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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 SUSTAINABLE TRANSPORTATION AND ENERGY ACT	))))))	Docket No. 16-035-36

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

Rocky Mountain Power, a division of PacifiCorp ("Company" or "Rocky Mountain Power"), hereby submits this application ("Application") to the Public Service Commission of Utah ("Commission") pursuant to Utah Code Annotated ("U.C.A.") § 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 programs authorized by STEP. The Company respectfully requests that the Commission keep this Docket open for the duration of the 5-year STEP pilot program to allow for additional related filings to be made in a single consolidated Docket.

Enclosed for filing are an original and ten (10) copies of proposed tariff sheets associated with the following schedules in Tariff P.S.C.U. No. 50 of PacifiCorp, d.b.a. Rocky Mountain Power, applicable to electric service in the State of Utah:

- Index of Electric Service Regulations (revised)
- Schedule 195, Sustainable Transportation and Energy Plan (STEP Cost Adjustment) (revised from current Schedule 195 Solar Incentive Program Cost Adjustment)
- Schedule 193, Demand Side Management (DSM) Cost Adjustment (revised)
- Regulation No. 13, Sustainable Transportation and Energy Program (STEP) Commercial Line Extension Pilot Program (new)
- Schedule 107, Utah Solar Incentive Program (revised)

The proposed tariff sheets are included as Attachment 1 to this Application. Pursuant to the requirement of Rule R746-405-2(D), the Company states that the proposed tariff sheets do not constitute a violation of state law or Commission rule. The Company respectfully requests an effective date of January 1, 2017, for these tariff changes.

The Company is seeking authorization from the Commission specifically in this Application for tariff revisions to implement the following pursuant to STEP:

(1) beginning January 1, 2017, revised Schedule 195 rates, which will collect $10 million per year, and will be combined on customer bills with Schedule 193 rates that recover the cost of demand side management ("DSM"), including the cost of amortizing a deferred DSM balance, in a combined line item charge pursuant to U.C.A. § 54-7-12.8(3);

(2) establish and fund a regulatory liability pursuant to U.C.A. § 54-7-12.8(5)(a)(ii), via a component of the line item charge described above, and use the regulatory liability to depreciate thermal generation plant pursuant to U.C.A. § 54-7-12.8(5)(a)(iii);

(3) implement an Electric Vehicle ("EV") Incentive Pilot Program pursuant to U.C.A. § 54-20-103 and approval of a new tariff Schedule 120, which will be submitted following discussions with interested parties in a working group;

(4) establish a Clean Coal Technology Program pursuant to U.C.A § 54-20-104;

(5) implement two Innovative Utility Program projects pursuant to U.C.A. § 54-20-105(1)(c) and (h) for: (1) an advanced substation metering project, and (2) a solar and energy storage technology project;

(6) establish a program to curtail emissions from a thermal generation plant in the Salt Lake non-attainment area during a non-attainment event as defined by the Division of Air Quality, pursuant to U.C.A. § 54-20-105(1)(e);

(7) implement a new commercial line extension pilot program pursuant to U.C.A. § 54-20-105(1)(d) through a new tariff Electric Service Regulation No. 13; and

(8) modify the Utah Solar Incentive Program ("USIP") through revisions to tariff Schedule No. 107 as of December 31, 2016, pursuant to U.C.A. § 54-7-12.8(4), to stop accepting new applications for incentives, with forecast unrecovered USIP costs included in the proposed rates in Schedule 195.

The Company commits to filing a report with the Commission, no later than October 31, 2020, to provide input to the Commission for its report and recommendations for the Sustainable Transportation and Energy Plan. In accordance with U.C.A. § 54-20-

106, the Commission is required to file a report on STEP with the Utah Legislature before the first day of the legislative session in the final year of the pilot program.

In support of these programs, the Company is proposing the following budget in Table 1 for implementation of the STEP programs:

Table 1 STEP Funding Budget

	2017	2018	2019	2020	2021	Total	Annual Average
EV Charging Infrastructure	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$10,000,000	$2,000,000
Clean Coal Technologies							
Woody Waste Co-Fire	$612,841	$177,032				$789,873	
Emerging CO2 Capture	$381,557	$668,301	$125,000			$1,174,857	
Sequestration Site Characterization - Phase 1	$150,000					$150,000	
CO2 Enhanced Coal Bed Methane Recovery		$62,500	$75,000	$62,500	$75,000	$275,000	
Solar Thermal Assessment			$65,083	$83,083	$38,833	$187,000	
NOX Neural Net Implementation	$547,806	$178,924	$216,719	$32,000	$32,000	$1,007,449	
Advanced NOX Control	$100,000	$320,411	$775,000	$220,411		$1,415,821	
Subtotal Clean Coal Technologies	$1,792,204	$1,407,167	$1,256,802	$397,994	$145,833	$5,000,000	$1,000,000
Innovative Utility Programs							
Battery Storage - Solar	$500,000	$2,350,000		$2,200,000		$5,050,000	
Substation Metering	$500,000	$350,000	$250,000			$1,100,000	
Gadsby Emissions Curtailment	$100,000	$100,000	$100,000	$100,000	$100,000	$500,000	
Line Extension	$1,000,000	$1,000,000	$500,000			$2,500,000	
Other Innovative Technology [(a)]			$2,000,000	$3,500,000	$2,350,000	$7,850,000	
Subtotal Innovative Utility Programs	$2,100,000	$3,800,000	$2,850,000	$5,800,000	$2,450,000	$17,000,000	$3,400,000
USIP	$2,584,112	$2,584,112	$2,584,112	$2,584,112	$2,584,112	$12,920,558	$2,584,112
Conservation, Efficiency and Other New Technology Programs [(a)]	$1,015,888	$1,015,888	$1,015,888	$1,015,888	$1,015,888	$5,079,442	$1,015,888
Five Years Projected STEP Fund Use	$9,492,204	$10,807,167	$9,706,802	$11,797,994	$8,195,833	$50,000,000	$10,000,000

(a) The Company will file for Commission approval as part of this open docket for future innovative technology projects and other new technology programs once identified.

