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 Plan Act	**)**	**Docket No. 16-035-36** **DPU Exhibit PII 1.0 DIR**

DIRECT TESTIMONY – PHASE TWO

OF

ROBERT A. DAVIS

ON BEHALF OF THE

UTAH DIVISION OF PUBLIC UTILITIES

March 7, 2017

TABLE OF CONTENTS

Introduction

Q: Please state your name and occupation.

A: My name is Robert A. Davis. I am employed by the Division of Public Utilities (Division) at the Utah Department of Commerce as a Utility Analyst in the Energy Section.

Q: What is your business address?

A: My business address is 160 East 300 South, Heber Wells Building - 4th Floor, Salt Lake City, Utah, 84111.

Q: On whose behalf are you testifying?

A: The Division.

Q: Please summarize your educational and professional experience.

A: I received a Master's in Business Administration with Master's Certificates in Finance and Economics from Westminster College in May of 2005. I am a Certified Valuation Analyst (CVA) by the National Association of Certified Valuators and Analysts (NACVA). I have attended the NARUC Utility Rate School and MSU/IPU Advanced Regulatory Studies Program and other regulatory seminars and conferences. I have been employed by the Division since May of 2012 where I have worked on various telecommunications and energy related assignments such as general rate cases, tariff adjustment requests,

action requests from the Commission and other assignments where auditing, financial and economic analysis is needed.

Prior to my present position, I was employed for seven years at the Utah State Tax Commission in the Centrally Assessed Property Tax Division-Utilities Section where I valued telecommunication, energy and airline companies for property tax purposes. Prior to working for the Property Tax Division, I was employed as an Electronic Engineering Technician at Fairchild Semiconductor.

Q: Have you testified before the Commission on prior occasions?

A: Yes. I provided direct and rebuttal testimony in Phase One of this proceeding, in addition to other matters.

Background

Q: Please provide a brief history of the STEP Program that will be addressed in Phase Two of this proceeding.

A: Senate Bill 115 (SB 115), the Sustainable Transportation and Energy Plan Act, was passed during Utah's 2016 legislative session. SB 115 was codified in part at Utah Code Ann. Section 54-7-12.8, entitled "**Electric energy efficiency, sustainable transportation and energy, and conservation tariff**." Section 54-7-12.8(6) outlines the funding for the STEP Program. Pursuant to the Phase One Scheduling Order and Notice of Second

Scheduling Conference issued on September 26, 2016, the Commission held a scheduling conference in this docket on October 17, 2016. The parties stipulated to a bifurcated schedule due to the complexity and timing of component implementation of PacifiCorp's application.[1]

The hearing for Phase One of this docket was held on November 30, 2016, and the Commission issued its Report and Order in this matter on December 29, 2016. The Commission approved PacifiCorp's STEP funding of $50 million from 2017 through 2021, representing an annual increase of $10 million per year with the exception of the Phase Two programs that I am addressing in this testimony.[2]

In Phase Two, Rocky Mountain Power (Company) seeks Commission approval of the two remaining innovative programs (Advanced Substation Metering and Commercial Line Extension Program) and the five remaining clean coal technology programs (Woody Waste, Cryogenic Carbon Capture, Carbon Capture and Sequestration, Coal Bed Methane Recovery, and Solar Thermal Recovery).

Q: Will you be providing testimony regarding the Electric Vehicle (EV) portion of this

[1] See Report and Order, 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, December 29, 2016, pp. 6-8.
[2] Id., at p. 15.

docket?

A: No. In its order dated February 27, 2017, the Commission approved a stipulation among the parties specifying a separate schedule (Phase Three) for the EV portion of this docket.

Purpose and Summary of Testimony

Q: What is the purpose of your testimony in this phase of the proceeding?

A: I will present the Division's analysis and findings in response to Company's Application to implement the various programs as identified in the Public Service Commission's Phase Two Scheduling Order in this docket.[3] In particular, my testimony addresses the Company's request to implement the following:

1. The Advanced Substation Metering program; and
2. The CO_2 Woody Waste, Cryogenic Carbon Capture, Carbon Capture and Sequestration, Coal Bed Methane Recovery, and Solar Thermal Recovery Technology programs.

