ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

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April 23, 2021

VIA ELECTRONIC FILING

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

Attention: Gary Widerburg
Commission Administrator

RE: **Docket No. 16-035-36**
In the Matter of the Application of Rocky Mountain Power to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act
Reply Comments

On March 16, 2021, the Public Service Commission of Utah ("Commission") issued a Scheduling Order, Notice of Virtual Technical Conference, and Notice of Hearing ("Notice") regarding Rocky Mountain Power's ("Company") Application to Implement Program Authorized by the Sustainable Transportation and Energy Plan Act ("STEP"), filed on March 3, 2021 ("Application"). On April 16, 2021, the Division of Public Utilities ("Division" or "DPU") and the Office of Consumer Services ("Office" or "OCS") each filed comments on the proposed use STEP funding to support a Utah State University study on Projecting the Impact of the Electrification of the Uinta Basin Oil and Gas Fields on Air Quality ("Uinta Basin Study"). Consistent with the Notice, the Company responds to the Division and the Office in its reply comments below.

Summary

Rocky Mountain Power appreciates the time and effort the Division and the Office have spent evaluating the Company's Application. The Division recommends against approval of the Company's Application for reasons enumerated and addressed in these comments. The Office finds the Unita Basin Study to "be very promising and supports providing STEP funding to move forward with it"[1] subject to two recommended conditions – a phased funding approach and a reduction to the funding level. The Company continues to believe that the Uinta Basin Study aligns with the goals of the STEP program and is in the interest of its customers, as more fully explained below. The Company addreses the Division's arguments against approval and responds to the Office's recommendations.

[1] Office of Consumer Services comments, page 3.

Standard of Review

The Company's request for STEP funding is made first under Utah Code § 54-20-105(i)[2] and alternatively under § 54-20-107. STEP permits a large-scale electric utility such as the Company to receive funding for certain programs deemed "innovative utility programs" under Utah Code § 54-20-105 or other programs deemed by the Commission to be "cost-effective and in the public interest" under Utah Code § 54-20-107. Under subsection 105(i), the Commission may authorize investigation and analysis of any technology program if such program is in the interest of customers and expenses are prudently incurred within the purpose of the program. The Uinta Basin Study meets either standard.

Purpose of Study

Determining whether and to what extent nitrogen oxide ("NOx") emissions are causing increased ozone levels in the Uinta Basin ("Basin") will inform and further the Company's future efforts to provide electricity to its numerous customers in the Basin. There are two primary pollutants responsible for ozone formation: Volatile Organic Compounds ("VOCs") and NOx emissions. Oil and gas operations release both compounds from different equipment and processes. Electrification of equipment and processes is known to reduce both VOC and NOx emissions from oil and gas sources. Knowing which pollutant is "controlling" for ozone production in the Basin will allow regulators and companies to target specific equipment and processes for electrification and emission reduction.

For more than a decade, control strategies in the Basin have targeted VOCs to reduce ozone levels. VOC emissions were determined to be the controlling factor starting in about 2010, when initial steps were developed to reduce ozone levels and improve air quality in the Basin. Air quality in the Basin has been improving over the last few years, during which time there have been changes to regulations and operational practices to reduce VOC emissions.

There are now supportable indications that NOx emissions have become a controlling factor after years of reducing VOC emissions. Indications of a change from VOC-control to NOx-control should be examined to see if they prove to be true, to what degree the NOx-control theory is true, why it might be true, and if NOx emission reductions will be effective and plausible going forward. If the Study's working hypothesis is confirmed, the results will change both the focus and the efficacy of ozone reduction and regulatory efforts in the Basin.

Response to OCS Comments

OCS argues that the Uinta Basin Study should only be considered under Utah Code § 54-20-107, which requires programs to be "cost effective and in the public interest" rather than under Utah Code § 54-20-105(1), which allows programs that are in the interest of customers so long as the expenditures are prudently incurred within the purpose of the program. It is the Company's position that the Uinta Basin Study meets either standard. OCS recommends approval of the Uinta Basin Study subject to two recommendations: that the indirect costs of the program be reduced and that the program be divided into two funding phases. The Company

[2] The appropriate Code section was mistakenly listed as Utah Code § 54-20-105(h) in the application.

opposes these recommendations because the indirect costs are justified and dividing the study would be disruptive to the project, cause delays and increase costs.

1. The Uinta Basin Study Benefits Rocky Mountain Power Customers and Is in the Public Interest.

OCS incorrectly argues that the Application should only be considered under Utah Code 54-20-107, and not 54-20-105, because benefits will not accrue to customers. However, many oil and gas companies in Uintah Basin are Rocky Mountain Power customers and will directly benefit from the study. The oil and gas industry has been working for many years to find ways to reduce emissions that contribute to high ozone events. This study will provide scientific evidence of whether electrifying pumps is a realistic pathway to reduce emissions and high ozone events. This could be a key factor for Rocky Mountain Power oil and gas customer decisions about how and whether to continue operating in the Uinta Basin.