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:

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Rocky Mountain Power
1407 West North Temple, Suite 330
Salt Lake City, Utah 84116
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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

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

Informal questions may be directed to Bob Lively, Utah Regulatory Affairs Manager at (801) 220-4052.

Line Item Charge Authorized by U.C.A. § 54-7-12.8(3)

4. STEP allows the Commission to authorize a large-scale electric utility to implement tariffs to provide funding for a sustainable transportation and energy plan pilot program, and then implement a variety of specified programs using the funding.

5. Rocky Mountain Power hereby submits with this application an original and ten (10) copies of proposed revisions to tariff Schedule 195 and Schedule 193, included with this Application as Attachment 1. Currently, Schedule 195 recovers costs associated with the Utah Solar Incentive Program ("USIP") and Schedule 193 recovers costs associated with DSM. With this Application, the Company proposes revisions to Schedule 195 to collect the $10 million in STEP funding authorized pursuant to U.C.A. § 54-7-12.8. Pursuant to U.C.A. § 54-7-12.8(6)(c), the STEP Cost Adjustment on Schedule 195 includes the estimated unrecovered costs for USIP, which are approximately $2.6 million per year of the annual $10 million STEP funding. The Company proposes to allocate the STEP funding (and unrecovered USIP costs included therein) on an equal percentage basis, resulting in a net impact of 0.2 percent to each electric service rate schedule. The proposed rates for contract customers on Schedule 195 reflect only recovery of the unrecovered USIP costs, as required by U.C.A. § 54-7-12.8(8). Allocation of the unrecovered USIP costs to the contract customers is consistent with prior approved allocation for USIP to these customers. The Company proposes to implement the Commission approved line item charge authorized pursuant to U.C.A. § 54-7-12.8(3), by combining the rates from Schedule 195 and Schedule 193 on customer bills, beginning January 1, 2017.

6. In accordance with U.C.A. § 54-7-12.8(2)(b), the Company requests authorization, beginning January 1, 2017, to capitalize the annual costs incurred for DSM,

and amortize annual DSM expenditures over a ten year period and apply a carrying charge to the unamortized balance that is equal to the Company's pretax weighted average cost of capital approved in the Company's most recent general rate proceeding. Unamortized DSM costs will be carried in a regulatory asset balancing account. The Company further requests authorization, in accordance with U.C.A. § 54-7-12.8(5)(a), for authorization to allocate the difference between DSM tariff collections and the DSM amortization expense to a regulatory liability fund that will be used for thermal plant depreciation subject to Commission authorization pursuant to U.C.A. § 54-7-12.8(5)(b)(i).

7. The regulatory asset and regulatory liability described in paragraph 6 above will be subject to the same carrying charge, equal to the utility's pretax weighted average cost of capital approved by the Commission in the Company's most recent general rate proceeding, as required by U.C.A. § 54-7-12.8(5)(c).

8. Pursuant to U.C.A. § 54-7-12.8(6) and (7), beginning January 1, 2017, as described more fully below, the Company will establish a balancing account(s) to track the $10 million annual collection through the line item charge for STEP pilot programs in the following manner: (1) $2 million for the electric vehicle incentive program; (2) $1 million for clean coal technology research; (3) $3.4 million for innovative utility programs including commercial line extensions, solar generation, battery storage, coal generation plant emissions curtailment, or other programs that may be proposed later; and (4) $2.6 million to be applied first to unrecovered costs from the Utah Solar Incentive Program, which will be discontinued for new participants; then applied to other conservation, efficiency or other new technology programs that may be authorized by the Commission pursuant to U.C.A. § 54-7-12.8(6)(d).

9. As more fully described in the Future Step Initiatives section below, the Company expects to request additional authorization in the future for expenditures of STEP funding pursuant to U.C.A. § 54-20-105 under this Docket, based on the recommendations received through collaboration with stakeholders, or as additional information becomes available to the Company.

10. During the pilot program period, the balancing account(s) will contain the $10 million annual collections; program expenditures and administrative costs; unrecovered Utah Solar Incentive Program costs; and a carrying charge in an amount determined by the Commission. The Company proposes the carrying charge amount as determined in Docket No. 15-035-69.

11. The Company respectfully requests approval of the line item charge, the revisions to Schedules 193 and 195, the accounting treatments, and the carrying charges as described in this section.

Utah Solar Incentive Program

12. Pursuant to U.C.A. § 54-7-12.8(4), the Application includes proposed changes to Schedule 107, Solar Incentive Program, to terminate the Utah Solar Incentive Program ("USIP") for new participants as of December 31, 2016. The proposed tariff revisions limit participation in USIP to customers that have accepted an incentive as of December 31, 2016. While closed to new participants, the Company proposes to allow the tariff to remain in effect until incentives to all existing participants have been disbursed. The Company respectfully requests approval of the revised tariff Schedule 107 and authorization to terminate USIP for new participants, as described above.

Electric Vehicle Incentive Program

13. Pursuant to U.C.A. § 54-20-103, the Company is requesting authorization of funding for an electric vehicle incentive program, the Plug-in Electric Vehicle ("PEV") Pilot Program, which will be implemented through a new tariff Schedule No. 120. The proposed PEV Pilot Program ("PEV Program") is designed to promote customer choice in plug-in electric vehicle charging equipment infrastructure. The Company requests that the Commission authorize the PEV Program to use up to $2 million per year as provided for in U.C.A. § 54-7-12.8(6)(b)(i) during the pilot program period. Through a future filing the Company will propose an effective date for the new tariff to begin implementing the incentives. For January 1, 2017, the Company is seeking authorization for the funding, based on the budget outlined below, in order to begin the administrative work and development of a marketing plan prior to the effective date of the incentives. For reference, the proposed tariff sheets are included as Exhibit A to this Application.