The Division's second witness in this phase, Ms. Myunghee Tuttle, will testify on the Commercial Line Extension Program.

Operating, Maintenance, Administrative and General Expenses

[3] Phase Two Scheduling Order, Notice of Phase Two Technical Conferences and Notice of Phase Two Hearing, October 21, 2016.

Q: Are you aware of any additional Operating, Maintenance, Administrative and General (OMAG) expenses that the Company is asking to be recovered outside of the STEP Program through customer rates for programs in Phase Two like those in Phase One?

A: Yes. The Company's application and accompanying exhibits outline the Clean Coal Technology and Innovative programs. However, those expenses have not been fully quantified by the Company as they are not fully known at this time. The Division assumes that the Company will seek recovery for these additional OMAG expenses in a future general rate case. In addition to those programs already outlined during Phase One of this docket, the remaining programs may also create OMAG expenses outside of the STEP funding.

Q: Would you recommend that the Commission require the Company to identify the OMAG expenses by the various programs in Phase Two of this docket in its records as part of the reporting requirement of the STEP Program?

A: Yes. In its Phase One Report and Order, the Commission directed the Company to include all program-related OMAG expenses in the STEP budgets.[4] The Commission found value in requiring the Company to track and report the OMAG expenses associated with the programs and that the Company should record them within the STEP budget and records so those expenses can be accounted for during the next general rate case.[5] The Division recommends the Commission require the Company to

[4] Id., at p. 16, item 7.
[5] Id., at p. 12.

report and account for the OMAG expenses incurred during the Phase Two programs as directed for those in Phase One.

Advanced Substation Metering Program

Q: Will you please describe what the Company proposes in respect to the Advanced Substation Metering Program?

A: Yes. The Advanced Substation Metering program is part of the Innovative Utility Program that the Company is proposing pursuant to Utah Code Ann. § 54-20-105(1)(c) and (h). This program is described in the Direct Testimony of Mr. Douglas L. Marx[6] and in the Company's Application in Exhibit C. The Company is requesting authorization of $1.1 million over the course of the five-year STEP pilot to purchase and install advanced substation meters at distribution circuits that currently have limited or no communications capabilities. The advanced meters will have the capability of providing the Company with enhanced and remote data management in order to facilitate the integration of distributed energy resources (DERs) on the Company's electric system.

Q: What is the scope and plan envisioned with this project?

A: The Company has initially identified 50 distribution circuits in the state that have DER customers on the circuits and that have limited or no communications capabilities.[7] The

[6] Direct Testimony of Mr. Douglas L. Marx, January 1, 2017, pp. 2-3.
[7] Appendix C, Initial List of Distribution Circuits, p. 9.

Company intends to purchase (through a competitive bid process) and install advanced meters at these locations. The advanced meters will provide real-time data such as power flows, loading levels, and load profiles that are not accessible via the current meters. The targeted circuits will be equipped with remote communications capabilities, so that the Company can access data using the same technology used for cellular phones. If authorized, the Company intends to install a data management system that will automatically download, analyze, and interpret data from each respective substation meter.[8] With this information, the Company will develop a process to improve near-term interconnection studies, as well as longer-term distribution and transmission planning studies. As with other STEP initiatives, all expenses toward this project will be accounted for and recovered as described in the Company's overarching Utah STEP accounting document.

Q: Does the Division have any concerns with this project?

A: As with other STEP initiatives, the Division has ongoing reporting, monitoring, and auditing requirements that are necessary for both the Company and the Division. With respect to project delivery, the Division notes the potential risk associated with integrating the new data analytics and management software with the currently deployed field substation metering devices. All potentially affected customers should be

[8] Appendix C, Technical Requirements, p.11.

properly notified of any outage risks and sufficiently educated about the new program. The Company should properly plan deployment with considerable attention given to strategies minimizing customer outages and service quality impairment. The Division notes that the Company has allocated approximately $30,000 per year as part of its communications strategy and outreach efforts.[9] The Division believes a proactive approach and outreach to all affected customers is necessary in order for this pilot project to be successful.

