In the Matter Of:

In Re: RMP - Sustainable Transportation and Energy Plan Act

HEARING PROCEEDINGS, DOCKET NO. 16-035-36

November 30, 2016

Job Number: 342069

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

HEARING PROCEEDINGS

TAKEN AT: Utah Public Service Commission
Hearing Room 451
160 East 300 South
Salt Lake City, Utah
DATE: November 30, 2016
TIME: 9:00 a.m.
REPORTER: Mary R. Honigman, R.P.R.

Job Number: 342069

APPEARANCES

CHAIRMAN:
THAD LEVAR

COMMISSIONERS:
JORDAN WHITE
DAVID CLARK

FOR THE DIVISION OF PUBLIC UTILITIES:
Justin Jetter
ASSISTANT ATTORNEY GENERAL
160 East 300 South, Fifth Floor
Salt Lake City, Utah 84114

FOR THE OFFICE OF CONSUMER SERVICES:
Rex Olsen
ASSISTANT ATTORNEY GENERAL
160 East 300 South, Fifth Floor
Salt Lake City, Utah 84114

FOR ROCKY MOUNTAIN POWER:
Daniel Solander, Esq.
1407 West North Temple, Suite 320
Salt Lake City, Utah 84116

FOR UTAH CLEAN ENERGY
Sophie Hayes, Esq.
1014 Second Avenue
Salt Lake City, Utah 84103
(801)363-4046

FOR WESTERN RESOURCE ADVOCATES
Jennifer Gardner, Esq.
150 South 600 East, Suite 2A
Salt Lake City, Utah 84102
(801) 487-9911

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PROCEEDINGS

CHAIRMAN LEVAR: Good morning. We're here for Public Service Commission Docket 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. This is the hearing on Phase One of this docket and as noticed in the schedule. Why don't we start with appearances. For the Utility?

MR. SOLANDER: Thank you, Chairman LeVar. Daniel Solander, representing Rocky Mountain Power. I have with me at counsel table Steve McDougal, who will be one of the Company's witnesses today.

MR. JETTER: Good morning. I'm Justin Jetter, and I'm here representing the Utah Division of Public Utilities today. With me at counsel table is Division witness Bob Davis, and the Division also intends to call David Thomson as an additional witness today.

MR. OLSEN: Rex Olsen on behalf of the Office of Consumer Services. And at the table with me is Bela Vastag, and we will also be calling Danny Martinez and Cheryl Murray as well.

CHAIRMAN LEVAR: Okay. Thank you.

Ms. Hayes?

MS. HAYES: Good morning. Sophie Hayes on behalf of Utah Clean Energy, and we will be calling Ms. Sarah Wright as our witness.

CHAIRMAN LEVAR: Thank you.

MS. GARDNER: Good morning. Jennifer Gardner representing Western Resource Advocates, and we will be calling Kenneth Wilson as our witness.

CHAIRMAN LEVAR: Thank you. That appears to be all the appearances we have this morning. Does anyone have any preliminary matters before we move on with the Utilities presentation? Mr. Solander?

MR. SOLANDER: I just have a question. We filed with the application several exhibits that aren't necessarily part of the Phase One proceeding, so I don't know if it's cleaner to enter the application and all of the exhibits into the record or if you would like me to, as we go through, move the exhibits that correspond to the individual witnesses' testimony today.

CHAIRMAN LEVAR: That might be the cleanest way to go because look around the room and see if any other party wants to weigh in on the issue. I'm not seeing that anybody has any

preference, but since we have some testimony that is not relevant to today's hearing, it might be cleaner just to introduce them as the witnesses present them. Any other preliminary matters? Okay. Mr. Solander.

MR. SOLANDER: Rocky Mountain Power would like to call Ian Andrews as its first witness in support of the Clean Coal Research Projects.

IAN ANDREWS,

having been first duly sworn to tell the truth, was examined and testified as follows:

EXAMINATION

BY MR. SOLANDER:

Q. Good morning, Mr. Andrews.

A. Good morning.

Q. Could you please state and spell your name for the record.

A. My name is Ian Andrews. I-a-n A-n-d-r-e-w-s.

Q. And by whom are you employed?

A. Rocky Mountain Power. I'm the director of resource development.

Q. And as the directer of resource development, did you prepare and file in this proceeding direct testimony and Exhibit B to the

Company's application which it titled The Clean Coal Program?

A. I did.

MR. SOLANDER: At this time, I'd move that the prefiled testimony of Mr. Andrews and Exhibit B to the Company's application be moved into the record.

CHAIRMAN LEVAR: I'll ask anyone who has an objection to that motion to indicate to me. I'm not seeing any, so that motion is granted.

MR. SOLANDER: And I'd also move the entry of the application into the record as well.

CHAIRMAN LEVAR: I'll ask if anyone has any opposition to that, and I'm not seeing any so that motion will be granted also.

BY MR. SOLANDER:

Q. After you filed the testimony in this proceeding, did you have to opportunity to participate in technical conferences with the parties?

A. We did. We had a technical conference on October 18 on the two topics we'll discuss today.

Q. And at the end of that technical conference, did you believe that there were any outstanding questions from the parties that have yet

to be answered?

A. I believe we answered all the questions that were asked.

Q. And have you prepared a summary of your testimony that you would like to share with the Commission?

A. I have.

Q. Please, proceed.

A. I apologize for reading this, but I don't want to miss any points. So pursuant to our STEP legislation, the Company is requesting approval to apply $5 million in STEP funding over a five-year period to investigate, analyze and research clean coal technology.

As defined in the legislation, clean coal technology means a technology that may be researched, developed, or used for reducing emissions or the rate of emissions from a thermal electric generating plant that uses coal as a fuel source. To meet that objective, the Company proposes to allocate these funds across a number of projects that focus on the capture, reduction, and sequestration of carbon dioxide and the reduction of nitrogen oxides, also known as NOx.

Funding will go toward these specific

projects that will be performed or assisted by Utah universities, Utah technology firms that process woody waste and CO2 capture technologies that may result in lower capture costs in comparison to traditional methods.

The selected projects are intended to meet multiple objectives. And these are the four objectives: To demonstrate projects that result in measurable emission reductions; to invest in promising technologies and applications that may advance technologies when fully developed and applied at utility scale that will allow for coal for our generating resources to operate with reduced carbon dioxide emissions; provide funding and opportunities for industry targeted areas of research that can be performed by Utah's universities; and to promote Utah's clean energy technologies.

We have seven projects that are proposed under the Clean Coal Research Program. The two that I'll discuss today -- which were the Phase One projects that we submitted on our October 18 meeting -- are the application of a neural network control system at Huntington Unit 2 for the reduction of NOx and the implementation of a utility

scale demonstration of an alternative for decreasing NOx emissions without the use of Selective Catalytic Reduction System, also known as an SCR. Both of these projects were presented at our technical conference on October 18th.

The first project I'd like to discuss briefly is approximately a $1 million project that would be applied over the five-year period, and that is for an advanced neural network control system at Huntington Unit 2. For this project, it is proposed to install a neural network optimization control system on that unit with the objective of targeting NOx reductions followed by a reduction in other emissions associated with combustion. Subsequent to this effort will be an additional objective to balance those reductions with unit efficiency improvements. Along with combustion optimization, there are other plant processes that may benefit from a neural network optimization system. For this project, the University of Utah will partner with Rocky Mountain Power and the software provider to install, demonstrate, and fundamentally research artificial intelligence technology to improve emissions from this unit. If successful, this would be applicable to similar boilers at the Hunter and

Huntington plants.

The second project that we're proposing is approximately a $1.4 million project for utility scale demonstration of alternative NOx emission control technologies. This particular clean coal research project is proposed to perform one or more slipstream or full-scale demonstration tests of one or more NOx emission control technologies at the Huntington plant. The objective of this test program will be to determine if there are one or more emerging NOx control technologies, either on a standalone or combined basis, that could achieve NOx emission rates similar to those expected with an SCR system and at lower cost. The STEP Clean Coal research monies would be used to fund all or a portion of these NOx emission demonstrations.

In order to identify which technologies will be tested, a request for proposal process will be conducted in calendar year 2017. Criteria that will be used for the technologies will include: An assessment of whether the technology can be installed at full-scale; previous operational experience; permitting impacts; economics; an assessment of the long-term reliability of the technology; and the ability of the underlying

technology company to provide commercially viable performance warranties or guarantees. Prior to the distribution of the RFP, a request for information would be issued to determine levels of interest, identify technology consolidation or partnering companies, and prepare a short list of potential technology providers for the RFP.

So that summarizes the two projects we have in mind.

Q. Does that conclude your testimony?

A. It does.

Q. Thank you. Mr. Andrews is available for questions from the Commission or the other parties.

CHAIRMAN LEVAR: Thank you. Mr. Jetter?

MR. JETTER: No questions for the Division. Thank you.

CHAIRMAN LEVAR: Mr. Olsen?

MR. OLSEN: No questions from the Office.

CHAIRMAN LEVAR: Ms. Hayes?

MS. HAYES: No questions. Thank you.

CHAIRMAN LEVAR: Thank you. Ms. Gardner?

MS. GARDNER: No questions.

CHAIRMAN LEVAR: Commissioner White, do you have any questions?

COMMISSIONER WHITE: I don't now, but are we going to have an opportunity for potential -- I mean, I guess part of the question with respect to some of the clean coal technology OMAG costs, I just want to make sure that we have the right or the ability if necessary to come back to --

CHAIRMAN LEVAR: Is there any objection to keeping the witnesses in the room throughout the hearing if there's any need for further questions?

MR. SOLANDER: Absolutely not. Thank you.

CHAIRMAN LEVAR: Okay. So do you have any questions at this point?

COMMISSIONER WHITE: No, I don't. Thanks.

CHAIRMAN LEVAR: Commissioner Clark?

COMMISSIONER CLARK: No questions.

CHAIRMAN LEVAR: I don't either. Thank you, Mr. Andrews. And if we have questions later, we'll ask you to return. Mr. Solander?

MR. SOLANDER: Thank you. Rocky Mountain Power would call Mr. Douglas Marx in

support of the Utah Battery and Solar Project.

DOUGLAS MARX,

having been first duly sworn to tell the truth, was examined and testified as follows:

EXAMINATION

BY MR. SOLANDER:

Q. Good morning.

A. How are you doing?

Q. Well, thank you. Could you please state your name and spell it for the record.

A. Douglas Marx. D-o-u-g-l-a-s and M-a-r-x.

Q. And by whom are you employed and in what capacity?

A. I'm employed by Rocky Mountain Power. I'm the director of engineering standards and technical services.

Q. And as the director of engineering standards and technical services, did you prepare a testimony and a confidential Exhibit D that were filed in this docket?