Additionally, the Uinta Basin includes Rocky Mountain Power service territory, and reducing high ozone events in the Uinta Basin will benefit those Rocky Mountain Power customers. Reducing NOx emissions has previously been approved as a beneficial goal of a STEP program study, such as the Gadsby Emissions Curtailment project.[3] Internal combustion engines are a major source of NOx, a contributor to high ozone events in the Basin. According to estimates by the Utah Division of Air Quality, natural gas and diesel engines used to pump oil are a large component of NOx emissions in the Uinta Basin. The study will provide evidence about a viable method to reduce those emissions and the impact that those reductions will have on the Basin's air quality. While this benefit accrues to the public at large as well, including customers of other utilities, that larger benefit does not diminish the positive impact it will have specifically on Rocky Mountain Power's Uinta Basin customers.

The viability of the oil and gas industry is an important foundation for a substantial portion of Rocky Mountain Power's customers in the Uinta Basin – both oil and gas industry customers and customers who support the industry. For example, the Vernal mayor has estimated that around half of that city's economy centers around the oil and gas industry.[4] Rocky Mountain Power supplies nearly all of the electricity for the city of Vernal. If the study identifies benefits of electrifying equipment, the oil and gas industry will have expanded options to continue operating in the Basin, which benefits Rocky Mountain Power customers in the area and is in the general public interest.

2. The Commission Should Not Adopt OCS's Recommendation To Reduce Funding of Indirect Costs.

The Commission should approve the full requested amount of funding because the costs, including indirect costs, are just, reasonable, and in the public interest. The study and budget have been designed and reviewed by professionals at Utah State University ("USU"), a state-owned non-profit research university. The USU Sponsored Programs Administration department has verified that the proposal meets all necessary professional research criteria and addresses all required legal and ethical compliance issues, including compliance with Title 2 of the Code of Federal Regulations, which governs USU's administration of grants. All overhead and indirect

[3] *In the Matter of the Application of Rocky Mountain Power to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act*, Docket No. 16-035-36, ("STEP Docket") Order (December 29, 2016).
[4] *See* https://www.utahbusiness.com/uintah-county-smoothing-highs-lows-energy-dependent-economy/

costs are set by the Sponsored Programs administration and align with standard rates accepted by government and private funding sources.

OCS raises concerns about costs added for "facilities and administration" relating to the study, $63,239 of the total funding request, because it believes it to be redundant to the amounts included in the budget for consultant fees. However, this assumption is incorrect.The consultant fees are not redundant because USU is acting as the lead on research and therefore incurs overhead on the overall project.

3. The Commission Should Not Adopt OCS's Recommendation to Fund the Research in Two Phases.

Contrary to OCS's argument, it is difficult to divide the study into two separate phases, and attempts to do so would increase the costs of the study. Further, the tight timeframe required to qualify for STEP funding means that the additional requirements OCS suggests could impact the proponents' ability to meet the tight deadline to complete the study by the end of 2021.

First, research into whether the Basin is NOx-controlled cannot be easily separated from how electrification will affect NOx levels. Both questions require interdependent modeling. Modeling is time and resource intensive. To avoid multiple model runs, data verification and validation for both questions must occur up front, and these considerations must be modeled simultaneously.

OCS's suggested split would require USU to reorder and divide its goals, which would be especially difficult considering the timing constraints of the funding. The Unita Basin Study has four primary goals, described on pages 10-11 of Appendix A to the Application: Goal A: Historical characterization of NOx sources, emissions, and concentrations over the previous decade. Goal B: Modeling the impact of electrification of oil and gas fields and the issue of NOx control. Goal C: Economic and logistic evaluation of additional power transmission development. Goal D: Data analysis and syntheses, preparation of reports.

If the Commission adopts OCS's recommendation to divide the study into two parts, the amount of work would significantly and unnecessarily increase. USU would have to model the impact of electrification of oil and gas fields (Goal B) using existing data before engaging in the rigorous review described in Goal A, which will then inform a second round of Goal B modeling, essentially dividing Goal B in to a pre-Goal B and a post-Goal B. Goal A would have to be conducted after pre-goal B to meet OCS's phased funding recommendation. Further, Goal C also needs to commence right away after funding is awarded to meet the timelines. The research for Goal C must be conducted early on to get to a stage where findings from Goal B and the modeling could be quickly incorporated and evaluated to produce an expedited final report that will meet the time deadlines.