14. The proposed PEV Program components are listed below, with further explanation provided in subsequent sections.

- A portion of the PEV Program budget will be allocated annually to administration, outreach and awareness for PEVs, and potential grant opportunities to leverage available funds for increased PEV infrastructure and outreach.
- The Company intends to issue a Request for Proposals ("RFP") to select a vendor to administer the PEV Program.
- The Company proposes to provide prescriptive incentives for Residential and Non-Residential AC Level 2 Chargers and DC Fast Chargers, as well as custom incentives for projects/partnerships that may be submitted to the Company for

consideration. The prescriptive incentives are intended to provide an easy path for customers by allowing them to purchase a charger and receive an incentive. The custom incentives are intended for complex projects that require funding assistance and provide PEV infrastructure benefits.

- The PEV Program budget will consist of up to $2 million per year for five years.

15. The Company intends to market the PEV Program and provide education on the system impacts and benefits to customers. This includes development of a website containing detailed information about the PEV Program and tools for customers to better understand impacts on the grid and appropriate charging behavior. The Company may consider an outreach partner to perform strategic PEV outreach and awareness, which may include social media components such as a mobile application to assist customers with their charging decisions.

16. The Company intends to issue an RFP to select a vendor to administer the PEV Program. No funds will be spent until the program has been authorized by the Commission. The PEV Program administrator may be responsible for items such as:

- Customer engagement;
- Continual improvements of PEV Program operations and customer satisfaction;
- Incentive processing and call-center operations;
- PEV Program specific customer communication and outreach;
- Reviewing custom applications and providing recommendations; and
- Outreach and communications

17. Through this PEV Program, the Company proposes to incentivize residential and non-residential AC Level 2 Chargers, DC Fast Chargers, and custom projects:

- *Residential AC Level 2 Charger Prescriptive Incentive* - This measure will promote Level 2 Charger infrastructure among residential customers and the purchase of PEVs. The Company proposes to have a maximum "up to" incentive amount of $200 per charger for this offering for flexibility, but have an initial offering of $100 when the program becomes effective as this amount is expected to drive participation. Incentives will be capped at 50 percent of the total charger cost. Subject to further discussions with interested parties, as discussed below, the PEV Program may require residential customers to sign up for a time of use pricing pilot, if available, in order to be eligible for this incentive. Other special conditions regarding this incentive include, but are not limited to, the following:
    i. To be eligible for an incentive, Customers must submit a Program Administrator approved post-purchase application and meet all PEV Program requirements.
    ii. Incentives will be available on a first come first serve basis with an annual cap.
    iii. The Company and its agents reserve the right to inspect installation.
- *Non-Residential AC Level 2 Charger Prescriptive Incentive* - This measure will promote new AC Level 2 Charger infrastructure among businesses and multi-family dwellings. The Company proposes to have a maximum “up to” incentive

amount of $3,000 per charger for this measure for flexibility, but have an initial offering of $1,500 per charger when the PEV Program becomes effective as this amount is expected to drive participation. Incentives will be capped at 75 percent of the total charger cost. Subject to further discussions with interested parties, as discussed below, the PEV program may require non-residential customers to sign up for a time of use pricing pilot, if available, in order to be eligible for this incentive. Other special conditions regarding this incentive may include, but are not limited to, the following:

i. Customers must submit a PEV Program Administrator approved post-purchase application and meet all PEV Program requirements.

ii. Incentives will be available on a first come first serve basis with an annual cap.

iii. The Company and its agents reserve the right to inspect installations.

- *DC Fast Charger Prescriptive Incentive* - This measure will promote new DC Fast Charger infrastructure across Utah. The Company is proposing to require DC Fast Chargers to be made available for public use and to require that charger data be made available to the Company to be eligible for this incentive. The Company proposes to have a maximum "up to" incentive amount of $30,000 per charger for this measure for flexibility, but have an initial offering of $20,000 per charger when the PEV Program becomes effective as this amount is expected to drive participation. Incentives will be capped at 75 percent of the total charger and installation costs. Special conditions regarding this incentive include, but are not limited to, the following:

i. To be eligible for an incentive, Customers must submit a PEV Program Administrator approved application(s), provide all required documentation, and receive pre-approval.

ii. Equipment purchased or installed prior to receipt of the Company's pre-approval may not be eligible for incentives.

iii. Pre-approval criteria may include, but is not limited to:

a. Location variables such as proximity to other DC Fast Chargers;
b. Overall benefits to the public;
c. Costs of project and incentive amount;
d. Technology being used;
e. Consent to provide charger usage data;
f. Availability to the public; and
g. Selection committee

iv. Incentives will be available on a first come first serve basis with an annual cap.

v. The Company and its agents reserve the right to inspect installations.

- *Grant-Based Custom Projects and Partnerships* - This measure will allow customers to submit applications for a specific project or partnership that will support PEV infrastructure. Special conditions regarding this incentive include, but are not limited to, the following:

i. To be eligible for a custom incentive, Customers must submit a PEV Program Administrator approved application(s), provide all required documentation, and go through a selection process.

ii. The selection process may include, but is not limited to:

a. Location variables such as proximity to other charging infrastructure;
b. Overall benefits to the public;
c. Costs of project and incentive amount;
d. Technology being used;
e. Consent to provide charger usage data;
f. Availability to the public;
g. Selection committee;
h. Matching funds;
i. Innovative partnerships and projects that support plug-in electric vehicle infrastructure and education; and
j. Development of DC fast charging corridors

iii. Custom projects may be selected on a quarterly basis and will be limited to available funding.

iv. The Company and its agents reserve the right to inspect installations.

v. Participants with new construction may submit an application for pre-approval, but will be held to all applicable timelines.