A. I did.

Q. Do you have any corrections or additions to your testimony or the exhibit at this time?

A. I do not.

MR. SOLANDER: I'd like to move the

admission of Mr. Marx's testimony and confidential Exhibit D, which was labeled as Solar and Energy Storage Program.

CHAIRMAN LEVAR: I'll ask any party that objects to that to indicate to me. I'm not seeing any so that motion is granted.

BY MR. SOLANDER:

Q. Thank you. And, Mr. Marx, did you have the opportunity to prepare a summary of your testimony that you'd like to share with the Commission today?

A. I did, yes.

Q. Please proceed.

A. Pursuant to the STEP legislation, the Company is requesting authorization to use $5.5 million of the STEP funding to install a stationary battery system, to be installed on the 12.5 kilovolt distribution circuits connected to a Company-owned substation in 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 battery storage and solar technology is expected to defer or eliminate the need for traditional capital investments and will

reduce the loading on the distribution power transformer, improve voltage conditions, and mitigate costs associated with connection on the 69 kilovolt bus at the substation.

The program will provide a number of benefits to the Company's customers, particularly those in the immediate area of the project. The benefits include: (1) Reducing load on the distribution power transformer at the substation, ensuring the voltage in the area 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 in the form of poles and wires; (4) enabling the Company to obtain firsthand operational experience with control algorithms and efficiency levels associated with energy storage and in combination with solar; (5) enabling the Company to become familiar with and utilize innovative technologies to provide customers with solutions to power quality issues; and last, providing an opportunity for the Company to meet requests from its Blue Sky customers for physical "steel in the ground" renewable facilities in the form of solar generation. The Company anticipates

that it will implement similar projects in the future, and its experience with battery storage and solar will continue to provide dividends by giving the Company experience with and the opportunity to implement future projects more efficiently.

There are no limitations or risks to the applicability or technological feasibility of the battery/solar solution for this project. This is a solution that continues to mature and has been proven in many installations across the country. Due to the lack of operational data available at the time of the project proposal, the only uncertainty with this solution is the total number of operations that will be required of the battery on an annual basis.

Since the initial study, Rocky Mountain Power has completed the installation of appropriate metering at the substation, and continuous data will soon be available. While only limited data is available for 2016, full data will become available during 2017 and beyond, prior to the installation of the battery. The new metering will provide all of the required data for proper determination of the battery operational metrics.

The Company consistently implements

reliability and power quality enhancements on its transmission and distribution systems to mitigate operational and performance problems. Recognizing that energy storage and renewable energy will be major contributors to grid modernization, the Company has identified a logical location to pilot a range of technologies -- battery storage and solar, metering, et cetera. This project enables us to correct a voltage issue for our customers in the area using an innovative technology in lieu of traditional infrastructure and concurrently provides a platform to objectively study and enhance the operational performance of a technology that will begin to permeate the system as more renewable and distributed generation systems are connected to the grid now and in the future.

Q. Thank you. Can you explain what the primary goal of voltage correction measures are?

A. The primary application is to ensure that the voltage levels delivered to our end-use customers fall within the ANSI standards and control standards. It's the end-use customer where our focus is. The voltage will change on the system, but we are trying to ensure that the end-use customer gets a good quality voltage.

Q. And what would happen if the Company made engineering decisions on how to achieve that and other engineering and system balancing decisions based on how the costs would be allocated?

A. When we design systems, we do it to optimize the performance of the system. If we did it based on economic allocations, it would lead us to a less -- a suboptimal -- condition in our design of our systems. For example, let's take a voltage problem and do it in the state of Idaho. In the state of Idaho, our allocation on transmission levels is around 6 percent. So if I have a voltage problem, I can choose to do a capacitor correction or regulation at either the distribution level or the transmission level. So if I do it at the distribution level, paying a 600K bar cap bank on a pole is relatively inexpensive. I take it, I bring that up to the distribution level -- a larger capacitor -- do it on the 12 KUB bus -- it's not much more expensive than doing a pole -- but once I move that to the transmission side of the bus still within the same perimeter of the fence line, I've just increased my cost by about three times in that installation.

So what you look at is, if I did it based

on allocations and used a 6 percent allocation, in Idaho I'd probably spend money on the high side bus, because I've got 15 times more money to spend than I do on the low side bus. But what that does is it impacts my capital budgets. We've got a limited capital area and it, thus, is going to push the rates up for all the customers across all of our service territories in all states we serve. So when we design, we look for conditions that economically drive good engineering decisions, not looking at how the allocation drives those engineering decisions.

MR. SOLANDER: Thank you. That concludes my questions for Mr. Marx. He's available for questions from the Commission and the parties.

CHAIRMAN LEVAR: Thank you. Mr. Jetter?

MR. JETTER: No questions.

CHAIRMAN LEVAR: Thank you. Mr. Olsen?

EXAMINATION

BY MR. OLSEN:

Q. I guess I'd like to just follow up on what I understood the last statement you made. You said that there are economic considerations that would drive these -- any of these decisions, which makes

sense, but that those economic decisions are not in some way tied to the interjurisdictional allocation. Is that --

A. That's correct.

MR. OLSEN: That's all. Thank you.

CHAIRMAN LEVAR: Thank you. Ms. Hayes?

MS. HAYES: No questions, thanks.

CHAIRMAN LEVAR: Thank you. Ms. Gardner?

MS. GARDNER: No questions. Thank you.

CHAIRMAN LEVAR: Commissioner Clark, do you have anything at this point?

COMMISSIONER CLARK: No questions.

CHAIRMAN LEVAR: Commissioner White?

COMMISSIONER WHITE: The discussion about, you know, allocation, one particular question I had is what is a precise issue driving the need for this voltage support? And let me tell you what kind of prompted this question. It was actually from Mr. McDougal's rebuttal testimony where he talks about the missed opportunity to investigate the impact of distributed energy resources on Utah customers. Help me understand what is actually

driving the need for this voltage support on this circuit.

THE WITNESS: There's three primary factors that drive voltage problems. It's the impedance of the system -- and that's multiplied by the length of the line -- and the primary thing is the current flow on the conductors. So what you have is a load condition -- got to be careful; I don't want to name the substation. So at the substation, I have a voltage condition that I need to correct because of the load out on the distribution network. So two ways I can correct that voltage; one is to change my conductors, increase them in size to lower the impedance. The other one is to reduce the load. So when you look at the peak levels, they only happen for short periods of time during the year, even though we build our system to handle those, because we don't know when that is going to occur. With this technology, we can take in a very flexible, dynamic design to just answer the question of when those peaks occur.

When you increase your conductors, you do this based on some forecasts of expected load growth. So you hear the question, well, let's look

at the economics of increasing that line because that line will last for fifty years. Well, you know what? The wire in there will probably last for a hundred years, but it depends on the load growth of when I might have to re-conductor that. So when this area, if we get some unexpected load growth, I may be back re-conductoring that sooner than I would have if I use a scalable, short-term technology that I can rapidly implement without significant changes.

So the big driver here is the load at the distribution level for short periods of time during the year is creating voltage problems back into the system of the distribution level, power transformer, even on the transmission; it's a ripple effect. So do I increase my conductors or do I reduce my load? So we're seeing here that there's a technology we can do at a lower initial cost to hit that for short periods of time in the year. It's scalable, and we can do that more incrementally over time as load grows or doesn't appear, depending on how good our crystal balls are at the time we make the installation. Does that help?

COMMISSIONER WHITE: That helps. Thank you.

COMMISSIONER CLARK: Can I ask a

follow-up question or two? Recognizing that you don't have a crystal ball, but that you have some history with the requirements of the particular distribution system -- or part of your distribution system -- how often do you expect to call on the power that's stored, and for how long would it be called on when you need it? Just your general sense of what your expectations might be.

THE WITNESS: In this area, there's two times during the year where we see it: In the dead of winter when we have a lot of heating load and in the middle of summer when we have a lot of cooling load. And it's going to be for typically anywhere from an hour to four hours per day, for generally 30 to 45 days in each period, depending on local climate conditions at the time we need it.

So with this project, also, what we're looking at is by building the solar next to the battery, we can actually control this to say, okay, what happens in these different "what if" scenarios? What happens if I get to a point where I've got more generation in a small area than I do have actual load? Am I able to take that, store it and release it at another time? So we can do a lot of "what if" scenarios with this technology by

having control of the two. So as time goes on and the load grows, it will change. It could become more or less until such time that we do have significant growth that may require other technologies to solve those issues.

COMMISSIONER CLARK: And given the solar profile of this area, you expect that in the winter the system would operate sufficiently or, in other words, there would be enough regeneration of the batteries to satisfy the needs of --

THE WITNESS: In the winter condition, it actually works out really good. The concern of the initial -- we did a fairly small solar installation, so we may have to augment some of that battery charging at night with other resources. But, like I said, we did this -- we basically put metering up for a very short period of time to give us the granular data so we can make some assumptions to see would this technology work or not. So as the new metering goes in and we start to see that coming in, we can refine that a little bit tighter. But I think we're going to be okay with just what we've got for the solar and the install battery that it can take care of that charging for that. So that local generation will

get released right back into the immediate area. There is not enough solar generation there to permeate back into my system at all. It will get consumed there by the local load in one way or the other. We're just going to try to shift the peak from the middle of the day generation to the evening when the load does occur.

COMMISSIONER CLARK: Thank you. That concludes my questions.

CHAIRMAN LEVAR: Anything else for this witness?

MR. JETTER: No, thank you.

CHAIRMAN LEVAR: Mr. Solander?

MR. SOLANDER: Thank you. Rocky Mountain Power would like to call James Campbell as its third witness.

JAMES CAMPBELL,

having been first duly sworn to tell the truth, was examined and testified as follows:

EXAMINATION

BY MR. SOLANDER:

Q. Good morning, Mr. Campbell.

A. Good morning.

Q. Could you please state and spell your name for the record?

A. James Campbell, J-a-m-e-s C-a-m-p-b-e-l-l.

Q. And what is your current position with Rocky Mountain Power?

A. I'm the legislative policy adviser.

Q. And as part of your duties as a legislative policy adviser, did you prepare testimony and Exhibit E to the application, which is entitled Gadsby Emissions Curtailment Program?

