capture	Footnote 3	160,451	530,289	658,639	213,000	25,000	1,587,379	
Sequestration Site Characterization		150,239	-	-	-	-	150,239	
CO2 Enhanced Coal Bed Methane Recovery		-	94,029	53,331	63,408	63,753	274,521	
Solar Thermal Assessment		-	-	82,951	89,992	13,500	186,443	
NOX Neural Net Implementation		457,767	207,616	216,718	32,000	32,000	946,101	
Advanced NOX Control	Footnote 3	131,405	26,010	-	-	-	157,415	
Subtotal Clean Coal Technologies		899,862	1,088,221	1,505,259	1,213,483	134,253	4,841,078	968,216
Innovative Utility Programs								
Battery Storage - Solar	Footnote 4	331,995	75,474	6,102,530	120,000	120,000	6,749,999	
Substation Metering		13,767	427,349	663,538	-	-	1,104,654	
Gadsby Emissions Curtailment		-	-	60,000	100,000	100,000	260,000	
Line Extension		-	69,340	500,000	500,000	500,000	1,569,340	
Other Innovative Technology: Microgrid	Footnote 5	-	90,713	110,000	70,000	-	270,713	
Other Innovative Technology: Smart Inverter	Footnote 5	-	383,859	-	-	-	383,859	
<b>Other Innovative Technology: POWER DEMAND INTERMODAL HUBS</b>				<b>815,843</b>	<b>951,079</b>	<b>228,653</b>	<b>1,995,575</b>	
<b>Other Innovative Technology: BATTERY DEMAND RESPONSE</b>				<b>1,470,000</b>	<b>1,570,000</b>	<b>230,000</b>	<b>3,270,000</b>	
Other Innovative Technology (Unallocated)	Footnote 6	-	-	-	697,930	697,930	1,395,860	
Subtotal Innovative Utility Programs		345,762	1,046,735	9,721,911	4,009,009	1,876,583	17,000,000	3,400,000
USIP		-	-	-	-	-	-	-
<b>Conservation, Efficiency and Other New Technology Programs: ADVANCED RESILIENCY MANAGEMENT SYSTEM</b>								
	Footnote 7	-	-	1,430,000	5,690,000	9,400,000	16,520,000	3,304,000
Five Years Projected STEP Fund Use		1,733,126	4,015,659	14,657,170	12,912,492	14,710,836	48,029,283	9,605,857

Footnotes:

- 1) 2018 actuals are preliminary and subject to change. Final numbers will be provided in the annual STEP report filing on April 30, 2019.
- 2) The EV program runs on a FY of September to August of each year. Therefore, 2021 amounts reflect program commitments from the previous years.
- 3) Amounts reflect the February 11, 2019 order to reallocate funds from the canceled Alternative Nox program to the Co-Fired Woody Waste and Cryogenic Carbon Capture programs.
- 4) Amount reflects the February 11, 2019 order authorizing an increase the funding for the Battery Storage project.
- 5) The Microgrid and Smart Inverter projects were approved on October 31, 2017.
- 6) Approximately \$1.4m in funds associated with Other Innovative Technology remain unallocated. The Company is not proposing a use for these funds at this time.
- 7) Includes the STEP funds previously designated for the Utah Solar Incentive Program (USIP).

7. In the Original Application, a total of \$7.85 million was designated for Other Innovative Technology for which the Company committed to file for Commission approval of future projects once identified. On August 15, 2017, the Company filed for, and received approval of, the Microgrid and Smart Inverter programs with a combined approved budget of approximately \$700k. Thus, approximately \$7.15 million funds associated with Other Innovative Technology are available. In this Application, the Company requests approval for two new projects in this category—approximately \$1.96 million for the Intermodal Hubs Project and \$3.27 million for the Battery Demand Response Project. As shown in Table 1, approximately \$1.4 million remains

unallocated for which the Company is not requesting authorization to spend these funds for a specific use at this time.

8. At the time of Original Application, the Company anticipated that approximately \$13 million in STEP funds would be needed for unrecovered costs of the Utah Solar Incentive Program (“USIP”). Based on current information for the USIP incentive payout obligations, these funds will not be needed for USIP. The Company requests the funds be combined with the approximate \$5 million for Conservation, Efficiency and Other New Technology Programs and used for the ARMS project, as described below and in the testimony of Company witness Mr. Rohit P. Nair. Approximately \$1.5 million remains unallocated for which the Company is not requesting authorization to spend these funds for a specific use at this time.