18. To manage the annual budget of $2 million, the Company proposes to make residential/non-residential AC Level 2 Charger and DC Fast Charger incentives available up to the cap listed in Table 2 below through September 30th of each year and then re-allocate any remaining funds from those measures to Grant-Based Custom Projects and Partnerships. Customers may still submit applications for AC Level 2 and DC Fast Chargers after September 30th. However, applications at that point will be considered as part of the subsequent PEV Program year.

19. The Company's estimated budget for the first year of the PEV Program is outlined in Table 2 below:

Table 2 - Annual Incentive Caps and Estimated 2017 Budget

PEV Program Year	Incentive Measure	Annual Incentive Caps	Administrative/Outreach & Awareness Costs	Total
2017	Residential AC Level 2 Chargers	$100,000*	Up to $500,000	---
	Non-Residential AC Level 2 Chargers	$400,000*		
	DC Fast Chargers	$400,000*		
	Grant-based custom projects and partnerships	$600,000**		
Total	---	$1,500,000	$500,000	$2,000,000

*This is the maximum amount of funds that may be spent on these measures annually.

**After September 30th each year, any remaining funds below the caps from Residential/Non-Residential AC Level 2 and DC Fast Charger incentives may be re-allocated to Grant-based custom projects and partnerships, increasing its incentive cap for the calendar year.

20. Given that this is a pilot program, incentive allocations from Table 2 above are subject to change. As the PEV Program progresses, it will become more apparent where the most opportunity is to benefit customers and the public interest with PEV infrastructure. The Company will adjust funding for incentives and outreach as the PEV Program progresses and will file for Commission approval to remove, or add measures as necessary.

21. In accordance with U.C.A. § 54-20-103(3)(a), (b), and (c), the Company met with the Division of Public Utilities, Office of Consumer Services, Division of Air Quality, and several other interested parties on May 10, 2016, to discuss concepts for consideration in developing the PEV Program. On July 26, 2016, the Company circulated a draft Program Tariff and Advice Letter to the aforementioned parties for review and feedback. Feedback was received from several parties on or about August 12, 2016. All feedback and recommendations received were taken under consideration for this filing.

22. U.C.A. § 54-20-103(1)(b) provides that the electric vehicle incentive program include time of use pricing for electric vehicle charging. Time of use rates encourage off-peak hour charging and more efficient utilization of the energy system. The Company has been evaluating time of use rate designs for residential customers that charge PEVs at home and for non-residential public PEV charging.

23. As discussed below, the Company proposes to host a series of working group discussions with interested parties to advise on the development of time of use pricing pilots that may be implemented in conjunction with the PEV Program incentives. The Company anticipates making a filing by the end of 2016. Based on these discussions, the Company will file the proposed Schedule 120 to implement the PEV Program incentives, with supporting testimony if necessary, with an effective date on or before July 1, 2017.

24. In accordance with U.C.A. 54-20-103(3)(d), the Company filed a Notice of Intent to File STEP Act Initiatives and requested the Commission issue a public notice to allow any additional persons not previously involved to file a request for notice with the Commission of their desire to provide input on the Company's proposed PEV Program. The Commission issued a public notice August 19, 2016. To date, one party has filed notice with the Commission of their desire to provide input on the Company's proposed PEV Program prior to this filing.

25. The Company respectfully requests authorization for funding of the PEV Program, as described in this section.

Clean Coal Technology Program

26. In accordance with U.C.A. § 54-20-104, the Company is requesting authorization of a program to investigate, analyze, and implement clean coal technology. Pursuant to U.C.A. § 54-7-12.8(6)(b)(ii)(A), the budget for this program is an annual average of $1 million per year over the five year STEP pilot period. A more detailed program description is attached as Exhibit B. The program is supported by the Direct Testimony of K. Ian Andrews.

27. For implementation of this program, the Company has assembled a clean coal research team, which includes personnel from the Company's coal-fired generation units and generation technical services, and University of Utah, Brigham Young University, and Utah State University professors from the chemical engineering and mechanical engineering departments, the Utah Office of Energy Development, the University of Utah Geosciences Institute, the Utah Science and Technology Research Initiative, Reaction Engineering, and Sustainable Energy Solutions.

28. The clean coal research team has held multiple workshops and webinars on low nitrogen oxide ("NO_X") emissions control technologies. The team has identified key areas of research in the areas of carbon dioxide ("CO_2") capture and sequestration and NO_X emissions control. The team has also identified entities that may assist in implementing the initiatives.

29. The clean coal research team has identified key areas of research that will be given priority, as well as additional areas of research that may lead to future projects. The Company has evaluated several proposals submitted by the clean coal research team. In evaluation of the proposals, the Company focused on technologies that benefit customers, advance technology or commercial implementation of technology, and/or

reduce emissions, with preference given to the following: (1) technology demonstrations; (2) initiatives that will advance existing technology; (3) projects located in Utah; and (4) projects that can leverage additional available funding from the United States Department of Energy or state and local governments.

30. The Company is proposing to implement five CO_2 capture and sequestration projects and studies, each of which is described in more detail below:

(1) a Utah woody waste co-firing test;

(2) a cryogenic capture demonstration project;

(3) a solar thermal augmentation study;

(4) a study evaluating regional/commercial use of CO_2 for enhanced coal bed methane recovery; and

(5) co-funding the University of Utah's pre-feasibility assessment of a commercial scale CO_2 capture site.