A. I did.

Q. Do you have any additions or corrections to that testimony that you would like to make at this time?

A. I do not.

Q. And did you prepare a summary of your testimony that you'd like to share with the Commission?

A. I did.

Q. Please proceed.

A. Thank you. Pursuant to Senate Bill 115, the Company is requesting approval for up to $500,000 in STEP funding over a five-year period to cover the economic loss of curtailing the operation of Gadsby Power Plant, units 1 through 3, during periods of winter air quality events as defined by the Utah Division of Air Quality.

The Gadsby Power Plant is located in the Salt Lake PM2.5 Non-attainment area. The power plant will be curtailed after a minimum of 48-hour notification from the Division Of Air Quality of an impending air quality event. An air quality event is defined as when the Salt Lake non-attainment areas' ambient air conditions are predicted by DEQ to be 25 micrograms per cubic meter for PM2.5.

Gadsby units 1 through 3 typically do not operate in the winter. However, in the last five years, units 1 through 3 have been dispatched in the winter, including during periods of extremely high ambient pollution. Since the units are only dispatched when they are economic to operate, there is economic impact to not operate. The Company proposes using a market proxy to determine the replacement of power costs for not operating. The Company proposes using the Four Corners market hub as the proxy, or if the Commission chooses, market pricing at either the Palo Verde or Mid-C market. If the method of calculating the replacement power is not approved as part of the Gadsby Curtailment Program, then the potential unrecoverable costs would be an unacceptable risk for the Company and would likely not proceed with implementing the

program.

The Company proposes budgeting a total of $500,000 for the Gadsby Curtailment Program, and once the budget is exhausted, the program will end. If Gadsby is not scheduled to operate during an air quality event, then no action is taken and there is no economic loss and no replacement costs will be requested. Since Gadsby does not always dispatch in the winter and air quality events last roughly three weeks a year, it is believed that $500,000 is a sufficient budget to cover the cost of the Gadsby Curtailment Program.

Q. Does that conclude your summary?

A. It does.

MR. SOLANDER: I move the admission of Mr. Campbell's direct testimony and Exhibit E to the application at this time.

CHAIRMAN LEVAR: Thank you. I'll ask anyone who objects to that to indicate to me. I'm not seeing any, so that motion is granted.

MR. SOLANDER: Thank you. Mr. Campbell is available for questions to the parties and the Commission.

CHAIRMAN LEVAR: Thank you. Mr. Jetter?

MR. JETTER: No questions.

CHAIRMAN LEVAR: Thank you. Mr. Olsen?

MR. OLSEN: No questions from the Office. Thank you.

CHAIRMAN LEVAR: Ms. Hayes?

MS. HAYES: No questions.

CHAIRMAN LEVAR: Ms. Gardner?

MS. GARDNER: No questions.

CHAIRMAN LEVAR: Commissioner White?

COMMISSIONER WHITE: Is there any reason or preference between the three; the Four Corners, the Palo Verde, or the Mid-C? What was, I guess, the rationale for choosing one or the other?

THE WITNESS: Mr. McDougal addressed this issue in his rebuttal testimony. Is it okay if I refer to him in that?

COMMISSIONER WHITE: That's fine. That's all I have.

CHAIRMAN LEVAR: Commissioner Clark?

COMMISSIONER CLARK: No questions.

CHAIRMAN LEVAR: I don't have any. Thank you, Mr. Campbell.

MR. SOLANDER: Rocky Mountain Power would like to call Mr. Steven McDougal as its final

witness today.

STEVEN MCDOUGAL,

having been first duly sworn to tell the truth, was examined and testified as follows:

EXAMINATION

BY MR. SOLANDER:

Q. Good morning, Mr. McDougal.

A. Good morning.

Q. Would you please state and spell your name for the record?

A. Yes. My name is Steven McDougal, S-t-e-v-e-n M-c-d-o-u-g-a-l.

Q. And what is your current position with Rocky Mountain Power?

A. I'm currently employed as the director of revenue requirement.

Q. And as the director of revenue requirement, did you prepare and cause to be filed in this docket supplemental and rebuttal testimony, as well as Attachment 1 to the Company's application, which is the proposed tariff sheets?

A. Yes.

Q. And does your rebuttal testimony contain seven exhibits; is that correct?

A. I believe so. Let me look real quick.

Yes.

Q. Do you have any additions or corrections to your testimony or the exhibits attached thereto at this time?

A. No, I do not.

MR. SOLANDER: Thank you. I'd move the admission of Attachment 1 to the Company's application, RMP supplement testimony filed by Steve McDougal, and RMP rebuttal testimony of Steven McDougal and the exhibits thereto at this time.

CHAIRMAN LEVAR: Thank you. I'll ask any party who objects to indicate. I'm not seeing any, so that motion is granted.

BY MR. SOLANDER:

Q. Thank you. Have you prepared a summary of both your supplemental and rebuttal testimony that you'd like to share today?

A. Yes, I have. Before we get started, I was thinking I had one exhibit on my direct testimony also. I attached the Utah STEP Pilot Program instructions, which I believe was an exhibit. Just when you moved for admission --

MR. SOLANDER: Thank you for that clarification. I'd also move the admission that I did not have it tabbed as a separate exhibit.

CHAIRMAN LEVAR: Any objection from anyone? I'm not seeing any. That motion is granted.

MR. SOLANDER: Thank you.

A. As mentioned, I filed both supplemental and rebuttal testimony in this proceeding. I'll provide a brief summary of both filings.

In my supplemental testimony, I basically cover three items. First, I cover the proposed changes in accounting for the Utah Demand Site Management, or DSM programs. Basically, effective January 1st, 2017, PacifiCorp will begin to defer the monthly DSM expenditures. Each monthly deferral will carry a ten-year amortization period. The difference between the DSM expenditures and the amortization expenses related to the deferred DSM expenditures will create a regulatory asset. That's very similar, almost identical, to how we do all other capital assets.

The second item I discuss is the accounting related to the new plant accelerated depreciation fund, which is, that the difference between the customer collections from the surcharge attributable to DSM programs and the monthly amortization expense from the monthly deferred DSM

expenditures will create a plant accelerated depreciation fund for a regulatory liability that may be used to depreciate thermal generation plants as described in my testimony.

Consistent with the legislation, the Commission needs to determine that the accelerated depreciation is in the public interest. Therefore, the Company will make a filing with the Commission requesting the use of the funds and response to environmental regulation or for another purpose the Company believes is in the public interest. The final authorization to use the funds will come from the Commission.

Third, I discuss the Company's proposed STEP accounting and reporting, which I then clarified in my rebuttal testimony. In my rebuttal testimony, I discussed various issues raised by the DPU, the Office, and the Utah Clean Energy. My testimony includes a background on the Company decision to propose the Solar and Energy Storage Program as part of STEP. As mentioned by Mr. Douglas Marx, the Company projects that by 2019 the distribution load in the designated area will reach a point that will cause nominal voltage on the transmission lines serving the area of this project

to drop below the required industry standards. In evaluating solutions to this problem, the Company considered both transmission and distribution fixes. The Company analyzes all of these investment option decisions based on total Company results.

Some parties proposed and mentioned looking at the Utah allocated portions. But by looking at the Utah allocated costs as discussed by the parties, only a portion of the transmission costs would be included in the analysis, creating an incorrect investment comparison that could lead to suboptimal decisions for the Company and its customers. The Company agrees that the benefits of the Solar and Energy Storage Program should be passed to Utah customers through the EBA. This will be done similar to the treatment of the Black Cap Solar Program in Oregon, such that Utah will be credited for the market value of the solar production as described in my testimony. No other adjustments, other than those described above, are needed to give Utah the benefit of the Solar and Energy Storage Program.

The second item I discussed was Blue Sky funding. The Company believes the use of Blue Sky funding should be approved and is consistent with

the purpose of the Blue Sky Program. The energy generated by the solar installation should benefit all Utah customers and not just select community organizations. The administrative costs to create a grant program that applies credits to customer bills would require additional funding, including the creation of a new rate schedule, billing system modifications, and ongoing program management, none of which were contemplated or requested in the Company's application.

Third, I discuss the Gadsby Emissions Curtailment Program. I describe the Company's proposed accounting and measurement of the costs associated with the Gadsby Emissions Curtailment Program. The Company's proposal provides a reasonable, quantifiable, and transparent approach to determining the replacement power costs for the Gadsby Emission Curtailment Program. This is also consistent with the approach used for Utah's benefit related to the Solar and Energy Storage Program.

Fourth, I provided tariff sheet modifications. And the last item, I provided additional details on the Company's proposed STEP accounting and reporting plan.

BY MR. SOLANDER:

Q. And did you have a final request and recommendation?

A. Yes. As supported by the Company's application in this docket, the testimony of the Company witnesses accompanying the application and in my testimony, the Company recommends that the Commission find as follows: (1) The Company has properly evaluated the Solar Energy and Storage Program; (2) the Company proposed accounting treatment will properly allocate to Utah customers the benefits of the Solar Energy and Storage Program through the EBA; (3) it is appropriate to allow Blue Sky funding for the solar portion of the Solar Energy and Storage Program; (4) it is not appropriate or feasible to establish a grant program to benefit community service organizations based on the kilowatt hours generated by the solar portion of the Solar and Energy Storage Program; (5) the replacement power costs resulting from operation of the Gadsby Emissions Curtailment Program should be calculated using the Four Corners trading market; (6) the various tariff sheets filed with my supplemental testimony reflecting the modifications and needed corrections addressed by the parties are approved; and (7) the Company-proposed reporting

plan provides all appropriate STEP reporting information.

The Company further respectfully recommends the Commission approve all issues under consideration in Phase 1 of this docket as outlined in my rebuttal testimony and the application and testimony of other Company witnesses in this docket.

Q. Does that conclude your summary?

A. Yes, it does.

Q. Mr. McDougal, does the Company support the alternative proposal put forth by Ms. Wright on behalf of UCE for creating a creditor grant program with the energy generated by the Solar and Battery Storage Program?

A. No, we do not.

Q. And why not?

A. One, there isn't excess energy, as mentioned by Mr. Marx. The energy will all be used there locally. Two, as I mentioned in my summary and my testimony, the solar program is going to benefit all Utah customers, not just select customers, and, therefore, we believe that the benefit should flow to all Utah customers through the EBA by giving them that market benefit.

Q. And my final question, if the Commission

ordered that the cost of the Solar and Battery Storage Program were to be system allocated, would the Company be more or less likely in the future to pursue distributed generation projects?

A. Less likely, because what we would be saying is that those kind of decisions should be based upon allocations. And if you look at allocations, the distributed generation are a situs-type program, and they're benefiting systems that should be directly allocated to that state.