This increased work would also lead to increased costs. With OCS's proposed change, post-goal B would essentially repeat pre-goal B but with improved data. The additional modeling would require additional funding due to the additional model run, time, personnel and spin-up efforts that would be needed.

Additionally, OCS's comments imply that feasibility of electrification is only important if NOx is found to be the controlling pollutant. However, electrification could affect more pollutants than NOx, and in particular could play an important role in further reducing VOC emissions. For example, VOC emissions from tanks are often controlled with flares, which reduce emissions to about 5% of the potential tank emissions. Using electricity to control emissions would increase the efficiency by 20-fold, reducing emissions to only 0.25% of the potential tank emissions. Thus even if NOx is not found to be the controlling pollutant, the feasibility of electricity would still be an important outcome of the study. The Study will better

define the pollutant, and thus the equipment, where electrification, funding and regulations will have the most impact in reducing ozone. Making funds contingent on a set outcome for the NOx portion of the study is not a reasonable way to ensure cost-effectiveness.

To address OCS's concerns, the Company offers to provide a mid-point report that outlines initial findings and outlines how the research is progressing on schedule and is producing valid data. However, artificially dividing the project into phases and tying the funding to further notice or approval processes does not seem reasonable given the integrated nature of the research tasks, the benefits that will result regardless of the Study findings, and the tight timeline to produce the final results.

Response to the Division Comments

The Division recommends the Commission reject the Uinta Basin Study. However, contrary to the Division's assertions, and as described above, the Uinta Basin Study is in the public interest and in the interest of Rocky Mountain Power customers. This is especially so considering the relatively small amount of the funding request in proportion to the potential benefits resulting from the study. USU has committed to completing the study by December 31, 2021, and there is no reason to believe that this completion date is unrealistic. As discussed further below, the limited focus of the study (and its low cost and quick timeline) do not allow for study of every relevant consideration including a detailed engineering analysis of how electrification of the Basin will occur, which would likely require a multi-million dollar, multi-year undertaking, but that does not mean the study lacks value. Similarly, the fact that other studies on pollutants in the Basin have been completed does not defeat the value of this study, which has a discrete focus on NOx as the controlling pollutant and the relationship of electrification to reducing NOx emissions.

1. The Uinta Basin Study Will Benefit the General Public Including Moon Lake Customers.

As described in the Company's response to OCS's comments above, the Uinta Basin Study will benefit Rocky Mountain Power customers and the general public. It will also benefit the customers of the other utility serving Uinta Basin, Moon Lake. Rocky Mountain Power and the researchers have discussed the study with representatives of Moon Lake. Moon Lake has indicated to Rocky Mountain Power that it is not opposed to the Uinta Basin Study.

2. The Uinta Basin Study Is a Stepping Stone to Further Research

Requiring the Company to provide specific proof about the engineering, economics and specific benefits of electrification unnecessarily expands the scope of the study. The Division criticizes the Company for not providing all the pieces of the complex Uinta Basin electrification puzzle, but the fact that more research may be necessary after this study is complete does not justify rejecting the study as not beneficial. The Commission has approved earlier research projects where the results could show the feasibility of a specific technology.[5] In an order approving a solar storage project, the Commission approved the project in part based on an intervenor argument that the information and experience gained by conducting research would

[5] STEP Docket, Order (October 31, 2017) (approving study of the feasibility of a smart inverter program).

provide benefits to customers.[6] The Uinta Basin Study, on its own, will likely provide the Company with solid evidence to justify further pursuit of some of the information the Division wants now as justification for the Study, essentially requesting that the Company put the cart before the horse.

The Company notes that several of the its existing customers are already electrified, supporting that electrification is practically and economically feasible. The Company's response to data request DPU 16.6 is attached as Attachment 1. There is no need to perform additional work to prove this feasibility for the purposes of this limited study.

Moreover, the results of this study could influence the feasibility of electrification. It is commonly accepted amongst operators in the Basin that electrification of oil and gas operations is preferred if access at appropriate cost can be achieved. The most common barrier to electrical equipment is access to electricity vs. natural gas, which is typically available in association with oil and gas wells. While the use of natural gas to power pumps may be less expensive from a power perspective if natural gas is available at the well site, there are disadvantages not only from a pollution perspective, but also due to equipment life and on-going maintenance considerations. DPU expresses concern about the lack of analysis of costs for and operator interest in electrical pumps. As explained, such analysis and costs are case-specific. Electrical motors are more desirable, not only because of the air quality benefits, but because they allow more accurate and reliable control of the pump, enabling automation and remote access, which can reduce trips to remote sites, monitoring, and maintenance costs. These factors will have to be weighed by each oil and gas source and operator, in addition to the benefits discussed above if electricity means the difference between being able to drill or not drill a new well. If the Uinta Basin Study shows that electrification reduces NOx emissions, it would provide an additional factor in the analysis of whether the economics would work. If electrification meant the difference between being able to meet regulatory emission requirements to establish a new well or abandoning the well plans, the economics supporting electrification would improve.