31. The Utah woody waste co-firing test project will apply two Utah-based technologies that process woody waste. Each co-firing test will consist of a single 18 hour co-firing test at the Hunter 3 coal fired generation facility using both processes. The objective of the test is that no adverse plugging or fouling of the boiler occurs. The benefit will be to determine the feasibility of potential periodic removal of Utah’s woody waste. A coal milling study associated with this project is currently being performed. The University of Utah submitted the project proposal, led by Dr. Eric Eddings.

32. The cryogenic capture demonstration project is a long term (six to nine months) availability test of cryogenic capture at either the Hunter or Huntington plant. This long term availability test of the technology is viewed as a next step to facilitate United

States Department of Energy funding to design, construct, install, and test a pilot scale (five to ten megawatt) facility. Sustainable Energy Solutions submitted the project proposal.

33. The solar thermal augmentation study will evaluate the feasibility, cost, environmental benefit, and land requirements of solar thermal augmentation to produce steam at the Hunter facility. Brigham Young University submitted the project proposal, led by Dr. Brian Iverson.

34. The regional/commercial use of CO_2 for enhanced coal bed methane recovery study will evaluate the potential for captured CO_2 from Emery County coal-fired generation plants for use in enhanced coal bed methane recovery. The University of Utah Earth Geosciences Institute submitted the project proposal, led by Dr. John McLennan.

35. The pre-feasibility assessment of a commercial scale CO_2 capture site project will provide co-funding toward the University of Utah's proposed pre-feasibility study to evaluate the potential for a commercial scale geological CO_2 sequestration facility in a geologic formation adjacent to the Hunter plant that lies under the San Rafael swell. The project, if awarded, will leverage up to $1.2 million in funding from the United States Department of Energy. The University of Utah tendered a proposal to the United States Department of Energy on August 30, 2016, submission due date. Dr. Andrew Sweeney and Dr. Brian J. McPherson are the leads.

36. The Company is proposing to implement two NO_X emission control projects: (1) a neural net controls demonstration project; and (2) a utility scale demonstration project to evaluate advanced technologies to reduce NO_X emissions.

37. The neural net controls demonstration project will develop and install neural network software at Huntington Unit 2. The benefit will be targeted NO_X emissions and

potentially heat rate reductions. The implementation schedule will be aligned with infrastructure upgrades, including coal pipe flow, oxygen, carbon monoxide, NO_X and furnace exit gas temperature monitors. University of Utah submitted a draft proposal, led by Dr. Kody Powell.

38. The Company is in the process of preparing a request for proposal that will be issued in 2017 to potential technology providers to achieve economic reductions in NO_X emissions. Technologies may include advanced combustion controls, selective non-catalytic reductions, low cost catalysis and novel chemical conversion processes. There are several potential technology providers that will be invited to participate in the request for proposal.

39. The proposed budget for each identified project for clean coal technologies is shown in Table 1 above.

40. The Company respectfully requests authorization of the program to investigate, analyze, and implement clean coal technology, as described in this section.

Advanced Substation Metering, Innovative Utility Program

41. Under U.C.A. § 54-20-105(1)(c), which allows the Commission to authorize the Company to implement a battery storage or electric grid related project, and U.C. A. § 54-20-105(1)(h), which allows the Commission to authorize the Company to implement other innovative technology programs that the Commission determines are in the interest of the large-scale electric utility's customers, the Company proposes to implement an Advanced Substation Metering project. The Advanced Substation Metering project will enable the Company to purchase and install advanced substation meters at approximately 50 circuits connected to distribution substations in order to enable greater

data visibility of the distribution system and integration of distributed generation resources. The Company is proposing a budget of $1.1 million over the five-year STEP pilot for this project.

42. As more fully described in the Advanced Substation Metering Program document, which is provided as Exhibit C to this Application, and supported by the direct testimony of Douglas L. Marx, the substation monitoring and measurement of various electrical quantities will provide information necessary for the development of a more progressive electric grid, in particular for the integration of distributed generation resources.

43. Data collection and analysis at substations will be of paramount importance as the Company continues to integrate the rapid growth of distributed energy resources into its system. The advanced substation metering program will:

- Provide visibility on power flow, loading levels, load shape, and event information needed to develop thorough interconnection studies, help determine safe switching procedures and cost effective capital improvement plans.
- Provide a greater understanding of innovative solutions that will allow the Company to make the grid more progressive.
- Allow the Company to study how single phase distributed energy resources can exacerbate load imbalance on a distribution circuit, causing three phase voltage imbalance issues and increasing the potential for unintended circuit breaker operations from elevated neutral currents.

- Allow the Company to determine if there are detrimental impacts on transient and steady state voltage levels due to growing interaction between distributed energy resources and distribution system equipment.
- Provide a greater understanding of how the production levels on a circuit can accurately determine the need for effective grounding and fault clearing control schemes, which if not installed appropriately can cause temporary over-voltages to customers or circuits improperly protected during fault conditions.
- Allow the Company to determine how potential harmonic issues from inverter-based distributed energy resources can cause customer motor damage and interfere with high frequency communications.
- Review the need for measurement of per-phase vector quantities to improve optimization opportunities for capital costs and system losses.

44. The Company anticipates that the benefits that will accrue to the Company and its customers include:

- Enablement of increasing levels of distributed energy resources on the power grid in an affordable and reliable way by providing increased visibility on loading levels, load shape and event information needed to develop thorough interconnection studies and hosting capacities for customers; determining safe switching procedures; and, cost effective capital improvement plans.
- Assistance in preventing load imbalance on a distribution circuit caused by single phase distributed energy resources, which can result in three phase voltage imbalance issues and increasing potential for unintended circuit breaker operations from elevated neutral currents.