MR. SOLANDER: Thank you. That concludes my questions for Mr. McDougal. He is available for cross-examination or questions from the Commission.

CHAIRMAN LEVAR: Thank you. Mr. Jetter?

EXAMINATION

BY MR. JETTER:

Q. I've just got a few questions. Good morning, Mr. McDougal.

A. Good morning.

Q. Just looking at page three of your rebuttal testimony, you described the Solar Generation Program. Looking at line 64.

A. Okay.

Q. You had described it as a program to "solve the voltage issue on the transmission system caused by distribution load in the area." Is that accurate?

A. That is correct.

Q. And is it fair to say that transmission voltage problems requiring re-conductoring or upgrades are practically always caused by increased demand on the distribution system?

A. Yes. I think that was described by Mr. Marx earlier.

Q. Okay. And you have said that the investment decision should be made without regard to the allocation model; you should be choosing the lowest cost alternative; is that correct?

A. That is correct.

Q. And would it then be fair to expect the similar protections for Utah customers to the extent that transmission upgrades in other states might be offset by local projects similar to this?

A. I'm not sure I completely understand the question, so I'll try to answer. If I don't get it right, correct me. But I think that all of your decisions can be done both ways, and it's just like, you know, a DSM program can help to eliminate

transmission issues and so can other items. We treat those all similar where they are situs-allocated.

Q. And I guess my question is, as a representative looking out to some extent for the interests of Utah customers, it would be fair then for Utah customers to expect the Company to make similar decisions in other states without regard to allocation?

A. Correct. And that is what the Company does. As I mentioned in my testimony, we look at the decisions based upon a total Company view. We don't say that, in Mr. Marx's example, a transmission upgrade in Idaho where they only get allocated 6 percent, but if they could move 43 percent to Utah, you don't want to make that decision based upon how Idaho has allocated the cost and make Utah try to bear additional costs when they make a suboptimal decision.

Likewise, we expect that in all states, to look at what's the best for the system. It's the only way that a combined system is going to be optimized.

Q. I think it would also be fair, probably, in this specific instance to indicate that or to

reach the conclusion that this particular project is going to cost Utah customers more than it would were it system-allocated. That's accurate, isn't is?

A. Yes, that is.

MR. JETTER: Okay. That's all of my questions. Thank you.

CHAIRMAN LEVAR: Thank you. Mr. Olsen?

EXAMINATION

BY MR. OLSEN:

Q. Thank you. Good morning, Mr. McDougal.

A. Good morning.

Q. So based on what I understand is the testimony that you have provided -- both you and Mr. Marx -- these kinds of decisions regarding distribution solutions or -- well, I guess what you guys are characterizing as transmission solutions -- are not new to the system. Thousands of miles of both distribution and transmission lines, so these come up more than once, I guess.

A. Yes.

Q. So do you know or are you aware of whether or not you have a breakdown by regulatory jurisdiction about how frequently -- if it's a transmission, a circumstance here -- where it's a

transmission-related issue where you say it is driven by distribution when the Company has elected to make a transmission decision as opposed to a distribution application as you've done here. Do you have any sense of how frequently those two types of decisions are made?

A. No, I don't. That would be -- you know, the engineering group would look at what is the most optimal decision, and I don't have any information on that universe of decisions.

Q. You have described some of the processes that you went through here. Can you just help me understand with a little bit more specificity the factors that go into deciding whether or not you make a distribution decision versus a transmission decision?

A. I'll give it at a high level, because the detailed decisions are not made by me; they're made by the engineering group and the others who really know the system and know what the options are. But what I do know is they will look at the range of options that are available and choose the one that fixes the problem and does so in the most economical way possible.

Q. And just to -- thank you. Just to get --

I want to make sure I understood something in your summary testimony that you just provided -- you were saying that consideration of the system allocation could lead to suboptimal decisions. Is that what your concern was?

A. Yes.

Q. But that's not necessarily the case, that it would lead to a suboptimal decision?

A. As a full system, if everybody were to look at allocations, it would, in my opinion. Because of the examples of -- especially in the smaller states. If you can choose a decision that -- Idaho is one of our smaller states close to us -- if you can choose a decision that you only get allocated 6 percent as opposed to a hundred percent, Idaho would naturally choose the 6 percent. And it could lead to suboptimal decisions --

Q. It could.

A. -- if those opportunities arise, which, as described by Mr. Marx, there are those decisions.

MR. OLSEN: Thank you. I have no further questions.

CHAIRMAN LEVAR: Ms. Hayes?

MS. HAYES: No. Thank you.

CHAIRMAN LEVAR: Ms. Gardner?

MS. GARDNER: No. Thank you.

CHAIRMAN LEVAR: Any redirect?

EXAMINATION

BY MR. SOLANDER:

Q. Just one, quickly. In that last example as described by Mr. Olsen, what would happen to overall system costs if each state made the decision to sub-optimally assign or sub-optimally solve problems by creating transmission instead of distribution level investments?

A. It would raise the overall costs, because if the project was in Utah, Utah would only bear 43 percent, and 57 percent could get shifted to other states. But if it's an overall more expensive option for the system, the same thing would happen in Oregon and Wyoming. They would make these decisions that might cost more, and Utah would have to bear 43 percent of those decisions from the states of Idaho and Oregon and Wyoming.

MR. SOLANDER: Thank you.

CHAIRMAN LEVAR: Thank you. Was there any re-cross, Mr. Jetter?

EXAMINATION

BY MR. JETTER:

Q. Just briefly. Just in relation to that

question, in this case, can you describe why it would be unfair to also expect Utah to -- if Utah is paying a 100 percent of the costs of this, would it be unreasonable for Utah to expect to retain 100 percent of the benefits if it's also situs assigned?

A. That is correct. As it's described in my testimony and my summary, we are proposing to do that through looking at the market value and putting it into the EBA where we say here is the value of this energy that's being produced and give that value to Utah.

Q. And so is it fair to summarize that as meaning that the value that you're looking at is only the output of the solar facility and battery at market rates and not adding any additional value for Utah customers for deferring the expense of upgrade to a facility?

A. Correct.

MR. JETTER: Okay. Thank you.

CHAIRMAN LEVAR: Any other re-cross, Mr. Olsen?

MR. OLSEN: No. Thank you.

CHAIRMAN LEVAR: Ms. Hayes?

MS. HAYES: No. Thank you.

CHAIRMAN LEVAR: No other re-cross? Ms. Gardner?

MS. GARDNER: No.

CHAIRMAN LEVAR: Commissioner White, any questions for Mr. McDougal?

COMMISSIONER WHITE: Just a couple. To this issue, in terms of allocation, putting aside the initial question from an engineering perspective of how to address a problem based upon least cost, et cetera, is there bearing or relationship between a state-driven policy or statute that drives a project? And does that have any -- is that part of the equation all in terms of how a project is ever allocated?

THE WITNESS: It's only an issue with -- related to the 2017 protocol, it does talk about state-specific initiatives should be situs allocated to those states starting the initiatives. And that was done within the 2017 protocol largely because of environmental or other restrictions or other programs that -- you know, as a general rule, things and decisions within a state result in those costs being borne by that state, not moved to others.

COMMISSIONER WHITE: The follow-up

question, just the one I had for Mr. Marx earlier, which is is there anything, you know, specific as to the choice to use the Four Corners pricing hub for purposes of the replacement power or -- it sounds like from the testimony that the Company, the difference between the three -- was there some reason or rationale driving the decision to choose Four Corners?

THE WITNESS: In talking with our system dispatch and the people who run the system, they said that the market hub that most closely resembles market prices in the state of Utah is Four Corners. It's the closest proxy; it's the one that's really used a lot for the balancing on this side of the system.

COMMISSIONER WHITE: I have no further questions. Thank you.

CHAIRMAN LEVAR: Commissioner Clark?

COMMISSIONER CLARK: Thanks. It seems to me that one of issues in front of us is that we have a relatively new technical approach to an old problem, the problem being the load in the given distribution area creating the need for transmission augmentation. So one question I have is, I guess, is that -- I mean, tell me if you

disagree with that characterization but -- assuming it's roughly accurate, have you used this approach at other locations in the PacifiCorp system?

THE WITNESS: I'm not aware of any time we have used this approach. This is more of a new approach that's available, that by starting it we're going to gain more information, we're going to gain experience on how this can benefit and, you know, if everything works out as what we hope, this is something that could spread. But it's something that we need to make that initial decision to move forward. And let's, you know, try to prove out what can be accomplished through this kind of a program.

COMMISSIONER CLARK: And because of the allocation consequences of this planning decision versus an election to augment the transmission system in some way, I hear in the questions that you have been asked the desire for some kind of confirmation that the same decision rules will apply in other jurisdictions when you've faced this same kind of issue. What are your feelings about that? Can you confirm for us that you will continue to be consistent in how you look at deploying this technological approach, assuming that it proves beneficial in this instance?

THE WITNESS: Yes. You know, as described by Mr. Marx and others, we're going to look at all of our decisions based upon what's most economic and what's best for the area. And if this works in other areas of the Company, we would definitely propose it, if it works out and it's the most economical.

COMMISSIONER CLARK: In your rebuttal testimony, at line 81, you use the phrase "suboptimal system operating results and increased overall costs." So my question is, is there an operational element to this, too, that -- in other words, what I think you would view as an improper consideration of the cost allocation consequences in the decision-making process, would that drive suboptimal -- not just increase costs or suboptimal financial results -- but suboptimal operating results? And I just want to understand what you mean by that phrase.

THE WITNESS: By operating results, I'm talking about our operating and maintenance expenses, or our expenses as far as how we operate the system.

COMMISSIONER CLARK: There wouldn't be a reliability risk or some other kind of risk

that would be also --

THE WITNESS: Not that I'm aware of.

COMMISSIONER CLARK: -- part of this equation?

THE WITNESS: No.

COMMISSIONER CLARK: Those are all my questions. Thank you.

CHAIRMAN LEVAR: I don't have any further ones, so thank you, Mr. McDougal. Mr. Solander?

MR. SOLANDER: That's concludes Rocky Mountain Power's direct case. Thank you.

CHAIRMAN LEVAR: Thank you. Mr. Jetter?

MR. JETTER: Can I request maybe a 15-minute recess?

CHAIRMAN LEVAR: Sure. We'll reconvene at ten after. Thank you.

(A brief recess was taken.)