Q: How does this program benefit Utah ratepayers?

A: According to the Company, the number of net metered interconnections in Utah has roughly doubled annually since 2012.[10] With the anticipated rapid growth of DERs[11] in Utah, it makes sense to explore the need for a smarter and more progressive power grid to keep the grid reliable and safe for all Utah customers. The electrical distribution and transmission grid form an interconnected system. The enhanced data gleaned from this program has the potential for the Company to identify and control power quality and load imbalance issues as increasingly large numbers of DER generation are installed on

[9] Appendix C, Communications Plan, pp. 12-16.
[10] Appendix C, p. 3.
[11] See Direct Testimony of Company witness Ms. Joelle R. Steward, Docket 14-035-114, November 2016, ll. 37-42. "The results of this analysis show that, under the current rate structure, the costs of net metering exceeded the benefits by $2.0 million in 2015, of which $1.7 million is related to residential net metering customers. This cost impact has already increased to at least $6.5 million per year due to the growth in net metering in 2016. The Company estimates that, by 2020, the cost shift would be $27 million per year based on current growth projections." The Company's response to DPU DR 5.1 corrected the $27 million estimate to $30 million.

the system. For Utah customers, this increased visibility of data will hopefully allow the Company to make more accurate load forecasts and manage peak demand in the most cost effective manner. Furthermore, the substation data potentially can be optimized, thus allowing the Company to more effectively manage capital improvement projects in the future as well as to keep the current infrastructure reliable and more secure.

Q: Is this program consistent with STEP?

A: Yes. The substation metering program comports with Utah Code Ann. § Section 54-20-105-1(h) as "any other technology program" that may be in the public interest. It falls under the STEP's discretionary allotment of funds for the Utah Innovative Technology category. Given its potential benefits and minimal risk, the Division recommends that the Commission approve this program.

CO_2 Woody Waste Program

Q: Are there statutes in the Utah Code that authorize this program and the remaining Clean Coal Technologies?

A: Yes. Section UCA §54-20-104, which was passed as part of SB 115 and became effective on May 10, 2016, contemplates programs such as this one. This section of the Utah code states:

54-20-104. Clean coal technology program:

(1) Subject to Subsection (2), the commission shall authorize, before July 1, 2017, and, subject to funding, approve a program that authorizes a large-scale electric utility to investigate, analyze, and research clean coal technology.
(2) The Commission may review the expenditures made by a large-scale electric utility for a program described in Subsection (1) in order to determine if the large-scale electric utility made the expenditures prudently in accordance with the purpose of the program.

Q: Please describe the Company's Woody Waste pilot program.

A: The Company plans to perform a single co-firing of coal and processed woody waste[12] obtained from two different companies located in Utah - Amaron Energy and AEG Coalswitch. The test burn is anticipated to last approximately 18 hours, and the findings from the test burn will determine the viability of the product from each company.

Q: Has processed woody waste been previously used as a fuel by the electric industry?

A: Yes. A number of coal fired plants in the United States have experimented with burning woody waste along with coal to generate electricity.

Q: Will woody waste replace coal?

A: No. Woody waste is considered a biomass fuel and not producible in the quantities needed to replace coal entirely at this time. This project is designed to understand the

[12] Woody waste is a biomass product produced by pulverizing wood waste from the forest and logging operations. This pulverized wood is then heated to make it into a coal-like product.

characteristics of woody waste and how it interacts with coal and its impacts on the pollution control systems. The test will burn a mixture of 90% coal to 10% woody waste. This project is designed to gain a better understanding of woody waste in comparison to other studies performed at other utilities to obtain better knowledge of its application.

Q: Where and when will the test be conducted?

A: The test is scheduled to be conducted at the Hunter 3 generating unit during the third or fourth quarter of 2017. The characteristics to be monitored include: handling characteristics of the fuel, compatibility with existing equipment, possible plugging/fowling, boiler performance, and pollution levels. The Company expects to report the results of the woody waste test in 2018.

