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Division of Public Utilities

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COMMENTS

To: Utah Public Service Commission

From: Division of Public Utilities
Chris Parker, Director
Artie Powell, Energy Section Manager
Bob Davis, Utility Analyst

Date: January 3, 2019

Re: **Comments and Recommendations, 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 ("STEP").

RECOMMENDATION

The Division of Public Utilities ("Division") has reviewed Rocky Mountain Power's ("RMP") Application to Modify Funding Amounts Previously Authorized by the Sustainable Transportation and Energy Plan Act ("Application"). Based on RMP's filing and responses to data requests provided by RMP, the Division recommends the Utah Public Service Commission ("Commission") approve RMP's application to modify project funding for the Clean Coal Technology Program and provide for an additional $1.75 million of funding for the Solar and Storage Project. The Division recommends the Commission reject RMP's proposal to increase the Commercial Line Extension Program incentive from a cap of $50,000 per incentive to $250,000 per incentive because RMP has not demonstrated the need for such a change.

ISSUE

On November 13, 2018, RMP filed with the Commission its Application seeking authorization from the Commission to: (1) revise the funding for projects associated with its Clean Coal Technology Program; (2) increase the STEP incentive for the Commercial Line Extension Program; and (3) increase funding for the Solar and Storage Technology Project. On November 16, 2018, the Commission issued its Notice of Scheduling Conference. On November 28, 2018,

the Commission issued its Scheduling Order and Notice of Hearing seeking comments from parties by January 3, 2019, reply comments by January 17, 2019, and a hearing scheduled for January 22, 2019. These are the Division's comments.

BACKGROUND

The STEP program is an extensive five-year program containing four phases thus far. For brevity, the full background of the docket will not be repeated. The Division previously filed testimony in Phase I and Phase II of this docket, which pertain to this filing.[1] The Division recommended approval of the projects with recommendations contained within Phase One and Phase Two of the STEP Program.

RMP began implementing various STEP programs beginning in 2017. Of those programs, the Alternative NOx Project part of the Clean Coal Technology Program did not prove to be a viable project. Rather than continuing with the project, RMP chose to abandon the project and seek approval from the Commission to reallocate the funds to other Clean Coal Technology Programs at a future date.[2] In addition, RMP found that participation in the Commercial Line Extension Program was not proceeding as predicted. Finally, as RMP proceeded with the Solar and Storage Project, additional costs arose due to economic factors surrounding the purchase and installation of the solar array and storage. For these reasons, RMP is seeking authorization from the Commission to reallocate $1,161,501 of the remaining $1,245,465 of Alternative NOx Project funds to the Woody Waste Co-Firing Project and Cryogenic Carbon Capture Project, leaving $83,964 unallocated. It also seeks to increase the Commercial Line Extension incentive from $50,000 to $250,000, and add $1.75 million of funding to the Solar and Storage Project.

DISCUSSION

The Alternative NOx Project contained within the Clean Coal Technology Program, if successful, would reduce Nitrogen Oxides using alternative options in combination that would produce an emission reduction process similar to a Selective Catalytic Reduction ("SCR")

[1] Division of Public Utilities, Docket No. 16-035-36, Phase One, Direct and Rebuttal Testimony of Robert A. Davis, and Direct Testimony of David Thomson. Phase Two Direct, and Surrebuttal Testimony of Robert A. Davis, and Direct Testimony of Myunghee Sim Tuttle.
[2] Utah Code Annotated § 54-7-12.8(6)(b) and § 54-20-104.

system. However, RMP was unsuccessful in finding a suitable vendor through its RFP process to administer the project. In its first annual STEP report to the Commission on April 30, 2018, RMP recommended abandoning the Alternative NOx project and reallocating the remaining funds to another Clean Coal Technology program.[3] In its Order issued on August 3, 2018, the Commission approved RMP's recommendation to abandon the Alternative NOx Project and suspended any further use of STEP funds for the Alternative NOx Project until it received Commission approval to reallocate them.[4] RMP selected the Woody-Waste and Cryogenic Carbon Capture projects within the Clean Coal Technology Program as the best use of the remaining Advanced NOx funds.