CHAIRMAN LEVAR: Okay. We're back on the record. And I'll just comment to Rocky Mountain Power, in terms of follow-up questions from the Commissioners, we would like to ask Mr. McDougal to remain around for the rest of the hearing, but I'm not sure there's a need for the other Company

witnesses. If there's any interest in releasing those witnesses rather than keeping them for the whole hearing, we'll let that be your discretion. And we'll go to Mr. Jetter.

MR. JETTER: The Division -- I'm sorry, are we ready? The Division would like to call and have sworn in Mr. Bob Davis.

ROBERT A. DAVIS,

having been first duly sworn to tell the truth, was examined and testified as follows:

EXAMINATION

BY MR. JETTER:

Q. Good morning, Mr. Davis.

A. Good morning.

Q. Would you please state your name and occupation for the record?

A. I'm a utility analyst for the Division of Public Utilities.

Q. Thank you. In the course of your employment with the Division, and with respect to matters that you have testified to so far in this docket, did you create and cause to be filed with the Commission DPU witness Robert A. Davis direct testimony filed on November 9th, 2016, along with rebuttal testimony filed on November 23rd, 2016?

A. Yes.

Q. Do you have any edits or corrections you'd like to make to this?

A. I do not.

Q. And if you were asked the same questions that are contained in those prefiled testimonies today, would your answers be the same?

A. They would.

MR. JETTER: I move at this time to enter into the record direct and rebuttal testimony from DPU witness Robert A. Davis.

CHAIRMAN LEVAR: If any parties object to that, please indicate to me. I'm not seeing any, so the motion is granted.

BY MR. JETTER:

Q. Thank you. And, Mr. Davis, have you prepared a brief statement today?

A. I have.

Q. Please go ahead.

A. Good morning. The Division reviewed the Company's application for implementation of the STEP programs and categories of programs as contained in the Commission's Phase One order in this docket. The Company has presented information about the programs to stakeholders throughout several

technical conferences and data requests.

After consideration of the proposed programs, including Phase One of the STEP program, the Division recommends that the Company be granted approval of the following: (1) Establishing a line item charge on customer bills for the funding of the STEP program. This category also includes establishing a regulatory liability account to depreciate thermal generation plant; revising tariff Schedules 193 and 195; revising the Utah Solar Incentive Program (USIP) Schedule 107, which will close the USIP program to new customers at the end of December 2016; and approving implementation of the Company's Electric Vehicle infrastructure incentive program; (2) approval of the Solar and Storage Program; (3) approval of the Gadsby Emission Curtailment Program; (4) approval of the Clean Coal Technology Program for NOx reduction using Neural Networks and Advanced Catalytic Reduction (SCR) applications.

The Division recommends that the Company be required to report its progress and actual expenditures on these programs throughout the pilot at least annually through reports and/or technical conferences so the Division and other stakeholders

have the opportunity to review the STEP initiatives.

The Division recommends the approval of this phase of the proceeding be subject to the accounting treatment and reporting requirements as outlined by the Company through discussions during the technical conferences, other meetings with the Company, testimony and exhibits. Mr. David Thomson will address the Division's review of the Phase One accounting treatment of the STEP program and revised tariff sheets that are being recommended for implementation. Schedule 107 has been revised to end the Utah Solar Incentive Program December 31st, 2016. Tariff Sheet No. 107 has been revised to remove the 2017 Program Incentive Level and Available Capacity.

The Company is proposing to correct a transmission voltage issue in Central Utah with a stationary battery storage system along with a solar facility funded entirely by Utah customers through the STEP program. The battery and solar project will provide valuable training to Company personnel which will provide benefits to all customers as distributed energy resources increase on the system. The Division believes that Company personnel need to gain as much understanding of distributed energy

resources as possible. The Division's concern lies in the benefits spread to all the Company's customers as a result of avoiding the transmission system upgrades that would otherwise be allocated systemwide through the multi-state protocol. By using the STEP funds for this project, the Solar and Storage Program is funded by Utah customers alone. The Division recommends that at a minimum, the direct cost savings of the project be retained by Utah customers. The Division proposes that the benefits flow through the EBA at the market value of the output to the grid. The Division is also supportive of Utah Clean Energy's request that if funding, in part or full, is used from Blue Sky customers for the solar array, then the Blue Sky Program should receive those same proportions of the net benefits from the system, provided the administrative costs do not outweigh the benefits. Using the EBA as a mechanism for Utah customers to retain the benefits would be easier to administer. Additionally, under the Division's proposal, Blue Sky customers would get a benefit through the EBA adjustment plus knowing Blue Sky funds were used for a renewable project.

The Division is supportive of the Office

of Consumer Services' treatment of Operation, Maintenance, Administrative and Other (OMAG) expenses relating to the STEP program. The Division does not believe unknown or known OMAG expenses should be borne by customers to support the pilot program outside of those covered by the STEP funding. The Division supports the Office's recommendation that OMAG expenses should be identified during the STEP pilot program and included in STEP funding. If STEP OMAG expenses are not included in STEP funding, then they should be removed from rates in the next general rate case.

In conclusion, the Division recommends that the Commission approve the programs under consideration in Phase One of this proceeding, subject to the proposed reporting requirements, accounting treatment, tariff sheet revisions, and other concerns with the Solar and Storage program and OMAG expense treatment.

Q. Thank you. I'd like to clarify a few things. As witnesses from the Company testified earlier today -- and I'd like to clarify the position of the Division with respect to the recommendation for approval of this project -- is it -- was the Division's recommendation to capture

benefits through the EBA -- let me rephrase that question.

Does the Division object to the decision of the Company in this case to build this facility on the demand side of the system if it's the lowest cost alternative?

A. No.

Q. And can you describe, kind of briefly, why the Division recommended the EBA treatment?

A. The Division believes that if Utah customers are going to bear the 100 percent of the cost of this, then they should receive the benefits from it.

Q. Okay. And do you think that the EBA treatment that captures the market value of the kilowatt hours delivered from this project into the system captures the full benefit that is being provided by this project?

A. Probably not. But based on the information that we have currently, it's probably the best way to do it.

Q. Okay. And in light of that, is it still the Division's recommendation that the Commission approve this project with the modifications that you have recommended in your brief opening statement?

A. Yes.

MR. JETTER: Thank you. I have no further questions. And Mr. Davis is available for questions from other parties or the Commission.

CHAIRMAN LEVAR: Thank you. Mr. Olsen?

MR. OLSEN: Thank you. No.

CHAIRMAN LEVAR: Ms. Hayes, any questions for Mr. Davis?

MS. HAYES: No. Thank you.

CHAIRMAN LEVAR: Thank you. Ms. Gardner?

MS. GARDNER: No. Thank you.

CHAIRMAN LEVAR: Thank you. Mr. Solander?

MR. SOLANDER: One moment.

EXAMINATION

BY MR. SOLANDER:

Q. Just one question, Mr. Davis. With your recommendation regarding the STEP OMAG coming from the STEP funding, is it your recommendation at the end of the pilot program period that the OMAG would then be in base rates after the five years?

A. No. I think my position is that any OMAG expenses that are outside of the STEP programs that

are either known or unknown at this time would not be included in base rates.

Q. So you're saying they would not be collected by the Company after the five-year pilot program period?

A. No. I don't think if the expenses, if they're outside of the projects, I don't believe they should be collected. It's an additional burden to the customers.

Q. I guess what I'm asking is, is the ongoing OMAG cost -- for instance, of the Solar and Battery Storage program -- will continue after the five-year period?

A. I understand your question better now. Thanks. Those would probably, in my opinion, would probably be okay to collect those.

MR. SOLANDER: Thank you. No further questions.

CHAIRMAN LEVAR: Any redirect?

MR. JETTER: No redirect at this time. Thanks.

CHAIRMAN LEVAR: Commissioner Clark?

COMMISSIONER CLARK: No questions.

CHAIRMAN LEVAR: Commissioner White?

COMMISSIONER WHITE: One question.

This question may be more properly addressed by Mr. Vastag or Martinez, but with respect to the OMAG costs, if I recall, the Office addressed this specifically with respect to the Clean Coal Technology program. Is it the Division's position that those are applicable to all STEP OMAG --

THE WITNESS: Yes, that would be our position.

COMMISSIONER WHITE: Thanks. That's all I've got.

CHAIRMAN LEVAR: A couple of clarifying questions. First, does the proposed reporting program presented in Mr. McDougal's rebuttal satisfy your concerns with respect to reporting?

THE WITNESS: I believe so. I mean, it's kind of dynamic, so we'll see how that goes. But I think it does address -- and our other witness, Mr. David Thomson, will address that a little bit as well.

CHAIRMAN LEVAR: I'd like to follow up or to ask your thoughts on a question that Commissioner White asked Mr. McDougal earlier. If you look at the Solar and Battery Storage Project, how would you describe the similarities or

differences between that project and something, for example, that were built in another state solely to satisfy that state's RPS or solely to satisfy a legislative directive in another state?

THE WITNESS: Like, for example, the Black Cap Solar where it was built specifically to address the portfolio standard versus this, which is tackling a transmission problem?

CHAIRMAN LEVAR: Yes, for allocation purposes.

THE WITNESS: They're different. The weird thing about the solar and storage is it is at the distribution level, but it is correcting a transmission problem.

CHAIRMAN LEVAR: Okay. Thank you. I think that's all I have.

COMMISSIONER CLARK: Can I ask one more? And I think you have probably said it somewhere, Mr. Davis, but just to refresh me, the use of the Four Corners price as a reference in relation to the Gadsby replacement power, what is your view of that? Would you refresh me as to whether or not the Division's position is that's appropriate?

THE WITNESS: I think we're okay with

that. It's based on lower costs, so we made the assumption that the Company would use the lowest cost, whether that's Four Corners or one of the others.

COMMISSIONER CLARK: Thanks. That's all my questions.

CHAIRMAN LEVAR: Thank you, Mr. Davis. Mr. Jetter?

MR. JETTER: Thank you. The Division would like to call and have sworn in Mr. David Thomson.

DAVID THOMSON,

having been first duly sworn to tell the truth, was examined and testified as follows:

EXAMINATION

BY MR. JETTER:

Q. Good morning, Mr. Thomson. Would you please state your name and occupation for the record?

A. My name is David Thomson. T-h-o-m-s-o-n. That's without a "P." And I work for the Division of Public Utilities as a technical consultant.

Q. Thank you. In the course of your employment, have you had the opportunity to review the filings made by the Company in this docket that

are relevant to the testimony that you have prefiled?

A. I have.

Q. And did you create and cause to be filed with the Commission DPU witness David Thomson Direct, dated November 9th, 2016 along with DPU Exhibit 2.1 which is also titled Exhibit A?