Q: Where will the woody waste be obtained?

A: The two suppliers of the fuel plan to obtain the woody waste from Utah forests, logging operations, and other construction sites where waste material qualifies to be used as woody waste.

Q: There are many claimed benefits associated with using woody waste. Will you please summarize a few of those benefits?

A: Woody waste production reduces debris in local Utah forests. This helps reduce the number and severity of forest fires and consequently helps to improve air quality. The

harvesting of logging waste will help reduce pressure on landfills and other dump sites.

Q: What is the Company's financial obligation for this program?

A: The Company plans to use $790,000[13] of STEP funds over the course of two years to fund this project.

Q: What is the Division's view of this program?

A: The Division believes the research and testing as outlined by the Company for its Woody Waste program has merit. If the program leads to more efficient operation (e.g., less pollutants and lower fuel expenses) of the Company's coal fired generation, the Division would consider the program successful. However, the Division does not fully understand how woody waste can work on the scale needed to mitigate pollution and fuel expense across the Company's fleet of coal generation.

Q: Would you recommend that the Commission approve this program?

A: Yes. The Division intends to have periodic workshops with the Company to review the progress of this project and discuss any concerns with the Company as needed. The Division has some concerns that additional OMAG expenses may arise as a result of this

[13] Docket No. 16-035-36, RMP's Application to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act, September 12, 2016, p. 4. Note that Exhibit B, Appendix A, lists the budget of $222,992 for the participation of the University of Utah and Brigham Young University.

program. The Division recommends that the Commission require the Company to report those expenses, much as it did in phase one of this docket. The Division recommends that the Commission approve this project.

CO_2 Cryogenic Carbon Capture Technology Program

Q: Please describe the Company's proposed Cryogenic Carbon Capture (CCC) program.

A: CCC uses phase change to separate CO_2 and other pollutants from exhaust or process gases. In CCC, the CO_2 is cooled to such a low temperature (about -140 °C) that it desublimates, or changes from a gas to a solid. The solid CO_2 is separated from the remaining gas, pressurized, melted, and delivered at pipeline pressure. The captured CO_2 can be used in many applications, including: enhanced oil recovery, and biofuels production. The gas that remains after the CO_2 and other pollutants have been removed is nearly pure nitrogen, and can be safely released to the atmosphere.[14]

Q: What is the Division's understanding of how the program will work?

A: There are two phases planned for this program. The first phase will expand on an existing technology first developed by Sustainable Energy Solutions (SES) during 2014 at the Company's Dave Johnston plant. Phase one will run from 2017 through 2019. Phase one consists of modifying SES's original test skid utilizing the latest technologies

[14] https://sesinnovation.com/technology/carbon_capture/.

and lessons learned from the initial Dave Johnston tests. The modified test skid will be designed to run longer operational tests at either the Company's Hunter or Huntington plants.

Phase two of the program will build on those long-term tests from phase one to design, construct and demonstrate the technology at a 5-10 MW operational level before going full scale in 2025.

Q: What is Company's role in this project?

A: The Company will provide the facilities, assist in planning and site determination, provide partial funding, and limited oversight. The objective of the project is to determine if a CCC system can become functional on a large 450 MW coal-fired generation unit to lower CO_2, SOx, NOx, and mercury pollutants.

Q: Please summarize what the Company's participation is in this program.

A: The Company intends to collaborate with other partners, including the United States Department of Energy (DOE), in the first and second phase of the CCC Technology program preparing it for full scale deployment by 2025. The plan is to begin on-site testing at either the Hunter or Huntington plants beginning in 2018. The Company is requesting approval of $1.745 million in STEP funding to begin the first phase of the program.

Q: What is Company's financial commitment to this project?

A: The Company is being asked to provide $1.175 of the estimated $6 million for phase one of the project with STEP funds. Phase one of the project will begin upon approval and end March 31, 2019 at either the Company's Hunter or Huntington plants. If the results of phase one support phase two of the program, the Company will be asked to offer further financial support estimated to be an additional $3 million of the remaining $20 million through the end of the pilot in 2021 along with continued use of either the Hunter or Huntington plants.