Woody Waste Co-Fire

The Woody Waste Co-Fire Project has previously approved funding of $789,873.[5] The additional requested funding of $748,980 will bring the proposed funding for the Woody Waste Project to $1,538,853. RMP did not expend any STEP funds on the project in 2017, according to its first annual STEP status report for the 2017 reporting period.[6]

RMP claims the additional funds will provide expansion of the amount and type of sensors leading to a more robust study of boiler operation, characterization of fuels, measurement of gas species, and deposit sampling. The funds will also increase the 432 tons of woody-waste material to 2,000 tons providing for a longer burn and study time of 90 hours versus the originally planned 18 hours.

RMP has provided sufficient proof to the Division through data request responses that its vendor can supply the necessary woody-waste material to perform the burn in Q2 of 2019. The additional sensors and burn time will theoretically lead to a more robust study of the use of woody-waste as a supplement to coal. The Division's original concerns that potential problems may lead to repair costs borne by RMP customers remain. However, the Division understands

[3] Rocky Mountain Power, First Annual STEP Report, April 30, 2018, page 5.2.
[4] Utah Public Service Commission Order, Docket No. 18-035-16, Rocky Mountain Power's First Annual Sustainable Transportation and Energy Plan Act ("STEP") Program Status Report, August 3, 2018, page 7, ¶ 2.
[5] Rocky Mountain Power, Application to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act, Docket No. 16-035-36, September 12, 2016, Table 1 STEP Funding Budget, page 4.
[6] Rocky Mountain Power, First Annual STEP Report, April 30, 2018, page 3.0.

from further discussion with RMP personnel that those risks are small. Therefore, the Division supports RMP's request for $748,980 and recommends the Commission approve RMP's request.

Cryogenic Carbon Capture

The Cryogenic Carbon Capture Project has approved funding of $1,174,857.[7] The additional requested funding of $412,521 will bring the proposed funding for the Cryogenic Carbon Capture Project to $1,587,378. RMP expended $160,451 of STEP funds on the project in 2017 according to the first annual STEP status report for the 2017 reporting period.[8]

RMP's vendor, Sustainable Energy Solutions, has revised the base project to include three tasks. Task A1 studies gas drying and cooling. Task A2 studies solid-liquid separation and purification. Finally, A3 studies unit operation scalability. The Division does not have the expertise to understand the Cryogenic Carbon Capture Project's technical detail. However, it appears the revised project may lead to a more robust understanding of how cryogenic carbon capture techniques might be used to reduce CO_2 emissions.

The current IRP cycle considers early retirement of some coal-fired thermal generation facilities, raising the question about whether additional funding for projects such as the Cryogenic Carbon Capture Project is wise. Research is expensive and does not always lead to fruitful results. However, the Division concludes the Cryogenic Carbon Capture Project is useful and even in the event of early coal-fired thermal generation retirement, reducing carbon emissions in the interim is in the public interest. The Division understands that RMP does not anticipate requesting any further funding for Phase II of the project. Sustainable Energy Solutions will secure any additional funding requirements through the Department of Energy and other funding sources.[9]

The Division recommends the Commission approve RMP's request of $412,521 of reallocated funds from the abandoned Advanced NOx project be used for the Cryogenic Carbon Capture Program.

[7] Rocky Mountain Power, Application to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act, Docket No. 16-035-36, September 12, 2016, Table 1 STEP Funding Budget, page 4.
[8] Rocky Mountain Power, First Annual STEP Report, April 30, 2018, page 7.0.
[9] RMP response to Division Data Request 9.6.

Commercial Line Extension Incentive Level

The Commercial Line Extension Program has previously approved funding of $2,500,000.[10] RMP is not requesting any additional funding for the program at this time. RMP did not provide any incentives during the 2017 reporting period. However, $16,905 was committed in 2017 but not expended until 2018 according to the first annual STEP status report for the 2017 reporting period. In this filing, RMP claims it has provided incentives to nine developments. The total cost of backbone facilities in the nine developments (to-date) range from $13,035 to $102,670 with a twenty percent STEP incentive[11] ranging from $2,607 to $20,534, respectively. RMP claims that it provided $13,676 of actual incentives during 2017 and spent or committed to approximately $100,000 of incentives to-date in 2018, well below the budgeted $1,000,000[12] for 2018.[13]