A. Yes.

Q. Do you have any corrections or changes that you would like to make to that?

A. No.

Q. And if you're asked the same questions that were asked and answered in your prefiled direct testimony today, would you have the same answers?

A. Yes.

MR. JETTER: Thank you. I'd like to move at this time to enter the direct testimony and Exhibit A or DPU Exhibit 2.1 Direct for Mr. Thomson into the record.

CHAIRMAN LEVAR: Thank you. If any party objects to that motion, please indicate to me. I'm not seeing any, so that motion is granted.

BY MR. JETTER:

Q. Thank you. Mr. Thomson, do you have a brief opening statement you'd like to give?

A. I do. Thank you. Good morning, Commissioners, and thank you for the opportunity to summarize the Divisions review of the Company's proposed STEP accounting and certain proposed STEP tariff sheets and schedules.

In its direct testimony, the Division accepted the Company's proposed reporting plan. In its rebuttal testimony, Mr. Steven R. McDougal provided an update on the Company's STEP reporting plan, including the recommended additional reporting requirements supported by the Company. The Division will accept the reporting plans as outlined in Mr. McDougal's direct testimony and rebuttal testimony.

The Division supports the Company's proposal to cancel Schedule 195 and call it Schedule 196. The Division also supports the proposed changes made by the Company to Electric Service Schedules Sheet B.1 and Schedule 80. In his rebuttal testimony, Mr. McDougal accepted the Division's recommendations that the carrying charge by updated annually. He also accepted the Division's recommendation that Schedule 195, which is now 196, include the term pilot program and that it make no other program period of five years. The

Division knows that these changes were made to the new proposed Schedule 196.

The Company also, during rebuttal, made a change to the cost adjustment percentages on proposed Schedule 196. They were updated to reflect the price change on November 1, 2016 per Schedule 94 Energy Balancing Account pilot program. It appears to the Division that the revised sheets as discussed above support the Company's application implementing programs authorized by the STEP.

Finally, the overall accounting process proposed by the Company in its implementation of S.B. 115 has been reviewed by the Division. After review at this time, nothing came to the Division's attention that would indicate the overall accounting process as proposed by the Company as improper or inadequate. And that concludes my summary.

MR. JETTER: Thank you. I have no further questions for Mr. Thomson. And he's available for questions.

CHAIRMAN LEVAR: Thank you. Mr. Olsen?

MR. OLSEN: Nothing at this time. Thank you.

CHAIRMAN LEVAR: Ms. Hayes?

MS. HAYES: No. Thank you.
CHAIRMAN LEVAR: Ms. Gardner?
MS. GARDNER: No questions.
CHAIRMAN LEVAR: Mr. Solandar?
MR. SOLANDER: No questions.
CHAIRMAN LEVAR: Commissioner White, any questions?
COMMISSIONER WHITE: No questions.
CHAIRMAN LEVAR: Mr. Clark?
COMMISSIONER CLARK: No questions.
CHAIRMAN LEVAR: Thank you, Mr. Thomson.
MR. JETTER: Those were the only two witness from the Division. So I guess that concludes our testimony today.
CHAIRMAN LEVAR: Thank you. Mr. Olsen?
MR. OLSEN: Thank you. The Office would like to call Cheryl Murray, please.

CHERYL MURRAY,

having been first duly sworn to tell the truth, was examined and testified as follows:

EXAMINATION

BY MR. OLSEN:

Q. Could you state your name and business

address and by whom you're employed?

A. My name is Cheryl Murray. My business address is 160 East 300 South, Salt Lake City, Utah. I'm a utility analyst with the Office of Consumer Services.

Q. Did you file any prefiled testimony in this docket?

A. Yes. On November 9, 2016, I submitted ten pages of direct testimony.

Q. Are there any changes that you would propose to that testimony at this time?

A. No.

MR. OLSEN: I would ask then at this time that her direct testimony filed on November 9th be admitted.

CHAIRMAN LEVAR: If there is any objection to that motion, please indicate to me. I'm not seeing any, so the motion is granted.

BY MR. OLSEN:

Q. Thank you. And what was the purpose of that testimony that you filed?

A. My testimony introduced two other Office witnesses, Bela Vastag and Danny Martinez, and identified the specific areas of Company's filing to be addressed by each of them. I also addressed some

of the Company's proposed changes to three tariffs; Schedule 107, Utah Solar Incentive Program; Schedule 195, Solar Incentive Program Cost Adjustment; and Schedule 193, Demand Side Management Cost Adjustment.

Q. And have you prepared a summary of your testimony?

A. Yes.

Q. Could you please provide that summary?

A. In my direct testimony, I identified necessary corrections or clarifications on tariff sheets 107.4, 107.1, and 195.2. The Office also noted that the Company's proposed changes to Schedule 195 are so extensive, even including the tariff title, that it amounts to a completely new tariff. For this reason, as well as ease of reference, over time the Office recommended that the Company should be required to cancel Schedule 195 and create a new tariff with a new schedule number for the STEP surcharge tariff. In the rebuttal testimony of Company witness Steven R. McDougal, filed November 23, 2016, the Company agreed to all of the recommendations made by the Office related to Schedule 107 and Schedule 195, including creating a new tariff, Schedule 196 for the STEP surcharge.

In addition to the recommendations related to the tariffs discussed above, the Office also noted that with the Company's plan to capitalize the annual DSM cost as a DSM regulatory asset and amortize them over a ten-year period, a sizable regulatory asset will likely build up over that period. While we did not recommend any modifications to the DSM accounting provisions proposed by the Company at this time, we stated that the Office may address this issue in a future proceeding.

In his summary, Mr. McDougal asked that the Commission specifically approve the reporting plan presented by the Company. Office witnesses Mr. Martinez and Mr. Vastag will address reporting in their summaries. But the Office requests that in its order on Phase One of this docket that the Commission specify that they are not approving reporting related to issues to be heard in Phase Two.

That concludes my summary.

MR. OLSEN: Thank you. Ms. Murray is available for questions from the parties or the Commission.

CHAIRMAN LEVAR: Thank you.

Mr. Jetter, do you have any questions?

MR. JETTER: No questions.

CHAIRMAN LEVAR: Ms. Hayes?

MS. HAYES: No questions. Thank you.

CHAIRMAN LEVAR: Ms. Gardner?

MS. GARDNER: No questions. Thank you.

CHAIRMAN LEVAR: Mr. Solander?

MR. SOLANDER: No questions.

COMMISSIONER CLARK: No questions. Thank you.

CHAIRMAN LEVAR: Commissioner White?

COMMISSIONER WHITE: No questions. Thank you.

CHAIRMAN LEVAR: Thank you, Ms. Murray. Mr.Olsen?

MR. OLSEN: Thank you. The Office would now like to call Mr. Danny Martinez and ask that he be sworn.

DANNY MARTINEZ,

having been first duly sworn to tell the truth, was examined and testified as follows:

EXAMINATION

BY MR. OLSEN:

Q. Mr. Martinez, could you please state your

name for the record, where you work, and what your position is?

A. Yes. My name is Danny Martinez. I am a utility analyst for the Office of Consumer Services. My business address is 160 East 300 South, Salt Lake City, Utah 84111.

Q. And as part of your duties as a utility analyst, did you have occasion to review the STEP filing under consideration here today?

A. Yes.

Q. And as part of that, did you file or cause to be filed direct testimony on November 9th, 2016?

A. Yes.

Q. And did you file or cause to be filed rebuttal testimony on November 23rd, 2016?

A. Yes.

Q. Are there any changes that you'd like to make to that testimony at this time?

A. No.

MR. OLSEN: I would ask that the testimony -- that the direct rebuttal testimony -- be admitted at this time.

CHAIRMAN LEVAR: If any party has an objection, please indicate to me. I'm not seeing any, so that motion is granted.

BY MR. OLSEN:

Q. Thank you. Mr. Martinez, have you provided a summary for the Commission at this time?

A. Yes, I have.

Q. Could you please proceed?

A. Yes. Good morning, Commissioners. My testimony addresses the Phase One Clean Coal projects, related to NOx emissions reduction and the Gadsby Curtailment program. Since the Commission's scheduling order allows for live surrebuttal testimony, I will include a brief response to the Company's rebuttal testimony in this summary.

With respect to the Phase One Clean Coal projects, the Office raised concerns regarding reporting requirements and OMAG expenses. In rebuttal testimony, the Company proposed more specific reporting for all of the STEP programs. The company's proposal adequately addresses the Office's concerns regarding reporting requirements and addresses the Office's reporting recommendations.

Regarding OMAG expenses, the Office agrees with the Division that those costs need to be identified and quantified and included in the Company's STEP budget. The Office contends that the

Company should reserve STEP funds from funds authorized by the Legislature to be used for OMAG expenses rather than seek recovery outside of the STEP line item charge for the years during which STEP is in place.

With respect to the Gadsby Curtailment Program, my testimony indicated that Company did not sufficiently explain how the value of curtailment replacement power cost is calculated and why the Four Corners hub would be appropriate to use as a market proxy. I further recommended that the Commission approve the Gadsby Curtailment Program without specifically authorizing the method of calculation for replacement power costs. Instead, the Office recommended that the Commission require additional supporting information in the annual EBA filing if the Company seeks STEP funds for Gadsby Curtailment in that year.

In rebuttal testimony, Mr. McDougal opposed this recommendation. He indicated that determining actual replacement costs would be burdensome and potentially controversial, and recommended that the Commission approve the use of the formula that he presented and the Four Corners hub as the appropriate market proxy to use in

replacement cost calculation. However, Mr. McDougal also offered to include in future reporting requirements a justification in a future EBA filing if the Company proposes to use a different hub in the future. He agreed to use a different market hub as proxy if ordered by the Commission.

My testimony did not oppose the replacement power cost estimate or the use of a market proxy; rather, I was concerned that the filing was confusing and did not sufficiently explain the process. The detailed explanations were all obtained through the discovery process. To be clear, the Office agrees with Mr. McDougal that the formula provided in response to OCS 3.4 and his rebuttal testimony is a reasonable estimation for curtailment replacement power costs.

However, the Office contends that insufficient evidence has been presented in this proceeding to determine the appropriate hub to be used as a market proxy. Further, it is clear that the Company would like to be able to justify a change in what hub is used if appropriate in future years. For these reasons, the Office continues to recommend that the Commission require the Company to justify what market should be used as a market proxy

price if it requests STEP funds to reimburse the Gadsby curtailment costs in a future EBA proceeding. To clarify our position, the Office supports the Commission approving the Gadsby Curtailment Program and the general method of calculation of replacement power costs but requests that the issue of the appropriate hub be addressed in each relevant future EBA proceeding.