Q: What is the Division's view of the project?

A: While not expert scientists, the Division believes that the CCC research and testing as outlined by the Company in phase one of the program has merit. The Company has not fully disclosed how it will fund its $3 million financial portion of phase two of the program. The Division is concerned that phase two funding will be requested for inclusion in a future general rate case. The Division recommends that the Commission require the Company to report back at the end of phase one with progress and support before phase two funding for the program is approved by the Commission.

Q: Does the Division intend to monitor the process and progress of the Cryogenic Carbon Capture Technology program?

A: Yes. The Division intends to have periodic workshops with the Company to review the progress of this project and discuss concerns with the Company and, perhaps, other partners. The Division believes that the CCC research and testing as outlined by the Company in phase one of the program has merit but has concerns about its financial obligation for phase two of the program. However, the Division recommends that the Commission approve the Company to proceed with phase one of the CCC program of the project.

CO_2 Carbon Capture and Sequestration Program

Q: Please describe the Company's proposed Commercial Sequestration program.

A: This program is designed to research the feasibility of a commercial scale carbon capture and sequestration (CCS) storage in Utah at the Company's Hunter plant. This study is being pursued by the Company in conjunction with the University of Utah and other participants in response to a U.S. Department of Energy (DOE) Funding Opportunity Announcement (FOA) issued June 23, 2016 also known as the Carbon Storage Assurance Facility Enterprise (CarbonSAFE).

The DOE has planned for four phases in this program, which are as follows:

1. Phase I-Integrated CCS Prefeasibility lasting 18 months;
2. Phase II-Storage Complex Feasibility lasting 2 years;
3. Phase III-Site Characterization lasting another 2 years; and,
4. Phase IV-Permitting and Construction with an expected duration of 3.5

313 years.[15]
314

315 Phase I is designed to conduct pre-feasibility studies for a commercial scale CO_2
316 geological storage complex and demonstrate that the storage site(s) within the complex
317 have the potential to store CO_2 emissions safely, permanently and economically.
318

319 **Q: What is the Company's financial obligation to this program?**

320 **A:** The FOA offers up to $1.2 million for Phase I of the study. The University of Utah and the
321 other participating entities would need to contribute at least $150,000 in direct funding
322 or cost share to meet the 20 percent minimum participation requirement to get the DOE
323 funding. The Company is seeking Commission approval of $150,000 with STEP funds.
324 The STEP funding along with the other participants' funding would meet the 20 percent
325 DOE requirement.
326

327 **Q: What will the Company do with the STEP funds if the DOE does not select the**
328 **University of Utah's proposal?**

329 **A:** The funds would be reallocated to the NOx feasibility/demonstration project.
330

331 **Q: What is the Division's view of the project?**

332 The Division believes that the CCS research as outlined by the Company in Phase I of the

[15] Docket No. 16-035-36, RMP's Application to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act, September 12, 2016, Exhibit B, p. 9.

program has merit. The Company, in conjunction with the many other participants will lay the foundation to determine if there is the possibility that CO_2 can be economically captured and safely stored at the Company's Hunter generating facility. This program could be the template for other sequestration sites throughout the West for both coal-fired and natural gas-fired plants.

The Division is unclear how the remaining phases of the program will be funded. The Division has concerns that the Company will seek additional funding at a later date and seek approval for those funds to be included in a future general rate case. The Division recommends that the Commission require the Company to report back at the end of phase one with progress and support before any additional funding for the program is approved by the Commission.

Q: Does the Division intend to monitor the process and progress of the Carbon Capture and Sequestration program?

A: Yes. The Division intends to have periodic workshops with the Company to review the progress of this project and discuss concerns with the Company and, perhaps, other partners. The Division believes the CCS research as outlined by the Company in Phase I of the program has merit but has concerns about its financial obligation for future phases of the program. However, the Division recommends that the Commission approve the Company to proceed with its part in Phase I of the project.

CO_2 Coal Bed Methane (CBM) Recovery Program

Q: Please describe what the Company is proposing with this program.