Based on a scant recitation of its experience, RMP requests that the Commission approve an increase from the current $50,000 incentive level to $250,000 with a corresponding revision to Electric Service Regulation No. 13. In response to the Division's data requests,[14] RMP provided calculations to support the $250,000 incentive level based on historical incentive awards. The calculations RMP provided to the Division do not persuade it that changes are needed. The original incentive of $50,000 (20 percent of project cost or $50,000, whichever is less) presumably prevented a single developer from requesting the maximum cap for the year. RMP claims its request to raise the incentive level could potentially allow for approximately eight more incentives over the course of the program. The intent of the STEP Program is to use ratepayer-supplied funds to promote innovative technology and incentivize infrastructure that may prove beneficial in the long run. RMP's application for increasing the incentive amount suggests little more than that paying additional incentives will allow it to spend more of the budget for those incentives. The Commercial Line Extension Incentive is not meant to be an

[10] Rocky Mountain Power, Application to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act, Docket No. 16-035-36, September 12, 2016, Table 1 STEP Funding Budget, page 4.
[11] Rocky Mountain Power, Electric Service Regulation No. 13. https://www.rockymountainpower.net/content/dam/rocky_mountain_power/doc/About_Us/Rates_and_Regulation/Utah/Approved_Tariffs/Rules/STEP_Commercial_Line_Extension_Pilot_Program.pdf
[12] RMP claims the budget for 2018 is $500,000 in this filing. However, the original application, Table 1 STEP Funding Budget on page 4, sites $1,000,000 for 2018.
[13] Rocky Mountain Power, Application to Modify Funding Amounts Previously Authorized by the Sustainable Transportation and Energy Plan Act, Docket No. 16-035-36, November 13, 2018, page 9, ¶ 29.
[14] RMP response to Division Data Request 8.2 and 8.3.

open account to use ratepayer funds because they are available. Perhaps higher incentive amounts can be justified, but RMP's application has not done so. It is not clear that merely providing larger incentives to bigger projects is in the public interest. Until RMP provides stronger evidence that program goals will be better met, rather than merely that more dollars will be spent, the Commission should reject the request for changes to incentives under this program.

Solar and Storage Funding

The Solar and Storage Project has previously approved STEP funding of $5,050,000, with an addition $2,000,000 of funding from the Blue Sky program for the solar portion of the project.[15] The additional requested funding of $1.75 million will bring the proposed funding for the Solar Storage Project to approximately $8.75 million. RMP expended $331,995 of STEP funds on the project in 2017 according to the first annual STEP status report for the 2017 reporting period.[16]

The $1.75 million increase in funding for the Solar and Storage Project will come from the $7.85 million Other Innovative Technology[17] budget of the overall STEP Program. The funding for the $700,000 Smart Inverter and Microgrid project, Phase IV[18] of the STEP Program, comes from the Other Innovative Technology budget as well. Along with the Smart Inverter and Microgrid project, the requested funding for the Solar and Storage Project will reduce the Other Innovative Technology budget to approximately $5.4 million of remaining available funds.

Without viable solar and storage resources, other investments will be required to alleviate voltage issues on the Sevier-Panguitch 69 kV radial feeder. In its original filing, RMP's next least cost alternative to relieve the voltage issues was replacement of the line and poles with a lower impedance cable at a cost of $8 million dollars.[19] RMP claims that to replace the poles, wires and necessary substation components in today's dollars would cost $8.75 million.[20] The

[15] Rocky Mountain Power, Application to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act, Docket No. 16-035-36, September 12, 2016, Table 1 STEP Funding Budget, page 4.
[16] Rocky Mountain Power, First Annual STEP Report, April 30, 2018, page 13.0.
[17] Rocky Mountain Power, Application to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act, Docket No. 16-035-36, September 12, 2016, Table 1 STEP Funding Budget, page 4.
[18] Public Service Commission of Utah, Phase Four Report and Order, Docket No. 16-035-36, October 31, 2017.
[19] Rocky Mountain Power, Application to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act, Docket No. 16-035-36, September 12, 2016, Exhibit D, page 4 of 28.
[20] Rocky Mountain Power, Application to Modify Funding Amounts Previously Authorized by the Sustainable Transportation and Energy Plan Act, Docket No. 16-035-36, November 13, 2018, page 10, ¶ 35.

advantages of this poles-and-wire alternative remain the same: (1) increasing transmission capacity; (2) improve voltage profile; and (3) reduction in transmission congestion during summer peak loading profiles. The line and pole alternative may not be in the purview of the STEP Act. RMP did not provide any details pertaining to costs relating to the final alternative to build a new transmission substation as filed in its original application.[21] The new transmission substation would likely lead to a significantly higher-priced alternative in today's dollars and is not in the public interest.