The Office still recommends the Commission require an additional filing requirement for the Company in its annual EBA filing if it seeks STEP funds for Gadsby curtailment in that year.

That's the conclusion of my summary.

MR. OLSEN: Thank you. Mr. Martinez is available for questions from the parties or the Commission.

CHAIRMAN LEVAR: Thank you. Mr. Jetter?

MR. JETTER: No questions.

CHAIRMAN LEVAR: Ms. Hayes?

MS. HAYES: No questions.

CHAIRMAN LEVAR: Ms. Gardner?

MS. GARDNER: No questions. Thank you.

CHAIRMAN LEVAR: Thank you.

Mr. Solander?

MR. SOLANDER: No questions.

CHAIRMAN LEVAR: Commissioner White?

COMMMISSIONER WHITE: So my understanding -- and that was helpful, the clarification on the curtailment power costs -- is the Office is not necessarily opposed to using one of those three -- Mid-C, Four Corners, or Palo Verde -- it's just that they want to reserve the right to address justification. It's not that they want to actually use the actual costs; they're okay with the proxy. They want to be able to address one of those three proxies at the time.

THE WITNESS: That's correct. Yes.

CHAIRMAN LEVAR: Commissioner Clark?

COMMISSIONER CLARK: I want to express appreciation also for the clarification because I had a few questions that I can eliminate now. But I am still interested to know or understand better the extent to which the Office specifically objects to Four Corners as the identified market proxy hub.

THE WITNESS: We didn't -- my intent was not to object specifically to the Four Corners. We just didn't understand why that specific hub was

chosen over other hubs that could have been. And so that was the intent of trying to figure out which one would be the appropriate hub. We didn't see that in the application by the Company, and so we asked discovery on that, and that's where we got our response. In one of the responses, they said it was just basically a geographical proximity.

COMMISSIONER CLARK: Thanks very much.

CHAIRMAN LEVAR: Just one follow-up to that. In your opinion, does that provide sufficient certainty to the utility to make curtailment decisions if there's not certainty on which of the three hubs might be the proxy in the next EBA case?

THE WITNESS: I think the choice of the hub, given the formula the Company put forth as described in Mr. McDougal's testimony as well as my own, there needs to be a market proxy in place for the calculations to work. Again, we're not concerned which one it is as long as it's one that is prudent for determining those costs. I think in my testimony I indicated we would presume that would be the least cost purchase of power that would be used in that calculation.

CHAIRMAN LEVAR: Thank you. That's all I have. Thank you, Mr. Martinez. Mr. Olsen?

MR. OLSEN: Thank you. The Office would like to call Mr. Bela Vastag.

BELA VASTAG,

having been first duly sworn to tell the truth, was examined and testified as follows:

EXAMINATION

BY MR. OLSEN:

Q. Mr. Vastag, could you please state your name for the record, your place of employment, and what you do, what your position is?

A. Yes. My name is Bela Vastag. I'll spell that for the court reporter. B-e-l-a, last name V-a-s-t-a-g. I'm a utility analyst for the Utah Office of Consumer Services, and my business address is here in this building, 160 East 300 South.

Q. And as part of your work as a utility analyst for the Office of Consumer Services, did you have occasion to review the filing under consideration -- the STEP filing under consideration here today?

A. Yes.

Q. And did you file or cause to be filed direct testimony on November 9th, 2016 and rebuttal

testimony on November 23, 2016 in response to that filing?

A. Yes.

Q. Are there any corrections or revisions you'd like to make at this time?

A. I have no changes to my testimony.

MR. OLSEN: The Office would move that those filings be admitted into evidence at this time.

CHAIRMAN LEVAR: Thank you. If anyone objects to that motion, please indicate to me. And the motion is granted.

BY MR. OLSEN:

Q. Mr. Vastag, have you prepared a summary of your testimony?

A. Yes, I have.

Q. Would you please provide the summary now?

A. Yes. My testimony in this proceeding has addressed the Company's proposed Solar and Energy Storage technology project, which I usually refer to as the solar/battery project. This project falls under the Innovative Utility Programs section of the Sustainable Transportation and Energy Plan or STEP Act. So in other words, the solar/battery project is a research and development or an R&D project.

Research and development projects are not always successful, and this is a risk that one assumes when pursuing an R&D project. However, the risk is worth taking if this solar battery R&D project gives the Company some knowledge that will enable it to provide service to its customers in the future in a more effective and less costly manner.

Utah ratepayers are funding the entire solar/battery project. Therefore, given the inherent risks of an R&D project, the Office believes that the solar/battery project would only be in the interest of Utah ratepayers if the R&D knowledge could be used for the benefit of rate payers in the future. Unfortunately, the Office sees a barrier to this technology being used in the future. This barrier is caused by -- the barrier is caused by how the costs of such a project would be allocated. Because the Company's solar/battery project is on the distribution side of the system, all of the costs would be assigned to Utah even though the project is solving a problem on a transmission line. The costs associated with transmission assets are allocated among all the states that Rocky Mountain Power's parent company, PacifiCorp, serves. As described in my written

testimony, the Utah-allocated costs of a transmission solution to the transmission line problem are significantly lower than the Utah-allocated costs of the solar/battery project. The solar/battery project that is at issue today would be funded according to the STEP Act, but in the future, an implementation of this technology would have its costs allocated through a different process, usually a general rate case including a Multi-State Protocol or MSP-type process. Therefore, the Office sees cost allocation as a barrier to the future use of this R&D knowledge because a state jurisdiction may not approve another solar/battery project where all the costs are state-assigned when an alternative transmission based solution would be cheaper because its costs were allocated among all PacifiCorp states.

Therefore, the Office does not recommend that the Commission authorize this project unless the Company can propose a solution to this cost allocation problem or this barrier. This cost allocation method that they would propose or the solution to the cost problem would need to be incorporated in any future implementation of the solar/battery technology. If the proposed

solar/battery project is authorized by the Commission, the Office supports the concept from the Utah Division of Public Utilities that the value or benefit of the energy from the solar facility be credited back to Utah through the EBA. Also, if the project is authorized, the Office does not oppose Utah Clean Energy's proposal for a Blue Sky grant program based on the output of a Blue Sky funded solar facility, that is, as long as the energy from the solar facility is valued at the Company's avoided costs and also the costs of running the grant program are charged to the Blue Sky program.

That concludes my summary statement.

MR. OLSEN: Mr. Vastag, as you know, the order allowed for the possibility of live surrebuttal. Would you like to provide any of that at this time?

THE WITNESS: Yes. Today I'd like to respond to Rocky Mountain Power witness Steven R. McDougal. Mr. McDougal's rebuttal testimony was filed on November 23rd.

BY MR. OLSEN:

Q. Thank you. Would you please proceed then with the surrebuttal?

A. Yes. In his rebuttal testimony, Mr.

McDougal states that the Company does not agree with the Office's approach in evaluating project costs on a state allocated basis. He says that the Company analyzes all transmission and distribution investment options on a total Company basis. This implies that the Company is regularly making transmission versus distribution investment decisions, like the one it proposes to make for this solar/battery project, without consideration of the cost allocation impacts on the various jurisdictions. This raises a red flag for the Office and indicates that in the future, state jurisdictions need to devote more resources in future rate cases to evaluating the Company's investments and situs assigned distribution assets. Furthermore, going forward, the Company should be required to provide a comprehensive explanation of how decisions are made for both transmission and distribution investments including how it evaluates the tradeoffs between a transmission versus a distribution solution. This explanation should also explore how these investment decisions distort or do not distort the Multi-State Protocol or MSP allocation process.

In another area, if the solar/battery

project is to be authorized, Mr. McDougal also states in his rebuttal testimony that the energy benefits that Utah would receive from the project should be calculated using the same methodology as for the Black Cap solar project in Oregon. However, the Company does not provide sufficient detail in this docket for parties to understand how the Black Cap benefits are calculated and credited back to Oregon. If the Commission authorizes this project and approves such a benefit crediting program, the Commission should require the Company to submit a compliance filing. In this filing, it should show how the Oregon crediting system is done for the Black Cap project and allow parties to submit comments on the Company's filing to ensure that the accounting is done in a way that properly credits Utah ratepayers.

Finally, Mr.McDougal implies in his rebuttal testimony that a demand-side management or DSM program could be implemented in an area to solve a transmission line loading problem and notes that DSM program costs are situs assigned. However, this is not a fair analogy to the proposed solar/battery project because DSM programs reduce load in the state that they are implemented in, which in turn

reduces the state's share of system costs that are allocated based on load.

That concludes my surrebuttal testimony.

MR. OLSEN: Thank you. Mr. Vastag is available for questions from the parties or the Commission.

CHAIRMAN LEVAR: Thank you. Mr. Jetter, any questions for Mr. Vastag?

MR. JETTER: No questions. Thank you.

CHAIRMAN LEVAR: Thank you. Ms. Hayes?

MS. HAYES: No questions.

CHAIRMAN LEVAR: Thank you. Ms. Gardner?

MS. GARDNER: No questions. Thank you.

CHAIRMAN LEVAR: Mr. Solander?

EXAMINATION

BY MR. SOLANDER:

Q. Yes. Thank you. Good morning, Mr. Vastag.

A. Good morning.

Q. You would agree, wouldn't you, with Mr. Marx's assertion that if the Company is incented

either way, one way or another, to make system or situs investments, that it could lead to suboptimal planning decisions?

A. There is that possibility, yes.

Q. Now, let's -- you were here when Mr. Marx was testifying earlier?

A. Yes.

Q. So you heard his hypothetical about the same exact Solar and Energy Storage project in Idaho instead of in Utah?

A. Yes.

Q. Now, if that project was built on the distribution side in Idaho, would the Office accept if 43 percent of the cost of that project was assigned to Utah and recommended the Company be allowed recovery of 43 percent of the total cost of that project in its next rate case?

A. Well, that hypothetical is really impossible to answer without a lot more detail.

Q. No, that's the exact same project we're presenting today.

A. Well, if there was a process in place as we propose, you know, for future projects, then of course we would agree, because we would have been involved in the process to determine how that would

work.

Q. So you're saying that you would support, in the future, if transmission level and if distribution investments to solve a transmission problem were made in Idaho, you would support 43 percent of the cost being assigned to Utah?

A. Yes. A good example would be there are several expensive transmission projects being proposed in Idaho and Wyoming -- and Utah Gateway comes to mind -- and if there was a less expensive distribution solution, then we would see, you know, merit in postponing or not investing in billions of dollars of transmission, yes.