A: This program, if approved, authorizes approval for a study by the University of Utah that will be called "The Application Feasibility for Regional and Commercial Use of CO_2 for Enhanced Coal Bed Methane Recovery." Under the leadership of the Department of Chemical Engineering and Energy & Geoscience Institute at the University of Utah, the study will determine if it is commercially feasible to inject power plant produced CO_2 into coal seams in Utah to increase the production of the methane held in those coal seams and sequester the carbon dioxide.

Q: Please describe the basis for this study.

A: The concept is such that, in addition to sequestering CO_2, as mentioned previously, CO_2 can simultaneously be used to increase the production of CBM in coal beds that are not able to be mined for their coal. It is a two-for-one deal: store emitted CO_2 underground and get more natural gas out of the ground as a result.

Q: How would sequestering CO_2 and enhancing CBM recovery complement each other?

A: When CO_2 is injected into the earth, if it is injected into CBM producing formations, the CO_2 has "preferential adsorptive affinity to methane." In other words, as the CO_2 is injected into the coal bed seams, it replaces the methane that is attached to the coal

molecules forcing the methane to leave. Thereby, additional methane is produced and carbon dioxide is sequestered in deep, un-mineable coal beds.

Q: Please provide further information about the study.

A: CO_2 is currently used to enhance the production of oil. The results of the study will help determine if a similar process can be used in our local CBM fields. There are some significant differences between oil production and CBM production. Some of those differences will be examined in this study. For example, is it feasible to use power plant emissions as the source for the injected CO_2? Is it feasible to inject CO_2 into coal seams? And, is the resultant increased production of methane cost effective?

Q: Are there specific challenges facing the prospect of producing CBM as proposed by this study?

A: Yes. Five very significant challenges[16] were listed that need solutions:

1. Volumetric – is there enough room in the coal bed seams;
2. Swelling – CO_2 absorption causes the coal to swell;
3. Sequestration –the CO_2 could leak out;
4. Induced Seismicity – the chance of causing geologic problems; and
5. Breakthrough – using flue gas in this way is unproven.

Q: What are the objectives of the study?

[16] Docket No. 16-035-36, RMP's Application to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act, September 12, 2016, Exhibit B, Appendix D.

A: There are three major objectives[17] the study hopes to obtain:

1. Provide a technical, economic and environmental study on the costs and benefits of this technology, including transportation of CO_2 from a specific source to a specific coal bed methane sequestration area.
2. Determine whether local coal beds are conducive to enhanced CO_2 methane recovery.
3. Propose new technologies for improving CO_2 injection efficiency.

Q: What is Company's role in this project?

A: The Company will assist as requested, but its main responsibility is financial. The Company will provide a total commitment of $275,000[18] over four years.

Q: What is the Division's view of the project?

A: At a high level, the Division believes that the concept of enhanced CBM recovery using CO_2 injection, which is a byproduct of power production, has merit. Therefore, the Division recommends that the Commission approve the Company to proceed with this study.

Q: Does the Division intend to monitor the process and progress of the Coal Bed Methane Recovery program?

A: Yes. The Division intends to have periodic workshops with the Company to review the progress of this study and discuss concerns with the Company and, perhaps, the authors

[17] Id.
[18] Docket No. 16-035-36, RMP's Application to Implement Programs Authorized by the Sustainable Transportation and Energy Plan Act, September 12, 2016, Exhibit B, p. 4.

418 and researchers.

419

420 **CO_2 Solar Thermal Capture Technology Program**

421 **Q: Please explain your understanding of the Solar Thermal Capture Program.**

422 **A:** This program, led by Dr. Iverson of Brigham Young University, will research the
423 feasibility of using solar-augmentation in the existing steam cycle at the Hunter 3 unit.
424 Utilizing either a solar trough or solar tower system to pre-heat water in the steam cycle
425 would theoretically reduce the required coal-burn necessary to create steam in the
426 current system design.

427

428 According to Dr. Iverson, in order to investigate solar augmentation at the Hunter
429 generating facility, his team would need to determine the following:

430 1. The type of solar augmentation (trough or tower);
431 2. The land resources (insolation requirements, area, grading, etc.);
432 3. Efficiency (comparison of solar energy to energy produced); and,
433 4. Costs (hardware or plant subsystems).