3. The Uinta Basin Study Provides an Important Piece to a Larger Research Puzzle

DPU expresses concern that the Study will not improve on studies already performed or underway by the Utah Department of Air Quality (UDAQ) (which is a subdivision of the Utah Department of Environmental Quality). This concern is unfounded for a few reasons. First, USU has performed many of the studies on ozone in the Basin that are relied on by UDAQ. USU is one of the premier research agencies for ozone in the Uinta Basin and is cited in almost any study or report on the Basin.[7] The researchers for the Study are in a very favorable position to know what further study is needed to advance knowledge about and support improvements of ozone in the Basin.

Second, as noted in the introduction, the working hypotheses of the Study, if proven correct, would change the current focus on VOC to NOx in the Basin, leading to different strategies and targets to control ozone in the Basin, thereby improving the efficacy of control strategies. The study will provide solid evidence that would change ozone reduction efforts in the Basin. It would change the key operating assumption that VOC is the significant pollutant that has been driving reduction efforts for years.

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[6] STEP Docket, Order at 9-11 (February 6, 2019).

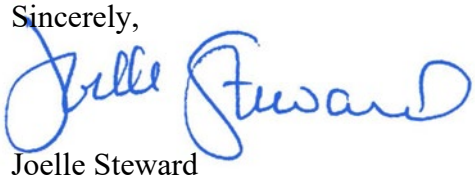
[7] *See, e.g.*, https://www.usu.edu/binghamresearch/papers-and-reports; Uinta Basin Oil & Gas Current & Ongoing Studies Archives - Utah Department of Environmental Quality; Uinta Basin Oil & Gas Completed Studies Archives - Utah Department of Environmental Quality.

Third, Rocky Mountain Power has not conducted a full bibliographic analysis to demonstrate how the Study fits within the broader body of research in the Uinta Basin. However, Rocky Mountain Power can vouch for USU's standing as a respected research university and the researchers' established standing and respect amongst professionals and regulators working with the Uinta Basin ozone issue. The university's and the researchers' reputations provide assurance that the Study is not simply an academic adventure but rather builds off of a strong understanding and knowledge of existing research, professional experience and involvement, and more than a decade of participation in studying and advising on ozone in the Uinta Basin.

Conclusion

For the reasons set forth above, the Company respectfully requests that the Commission approve its request to implement the Uinta Basin Study, as described in the Application.

Sincerely,



Joelle Steward
Vice President, Regulation

CC: Service List - Docket No. 16-035-36

Attachment 1

DPU Data Request 16.6

In response to DPU's data request DPU 15.6:

(a) Have the researchers and RMP reached any conclusions on how many wells the developers would be interested in converting? Please explain.

(b) Please provide estimates of the average cost for a service line extension to a typical well within the RMP service area.

Response to DPU Data Request 16.6

(a) Estimating electrification adoption levels by operators is beyond the scope of the study. Adoption levels depend on a complex set of considerations including technology and fuel cost trade-offs, infrastructure needs, environmental policies, consumer preference, and the interaction between these factors. Drivers and barriers of adoption will be qualitatively addressed in the socioeconomic portion of the study.

While not predicting actual adoption levels, the study does seek to estimate the minimum level of adoption required to meet Uinta Basin air quality benchmarks, and the subsequent peaking demand and infrastructure needed to support that level of adoption. This will provide important information and context for both regulators and developers who are making decisions about the costs and benefits of electrifying specific facilities in the Uinta Basin.

(b) Electrical costs are dependent upon the well location, its proximity to existing services, agreements between the customer and Rocky Mountain Power (RMP), and permitting requirements. Costs for specific wells and configurations are ancillary to this study. It is also not possible to identify a "typical" well within the RMP service area. For current RMP customers, RMP has provided from 90 megawatts (MW) of power for multi-unit systems of a single operator during high production timeframes to minimal power as low as 0.03 MW for a single well located near a distribution line. Costs depend on the infrastructure and load available at the location as well as the customers' specific setup and requested service. Costs could range anywhere from a few thousand dollars to millions of dollars, depending on what is requested.

DOCKET NO. 16-035-36
CERTIFICATE OF SERVICE

I hereby certify that on April 23, 2021, a true and correct copy of the foregoing was served by electronic mail on the following:

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