- Insight into harmonic issues caused by distributed energy resources, thereby enabling the Company to take appropriate steps to resolve issues, if any, in a proactive way.
- Improved optimization opportunities for capital costs and system losses by providing measurements of per-phase vector quantities for voltage and current.
- Identification of service quality issues early, thereby allowing timely development and implementation of cost effective mitigation.
- Enhanced understanding of intermittent generation resources and their impact on the power grid.
- Reduction in time delays of approvals for customers seeking distributed generation interconnections.
- Ability to provide customers with circuit information with a higher level of accuracy.
- Identification and control of risks associated with the integration of significant penetration of distributed energy resources. This includes controlling claims from power quality issues, customer equipment failure, utility/customer equipment damage or impact on customer generation levels.

45. The Company proposes to begin implementing the program on January 1, 2017. The installations of the advanced substation metering equipment will be scheduled according to prioritized need starting with areas with high penetrations of distributed energy resources. The Company anticipates the final in-service date to be December 2019.

46. The Company respectfully requests authorization to implement the advanced substation metering program as described in this section.

Solar and Energy Storage Technology, Innovative Utility Program

47. Pursuant to U.C.A. § 54-20-105(1)(c), the Company requests that the Commission authorize the Company to use $5.05 million of the STEP funding to install a stationary battery system, to be connected to one or both of the 12.5 kilovolt distribution circuits connected to a Company-owned substation in central Utah. In addition, the Company proposes to utilize an additional $1.95 million from Blue Sky community funds to install a large-scale, company-owned solar project in conjunction with the battery installation. The storage and solar technology is expected to defer or eliminate the need for traditional capital investments, and will reduce the loading on the power transformer, improve voltage conditions and mitigate costs associated with connection on the 69 kilovolt bus at the substation. The proposed program is described in more detail in the Solar and Energy Storage Technology Program document, which is attached to this Application as Confidential Exhibit D, and which is supported by the testimony of Douglas L. Marx.

48. During summer peak loading periods, the Company experiences voltage drops on some transmission lines. The Company consistently implements reliability and power quality enhancements on its transmission and distribution system and adheres to the standards established by ANSI for both normal and emergency operation. The operating voltage thresholds are designed to protect Company and customer-owned equipment from inadvertent mis-operation or damage due to voltage excursions.

49. To correct the voltage issues experienced during peak loading conditions on a 69 kilovolt transmission line in central Utah, the Company proposes to connect a stationary battery system and a Company-owned solar facility to one or both of the 12.5

kilovolt distribution circuits connected to a central Utah substation. This will reduce the loading on the power transformer, improve voltage conditions and mitigate costs associated with connection on the 69 kilovolt bus at the substation, while also giving the Company experience with this new type of technology solution. The system will be sized to handle the initial voltage corrections, and be expandable to provide additional correction as load growth in the area creates further voltage excursions. The total battery storage system will be approximately five (5) megawatt-hours, the solar system size will be approximately 650 kilowatts, and the site for the facility will occupy five to seven acres depending upon which technologies are chosen.

50. The program will provide a number of benefits to the Company and its customers in the area of the solar energy and battery storage project, including: (1) reducing load on the transformer at the substation, ensuring the voltage on the transmission line does not drop below ANSI standards; (2) providing high-speed reactive power support to ensure load rejection in the area does not impact voltage levels; (3) deferring the need for traditional capital investment; (4) enabling the Company to get first-hand operational experience with control algorithms and efficiency levels associated with energy storage combined with solar; (5) enabling the Company to become familiar with and utilize innovative technologies to provide customers with solutions to power quality issues; and (6) providing an opportunity for the Company to meet requests from its Blue Sky customers for physical "steel in the ground" renewable facilities.

51. The proposed project meets the goal of providing benefits for the Company and its customers. The project will allow the Company to expand renewable energy and innovative technology options to improve service to customers, and to prepare for

enhanced deployment of clean energy sources. In addition, the project will provide savings by deferring capital investment, and improving utilization of grid assets. The Company respectfully requests authorization to implement the solar and battery storage innovative utility technology program, as described in this section.

Emissions Curtailment Program

52. The Company is proposing an emissions curtailment program pursuant to U.C.A. 54-20-105(1)(e), under which the Commission may authorize "a program to curtail emissions from thermal generation plant in the Salt Lake non-attainment area during a non-attainment event as defined by the Division of Air Quality."

53. Air quality is a challenging issue that Utah is dealing with and this proposed program will address this issue by establishing a process where the Company would curtail the Gadsby Power Plant during winter inversion air quality events as defined by the Utah Division of Air Quality ("UDAQ"). Funds collected from the line item charge authorized by U.C.A. § 54-7-12.8(6) would be used to reimburse Rocky Mountain Power for the incremental net power costs incurred for the curtailment during the five-year pilot program. The curtailment program budget is a total of $500,000; once the funds are exhausted the program will be discontinued.

54. The Gadsby Power Plant is 100 percent owned and operated by the Company. It is designed to burn oil derivatives, natural gas, or coal. The program would apply only to Units 1-3, which are conventional natural gas fired boilers. The three units have a net capacity rating of 64 megawatts ("MW"), 69 MW, and 104.5 MW for a total of 237.5 MW. The Gadsby Power Plant is typically used for spinning reserve and peak load.