434 These items will be considered and analyzed in a cost/benefit study.[19]

435

436 **Q: What is the Division's view of the Company's Solar Thermal Capture proposal?**

437 **A:** The Division lacks the technical expertise and detailed information to deeply evaluate
438 the feasibility of the ideas the Company is considering in its proposal. At a high level, the

[19] Id., Exhibit B, Appendix E.

Division believes using solar thermal capture as outlined by the Company at Hunter 3 has merit.

Q: What is the cost of this program?

A: According to the budget as outlined, the two-year project will require approximately $187,000.[20]

Q: Is the cost of this program in the public interest?

A: The Division is unclear, and the Company has not provided any detail, how the Company plans to proceed in the event that the outcome of the study proves successful and decides to augment steam production with solar at Hunter. However, the Division supports the Company's efforts to find new ways to make its fossil fuel generation as efficient as possible.[21] Therefore, the Division recommends that the Commission approve this program and allow the Company to proceed with its proposal.

Q: Does the Division intend to monitor the process and progress of the Solar Thermal Capture Program?

[20] Id., p. 4.
[21] Direct Testimony of Robert A. Davis filed November 9, 2016 in Docket No. 16-035-36, lines, 85-96.

A: Yes. The Division intends to have periodic workshops with the Company to review the progress of this study and discuss concerns with the Company and, perhaps, the authors and researchers.

Q: Does the Division have any other concerns with respect to the STEP Program that have not been discussed in Phase One or in this phase of the docket?

A: The Division's primary concerns moving forward with Phase Two of the STEP Program include those instances, as mentioned previously, regarding funding for additional phases of the studies that STEP funding only initially covers. The Division has concerns that the Company will outspend its STEP funding and seek approval for cost overruns in a future general rate case or other deferral type proceeding. The Division strongly believes that the Company needs to track, monitor, and report its expenditures to date each quarter, along with its quarterly progress reports. The Commission should specify in its STEP Order that only those STEP costs for particular programs are authorized and that the Company, not ratepayers, is responsible for any funds spent over and above the authorized STEP limit.

There may be projects where additional phases of research are needed. The Division is concerned about how such a project might proceed. For example, a project might be abandoned or requested to continue by its shareholders. If so, the Division suggests the Company propose to its shareholders the need for additional funding to conduct further

studies.

Q: Given your testimony in this phase of the proceeding, does the Division recommend that the Commission authorize the Company to allocate the remaining annual $10,000,000 from Utah ratepayers to fund the remaining programs as discussed in Phase Two of the docket?

A: The Division finds that the Company's remaining proposals in Phase Two of the docket are in the public interest and recommends that the Commission approve the remaining programs with the exception of the EV implementation, to be heard in Phase Three of this docket.

Conclusions and Recommendations

Q: Please summarize the Division's conclusions and recommendations.

A: The Division has reviewed the Company's Application for implementation of the various STEP programs and categories of programs as contained in the Commission's Phase Two Order in this docket. The Division believes the Company should follow the same accounting treatment and reporting guidelines as ordered by the Commission in Phase One of this docket. As stated previously, the Division recommends the Company be held accountable to report its progress and actual expenditures on these programs, and the Division will audit and track the STEP initiatives. Finally, the Division recommends the Commission require the Company to bear, at its shareholders' cost, any cost overruns for any Phase Two STEP Project discussed herein.

The Division recommends the Commission approve the Company's Application and remaining programs as discussed above. The Division recommends this approval be conditional upon the accounting treatment and reporting requirements as previously stated. Specifically, the Division recommends:

1. Approval of the Commercial Line Extension program;
2. Approval of the Advanced Substation Metering program; and
3. Approval of the CO_2 Woody Waste, Cryogenic Carbon Capture, Carbon Capture and Sequestration, Coal Bed Methane Recovery and Solar Thermal Recovery Technology programs.

Q: Does this conclude your direct testimony?

A: Yes it does.