#### **Intermodal Hub Project**

9. The proposed Intermodal Hub Project is a partnership with Utah State University’s Sustainable Electrified Transportation Center and Utah Transit Authority (“UTA”) to develop a power balance and demand response system, including chargers with outputs up to 400 kW, to be installed at UTA’s Intermodal Hub located in Salt Lake City.

10. The Intermodal Hub Project is designed to address the high cost of grid infrastructure needed for high output chargers by researching methods to adaptively manage power flow between the grid and various electric charging needs. The project would be the first to combine the diversity of electric charging needs (light rail, bus, passenger, truck, and ride hailing services) at an intermodal transit center to create a multi-megawatt, co-located, coordinated, and managed charging system. The combination of diverse loads allows the opportunity to create an innovative solution to share infrastructure costs and actively manage grid impacts.

11. As more fully described in the Direct Testimony of Company witness Mr. James A. Campbell and Exhibit RMP\_\_\_(JAC-1), the Company believes that the Intermodal Hub Project would serve as a model for the future deployment of power management systems. The project would also allow the Company to develop tools to optimize system design, which can help avoid oversizing infrastructure equipment in future developments. The Company is requesting authorization to spend approximately \$2 million in STEP funds for the Intermodal Hub Project, pursuant to U.C.A. §54-20-105(1)(h) as a technology project that is in the interest of the Company's customers.

#### **Battery Demand Response Project**

12. The proposed Battery Demand Response Project would be a partnership between the Company and Wasatch Development for the installation of individual batteries in each unit of a 600 unit multi-family development to be constructed. The batteries would be charged by solar facilities, and the Company would have control of the batteries to deploy them for system-wide demand response, similar to the Company's Cool Keeper program.

13. The Battery Demand Response Project is an innovative approach to provide the Company experience with solar and battery integration, along with advanced management of the grid and peak/off-peak energy use. In addition to demand response, the Battery Demand Response Project would also allow the Company to study the value of having behind-the-meter grid-optimized solar and battery storage interconnected to the Company's distribution system, and help the Company evaluate potential rate design options for customers with batteries.

14. As described in the Direct Testimony of Company witness Mr. William J. Comeau and Exhibit RMP\_\_\_(WJC-1), the Battery Demand Response Project will allow the Company to prepare for larger-scale deployment of battery storage technology and integrate such technology

into the Company's distribution system. The Company is requesting authorization to spend approximately \$3.27 million of STEP funds for the Battery Demand Response Project, pursuant to U.C.A. §54-20-105(1)(h) as a technology project that is in the interest of the Company's customers.

### **Advanced Resiliency Management System**

15. The proposed ARMS Project includes the installation of encoder receiver transmitter ("ERT") electric meters (also known as automated meter reading facilities), installation of communication radios on distribution line equipment, and deployment of additional line sensor technology on distribution circuits connecting critical customers (e.g. hospitals, trauma centers, and police and fire dispatch) to enable real-time communication with the Company's control center. In addition, the Company is reviewing the deployment of line sensor technology on distribution circuits that have traditionally had poor reliability to improve outage response.

16. The ARMS Project will provide benefits to the Company and its customers by allowing control center operators real-time access to information during major outages to restore service as quickly as possible to critical facilities responsible for public safety and emergency response, while also providing outage information for most other customers in Utah. Installation of the ERT meters will also allow residential and small commercial customers access to interval energy data, which can allow them to make better financial decisions regarding their energy usage. The Company estimates the ARMS Project will provide approximately \$71.1 million in reliability benefits to Utah customers over the next 25 years.

17. As described in the Direct Testimony of Rohit Nair and Exhibit RMP\_\_\_\_(RPN-1), this project creates a significant opportunity for the Company to develop experience with technologies that can be used for grid modernization applications, including distribution


automation, outage management, data analytics, and demand-response programs. The Company is requesting authorization to spend \$16.52 million in STEP funds for the ARMS Project pursuant to U.C.A. § 54-20-107, as a cost-effective program that is in the public interest.

WHEREFORE, Rocky Mountain Power respectfully requests that the Commission approve this Application and the proposed programs, as filed, with an effective date of June 6, 2019.

DATED this 8<sup>th</sup> day of March, 2019.

Respectfully submitted,

ROCKY MOUNTAIN POWER

A handwritten signature in blue ink, appearing to read "R. Jeff Richards", is written over a horizontal line.

R. Jeff Richards  
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*Attorneys for Rocky Mountain Power*