55. Under the proposed program, which is described more fully in the Gadsby Emissions Curtailment Program document, included as Exhibit E to this Application and which is supported through the direct testimony of Company witness James Campbell, the UDAQ would issue air quality alerts to the Company when the ambient air quality along the Wasatch Front is at or near unhealthy levels, and the Company would curtail these units until the air quality alerts are lifted by the UDAQ, or until the impact of the curtailment(s) reaches the maximum level of funding. If the plants are curtailed, the Company would incur an economic loss from both not operating the resource, and purchasing replacement generation and capacity to meet system needs. Gadsby is a system resource, so the economic loss would impact all six states in which the Company serves. To ensure no state is unfairly impacted by the program, STEP funds would be used to compensate the system for the incremental cost.

56. UDAQ will provide five days' notice when air quality actions will be issued. The Company will evaluate the system to determine that there are no emergency or reliability issues that could be impacted by curtailing. At two days out, UDAQ will issue a second notice of upcoming air quality action alert. Assuming there are no reliability or emergency issues, the Company will curtail Gadsby's steam operations. The Company needs 48 hours to effectively reposition its fuel supply. The steam units will stay curtailed, subject to funding, until UDAQ releases its air quality action alert.

57. In the event that the Gadsby Power Plant was scheduled to operate and was curtailed, the economic loss will be calculated by performing dispatch modeling analysis with the resource in the model and with the resource absent to evaluate the net power cost impact of curtailment. If Gadsby is not scheduled to operate during an air quality event,

then no action is taken and there is no incremental cost or economic loss. The Company respectfully requests the Commission authorize implementation of the emissions curtailment program, and the expenditure of up to $500,000, as described above.

Commercial Line Extension Pilot Program

58. Pursuant to U.C.A. § 54-20-105(1)(d), the Company proposes to implement a Commercial Line Extension Pilot Program through a new tariff Regulation No. 13, included in Attachment 1. This Commercial Line Extension Pilot Program is designed to promote economic development by supporting installation of electrical infrastructure within commercial developments. The program is supported by the direct testimony of Company witness F. Robert Stewart.

59. When the electrical infrastructure backbone is installed for an entire development in one job, as opposed to incremental installations that occur when the infrastructure backbone is installed one piece at a time as different lots are developed, the cost is reduced, and the design is improved, for the following reasons: (1) the mobilization cost occurs once, versus multiple times; (2) the design incorporates the redundancy of loop feeds which only occurs, if at all, after full build out of the developments when done piecemeal; (3) the backbone conductor (backbone conductor being the conductors over which electricity flows to the lots and from which each lot takes power) is appropriately sized to serve all the lots, not just the lot requesting service; (4) the design and installation occur before permanent surface improvement have been made, and when the other utilities are being installed so joint trenches can be used, and space conflicts worked out; and (5) when the backbone is installed after all other utilities are installed, the cost to install increases due to permanent surface improvements and often there is not adequate

remaining space in the public utility easements for switch gear and sectionalizing cabinets. The tariff will incentivize all of these efficiencies.

60. The tariff will also encourage electrical vehicle use by providing for electrical conduit extensions to parking areas that have been identified as potential electrical vehicle charging station locations. The Company requests authorization from the Commission to spend $2,500,000 over the five-year pilot program period, on the Commercial Line Extension Pilot Program, as more fully described below.

61. The Company's proposed tariff will use a portion of the STEP funds to provide line extension funding for commercial developers within the boundaries of a commercial (non-residential) development or mixed commercial/residential development ("mixed use development"). The funds would apply equally for non-residential developments as well as the non-residential portion of mixed use developments.

62. The proposed funding will be applied towards primary voltage non-residential "backbone" infrastructure costs within the development which the developer would otherwise be required to pay. Backbone infrastructure are primary lines that will serve as network facilities and do not include direct assigned facilities or terminal facilities (tap lines, transformers and services), and are not eligible for an allowance under the Company's line extension Regulation No. 12, Section 4. The funding will provide 20 percent of these eligible backbone costs, with the developer paying 80 percent.

63. The estimated costs are $500,000 per year, with an allocated amount of $2,500,000 total for the five-year term of the STEP pilot period. The funds will be applied towards non-residential backbone costs in developments until the total allocated amount is used, or five years have expired, whichever comes first.

64. The funds will be applied by the Company for each application by developers for installation of backbone in non-residential developments where the developer is responsible for the backbone costs. No request by the developer, other than the request for backbone within the development, will be necessary.

65. However, the developer will be required to enter into a line extension agreement with the Company for the backbone to be installed, and pay the costs in excess of the 20 percent incentive backbone funds provided in the tariff. In addition, these contracts that include the STEP 20 percent incentive may require the developer to install underground conduit from primary voltage junction points to designated parking areas for the purpose of future electrical vehicle charging infrastructure. No individual development will receive more than $50,000 in STEP funds.

66. The Company will maintain a record of each work order where STEP funds are used. The work order number links the use of the funds to the job details of where and how the funds are used. Additionally, an internal account has been established for all Program fund expenditures so current to-date allocations can be queried at any time.

67. On July 22, 2016, the Company met with developers to discuss the proposed program. On July 28, 2016, the Company met with the Division of Public Utilities, the Office of Consumer Services, and other interested parties to provide an overview of the proposed Line Extension Pilot Program. Feedback received from external stakeholder discussions has been considered and incorporated where appropriate.

68. The Company respectfully requests approval of the proposed tariff Regulation No. 13, and authorization to implement the commercial line extension program, as described above.

Future STEP Working Groups

69. As part of the on-going STEP implementation, the Company is establishing two additional working groups: one to evaluate innovative utility program funding opportunities and one to advise on the development of time-of-use pilots to encourage off-peak hour charging of PEVs.

70. First, the Company is establishing an innovative utility technology program working group to evaluate opportunities and standards for other Utah innovative utility technology programs, pursuant to U.C.A. § 54-20-105. Other Utah innovative utility technology programs may include, but are not limited to, distributed energy storage, PEVs and related charging infrastructure, and clean coal technology.