One advantage of the Solar and Storage Project is that it will not only provide a solution to the voltage issues described above, but it will also give RMP employees and other interested parties a better understanding of how non-wires solutions interact with the current system. The Solar and Storage Project will eliminate the need for traditional capital investments on the radial transmission line and substation components while providing RMP personnel with valuable information on the design, commissioning, operation, and maintenance of technologies such as this for use elsewhere on the system. According to RMP, the solar array will use smart inverter technology[22] along with 15-minute interval metering. RMP claims the smart inverter data gleaned from this project and the data captured from the Smart Inverter and Microgrid project in Phase IV of the STEP Program,[23] may lead to a better understanding of how smart inverters work system-wide. In its response to the Office of Consumer Services ("OCS") data request 21.1, RMP claims the Solar and Storage Project may entail higher costs and a less favorable present value compared to the line-and-pole alternative,[24] even so, the solar and storage alternative will have greater value to RMP personnel and long-term benefits to RMP's customers.

RMP claims the traditional wire solution and non-wire Solar and Storage Project solution, in today's dollars, cost the same $8.75 million dollars. This represents an approximate twenty-five percent increase in funding needs for the Solar and Storage Project and nine percent

[21] Rocky Mountain Power, Application to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act, Docket No. 16-035-36, September 12, 2016, Exhibit D, page 5 of 28.
[22] Note that the smart inverter technology will use current IEEE 1547 architecture until the release of the revised IEEE 1547™-2018 standard expected sometime in 2019. RMP response to Division Data Request 9.7.
[23] RMP response to Division Data Request 9.8.
[24] RMP response to Office of Consumer Services Data Request 21.1.

for the wires alternative compared to the original estimates. RMP claims[25] the increase is due to inflation and other economic factors such as labor costs but mainly component costs and shortages on solar and storage equipment resulting from tariffs imposed by the Federal Government.[26] The basic premise of the STEP Act is to provide a utility funding to research innovative projects that may lead to efficient uses of the current system and find new technologies that are in the public interest. The $1.75 million of additional funding is part of the overall STEP Program budget already approved by the Commission. The substantial funding request for the Solar and Storage Project concerns the Division. However, the funding will support research concerning non-typical solutions to resolve issues such as the Sevier-Panguitch voltage issue. If successful, such solutions could provide lasting benefits. Based on the potential advantages of the Solar and Storage Project versus the traditional line and power pole alternative, the Division recommends the Commission approve the requested $1.75 million additional funds from the Other Innovative Technology STEP account.

CONCLUSION

RMP is not seeking additional funding for the STEP Program. Rather, it is asking approval for a reallocation of funds and use of funds already approved. Based on the foregoing discussion, the Division recommends the Commission approve the reallocation of the $1,245,465 of Alternative NOx Project funds to the Woody Waste Co-Firing Project consisting of $748,980, and the Cryogenic Carbon Capture Project consisting of $412,521 leaving $83,964 unallocated. The Division recommends the Commission reject RMP's request to revise Regulation No. 13 to increase the Commercial Line Extension incentive to $250,000. Finally, the Division recommends the Commission approve RMP's request for an additional $1.75 million of funding for the Solar and Storage Project.

[25] Rocky Mountain Power, Application to Modify Funding Amounts Previously Authorized by the Sustainable Transportation and Energy Plan Act, Docket No. 16-035-36, November 13, 2018, Attachment C, page 2.
[26] The economic impacts of the tariffs on solar and storage are difficult to understand at this time. The tariffs imposed on solar panels and solar cells is initially thirty percent decreasing five percent each year over four years. Other tariffs that indirectly impose added costs to solar and storage projects vary and include lithium ion batteries and charging electronics, steel, aluminum, and other components.

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Service List