71. As innovative technology options increase, there will likely be opportunities for the Company to collaborate with outside groups, municipalities, national labs, United States Department of Energy, and technology companies to craft innovative solutions for the benefit of customers. This working group will help the Company find and evaluate solutions that could optimize the use of the electric grid and ensure that programs are designed to be in the interest of all Utah customers.

72. The Company expects to request future authorization of STEP funding pursuant to U.C.A. § 54-20-105 under this Docket, based on the recommendations of the working group, or as additional information becomes available to the Company otherwise. There is approximately $12.9 million in the STEP budget over the five year pilot period that is not yet assigned to a specific project request that the Company will bring back to the Commission for further consideration when beneficial projects are identified.

73. Second, based on discussions with the Utah Division of Public Utilities, Office of Consumer Services, and other interested parties, and pursuant to U.C.A. § 54-20-103(1)(b), the Company plans to initiate a working group to review potential time of use pricing for residential customers and, potentially, non-residential public PEV charging stations.

74. Accordingly, the Company believes that it is in the interest of its customers for a review of potential time of use options to occur in a series of stakeholder meetings. The Company anticipates setting up a series of meetings that will enable the Company to file a proposed residential time of use pilot by January 1, 2017. In conjunction with the pricing pilot, the Company will file for approval of PEV Program incentives, as discussed above.

75. While the Company anticipates the primary focus of the time of use working group to be the review of time-of-use pricing options for residential customers, the work group will also consider whether a pilot or modifications for non-residential PEV charging is necessary or appropriate.

Scheduling

76. Based on discussions with the Division of Public Utilities and the Office of Consumer Services, the Company proposes that the Commission set a schedule that staggers parties' comments and/or reply comments by topic, over a period of several months to mitigate the burden that the review of this filing will entail. The Company respectfully requests the following effective dates for each program and tariff listed below, with identification of reasons where circumstances require a specific effective date:

Program	Effective Date Requested	Reason
Electric Vehicle Incentive Program	January 1, 2017	1) Statutory annual program budget exists pursuant to U.C.A. § 54-7-12.8(6)(b)(i); opportunity lost if not used. 2) Requires request for proposal to set-up administration of pilot program.
Clean Coal Technologies	January 1, 2017	1) Maximize clean coal technology study period for benefit of customers. 2) Some components require Request for Proposals from vendors.
Battery Storage - Solar	January 1, 2017	1) Land negotiations and purchase required. 2) Requires Request for Proposal for equipment.
Gadsby Emissions Curtailment	January 1, 2017	1) Early winter 2017 months (January through March) applicable period.
Line Extension (Regulation No. 13)	January 1, 2017	1) Effective date subject to scheduling conference.
Substation Metering	January 1, 2017	1) Effective date subject to scheduling conference.

Tariff Schedule No.	Effective Date Requested	Reason
195	January 1, 2017	Statutory obligation pursuant to U.C.A. § 54-7-12.8(3).
193	January 1, 2017	Statutory obligation pursuant to U.C.A. § 54-7-12.8(3).
120	On or before July 1, 2017	1) Effective date subject to scheduling conference and time of use working group. 2) Statutory authorization before July 1, 2017 pursuant to U.C.A. § 54-20-103(1).
Regulation 13	January 1, 2017	1) Effective date subject to scheduling conference.
107	December 31, 2016	Statutory obligation to end USIP Pilot by December 31, 2016 pursuant to U.C.A. § 54-7-12.8(4).

The Company respectfully requests the Commission order a scheduling conference to be held one week after filing, on September 19, 2016.

Authorization Requests Summary

77. The Company respectfully requests the Commission authorize the STEP programs as presented in this Application and authorize the currently requested use of

STEP funds of $37,070,558 over a five-year period to be utilized as shown in the following Table 3:

Table 3 - STEP Requested Funding

STEP Program Components	Total Requested	Unassigned	Total STEP
EV Charging Infrastructure	**$ 10,000,000**	**$ —**	**$ 10,000,000**
Clean Coal Technologies			
Woody Waste Co-Fire	789,873		
Emerging CO2 Capture	1,174,857		
Sequestration Site Characterization - Phase 1	150,000		
CO2 Enhanced Coal Bed Methane Recovery	275,000		
Solar Thermal Assessment	187,000		
NOX Neural Net Implementation	1,007,449		
Advanced NOX Control	1,415,821		
Subtotal Clean Coal Technologies	**5,000,000**	**—**	**5,000,000**
Innovative Utility Programs			
Battery Storage - Solar	5,050,000		
Substation Metering	1,100,000		
Gadsby Emissions Curtailment	500,000		
Line Extension	2,500,000		
Other Innovative Technology (a)	—	7,850,000	
Subtotal Innovative Utility Programs	**9,150,000**	**7,850,000**	**17,000,000**
USIP	**12,920,558**		**12,920,558**
Conservation, Efficiency, or New Technology		**5,079,442**	**5,079,442**
Five Years Projected STEP Fund Use	**$ 37,070,558**	**$ 12,929,442**	**$ 50,000,000**

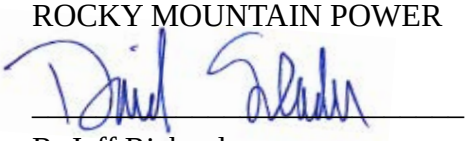
Future applications in this Docket will address the request for approval of additional programs or use of the unassigned funding of $12.9 million shown in Table 3 above.

WHEREFORE, Rocky Mountain Power respectfully requests that the Commission approve this Application and the proposed programs and tariff sheets, as filed, with an effective date of January 1, 2017.

DATED this 12th day of September 2016.

Respectfully submitted,

ROCKY MOUNTAIN POWER



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