MR. SOLANDER: One moment, please. No further questions. Thank you.

CHAIRMAN LEVAR: Any redirect?

MR. OLSEN: Yes, if I may.

REDIRECT EXAMINATION

BY MR. OLSEN:

Q. Mr. Vastag, in your response to Mr. Solander's question, you spoke about the process. Is that a proposed process that the Office is suggesting? A comprehensive review of all facts and circumstances regarding any of those kinds of decisions that would go on in the future with an

opportunity to review and evaluate the specific facts and circumstances of those decisions that are made in this jurisdiction?

A. Yes. I would say that would be the beginning of the process so we could understand what the factors are. And, then, of course, out of that should come some method or way to handle these distribution versus transmission decisions where state allocation is a problem and where a state such as Idaho may not approve a solar/battery project when it's going to shoulder a hundred percent of the costs when its allocated costs would be 6 percent.

Q. And to your knowledge, a robust process as you're describing now is not in existence at this time?

A. No, it's not. This is new a new area of analysis.

MR. OLSEN: Thank you. I have nothing further.

CHAIRMAN LEVAR: Thank you. Any recross, Mr. Solander?

MR. SOLANDER: No. Thank you.

CHAIRMAN LEVAR: Commissioner Clark?

COMMISSIONER CLARK: No questions. Thank you.

CHAIRMAN LEVAR: Commissioner White?

COMMMISSIONER WHITE: I want to circle back on this concept of, I guess, the compensation for the generation from the solar panels. Maybe I'm confusing this, but are you talking about the gross generation from those panels or is that netted out for what's utilized for station power and batteries?

THE WITNESS: Honestly, we haven't delved into the details. We agree on a high level, you know, at a high level on the concept that Utah Clean Energy proposes. We were just concerned that the value of the grant program may be overvalued if it was based on a retail-type rate.

COMMMISSIONER WHITE: And the avoided costs, I mean, is that something you would consider just as a, you know, like the Schedule 37 feed in or a Schedule 38 or a separate proceeding to determine whatever the avoided cost of that specific --

THE WITNESS: I suggested in my testimony since this facility would be of the size that falls under Schedule 37, that we could just use the Schedule 37 as -- simply as the price.

COMMMISSIONER WHITE: And earlier you were discussing the concept -- I think I heard you

correctly about, you know, this an R&D project, and tell me if I'm mischaracterizing this -- is the concept you were -- is the concept that because there's going to be lessons learned and potential intellectual property that flow from this project to that, if Utah were to pay for that, they should somehow be able to capture, or is that going to be, you know, a benefit to all states, and so there should be some kind of inverse relationship between those two?

THE WITNESS: No, the concept was R&D projects are unknown whether or not they will work, so if we are going to invest Utah funds, we should at least have the opportunity to use them -- you know, the knowledge of the technology that we've gained from such a project -- to benefit the entire system, to benefit -- if Utah, again, or other jurisdictions, and we're just concerned that if this cost allocation question comes up in other states, they may not approve of such a project and we've lost, you know, the benefit of that knowledge in that case.

COMMMISSIONER WHITE: One final question. I asked this -- and Chairman LeVar asked it in a different way earlier -- but I'm wondering

if you have a position on whether there's a distinction between this type of project that flows out of a legislative directive and something like, for example, an RPS related project from another state. Is there a distinction or is that not a factor in how projects are being allocated within a system?

THE WITNESS: We really didn't consider it from that perspective. In my opinion, I think an RPS project would be a different type of RPS related project because it would be a mandated policy related project. To meet a specific goal and, in this case, the choice of an innovative technology project, there are potentially many candidates for this project; not just this project.

COMMMISSIONER WHITE: That's all I've got.

CHAIRMAN LEVAR: I don't have anything, so thank you Mr. Vastag. Mr. Olsen, do you have any else?

MR. OLSEN: Nothing further at this time. Thank you.

CHAIRMAN LEVAR: Thank you. I wonder if you could indulge one question I have, follow up for Rocky Mountain Power before we move to Ms.

Wright's testimony. While I see that Mr. Campbell is still in the room, I don't know if this question is best for him or Mr. McDougal, but I would just like to ask Rocky Mountain Power if -- based on Mr. Martinez's clarifications, I think we heard in his testimony what your position is on the Gadsby curtailment with respect to certainty if there were certainty of the use of a proxy, but not certainty until a following EBA docket of -- which of the three proxies were going to be used.

MR. SOLANDER: I think Mr. McDougal -- I don't know if you want to re-call him --

CHAIRMAN LEVAR: He can just answer from the stand.

MR. MCDOUGAL: I think we would be okay determining the proxy, but what I don't think we would be okay with is making it an issue that we have to re-litigate every EBA. One of the things we would like is certainty to know that we're using a certain proxy and that not every time it's the lowest of the three and we're not picking and choosing. We would prefer to have the certainty of a known proxy, and we would prefer for it to be determined in this proceeding. If it's not, as long

as it is going to be one proxy and not change every time, we would be okay with it.

CHAIRMAN LEVAR: Thank you. That answers my question. Any other follow-ups while we're doing this?

COMMISSIONER CLARK: I appreciate, Chairman LeVar, that you've raised this, because I wanted to pursue the same general subject area. Could you explain why or what challenges would exist for the Company if the process was simply that when there's a curtailment that you then look to the lowest of, say, the three hubs that have been mentioned -- Mid-C, Four Corners, and Palo Verde -- and use the lowest of those at that time? Are there technical challenges there that I don't -- I'd like to understand if --

THE WITNESS: No, there are not technical challenges to that. Because we know the prices of all three, but in reality from a planning perspective and from an actual perspective, what we're saying is let's use a market price hub as the proxy. If we assume that we're getting the replacement power from Mid-C or from Four Corners, I think we ought to be consistent because the system is going to operate the same. It's going to pull

replacement from that same hub all the time. It's not going to say, you know, let's always use the lowest; there's transmission constraints, there's other issues. And that's why we believe Four Corners is the best because of its proximity to the load that we're using, its proximity to Gadsby. And that's why I think we ought to use one hub. We shouldn't change back and forth because in reality, we're not changing the way we serve the load.

COMMISSIONER CLARK: That helps me understand. So it's not just a matter of -- I mean, your decision as to where you go for the replacement power isn't going to be driven solely by the prices at the hub. There's a number of factors that you'll be considering. Is that what you're saying?

THE WITNESS: That's correct, because we're continually trading at multiple hubs, not just, you know, at one hub. And we do it because of constraints of where we can find the power.

COMMISSIONER CLARK: Thank you. That concludes my questions.

COMMMISSIONER WHITE: One final follow-up on that concept. Is there a reason that the Company couldn't utilize a blended proxy rate? In other words, if there's really no specific -- it

sounds like in the testimony, there was a choice between Palo Verde, Mid-C, and Four Corners. And if you're looking for consistency, would that be more complicated or less complicated than just picking one of those three?

THE WITNESS: I had not thought of that option, but there would not be a lot of additional complexity. We would just have to throw the three prices into a spreadsheet and take a third of each of whatever the proposed methodology is. Like I said, we would like to have it determined ahead of time so that we don't have that fight in every EBA, saying, well, let's use this proxy this year and another proxy the next year. I don't see there would be a lot of additional work putting all three and taking an average.

COMMMISSIONER WHITE: That's all the questions I have.

CHAIRMAN LEVAR: Thank you, Mr. McDougal. Ms. Hayes?

MS. HAYES: Thank you. Utah Clean Energy will call Sarah Wright to the stand, and she needs to be sworn.

SARAH WRIGHT,

having been first duly sworn to tell the truth, was

examined and testified as follows:

EXAMINATION

BY MS. HAYES:

Q. Good morning.

A. Good morning.

Q. Will you please state your name, position, and business address for the record?

A. Certainly. My name is Sarah Wright. I'm the executive director and founder of Utah Clean Energy, which is located at 1014 2nd Avenue, Salt Lake City, Utah 84103.

Q. Is your mike on?

A. I think so.

Q. Did you file direct testimony in this docket on November 9th, 2016 marked as Utah Clean Energy Exhibit 1.0?

A. Yes.

Q. To the best of your knowledge, is everything in your testimony true and correct?

A. Yes.

MS. HAYES: At this point, I would like to move the admission of this testimony.

CHAIRMAN LEVAR: Thank you. Please indicate to me if there's any objection to that motion. And the motion is granted.

BY MS. HAYES:

Q. Thank you. Will you please provide a summary of your direct testimony?

A. Yes. Utah Clean Energy is generally supportive of Rocky Mountain Power's pilot project to utilize solar and storage to avoid distribution and transmission upgrades. We believe that in addition to the deferral benefits, the project will help the Company and others to understand the potential of these technologies. We support this study to further utilize "non-wires" alternatives and options in transmission and distribution system planning and maintenance.

So while Utah Clean Energy is supportive of the project, we offer some recommendations for the Commission's consideration with regard to the solar component of the project. First, because solar PV is an extremely cost effective resource, there is likely no need to utilize Blue Sky funds to pay for this project. I have been involved in shaping and the early promotion of the Blue Sky Program since 2001. And to date, the benefits from the program have flowed to Blue Sky customers or grant recipients that were deemed worthy of the Blue Sky grant project. The Company's proposal to have

the benefits flow to all ratepayers is a significant deviation from the Blue Sky Program. However, should the Commission authorize the use of Blue Sky funds, I recommend that a grant program similar to the workings of the Solar Subscriber Program be developed, the main differences being (1) that the program is funded by Blue Sky funding; (2) that customers receive a bill credit based upon solar energy rate as determined in the Solar Subscriber Program, and (3) that the benefits flow to recipients deemed worthy by the Blue Sky grant program, such as food banks, homeless shelters, et cetera.

Specifically, I propose that the value of the energy credit established in the Solar Subscriber be utilized as an offset on grant recipients' bills. And I understand this portion of my proposal was not very clear, so I'll trying to clarify that now before providing live surrebuttal.

In my proposal, I gave the example of a 200-kilowatt hour monthly block that could be awarded to community service organizations. And rather than offsetting 200-kilowatt hours of usage directly, a set value for those 200-kilowatt hours, as established in the Solar Subscriber docket, would

be used to offset the energy portion of a customer's bills. So in the Subscriber Solar docket, an energy value was used as a component of the Solar Generation Block Charge. Also included in that charge was marketing and administrative costs. Given that my proposal is a grant program, it is not appropriate to include a credit for those marketing and administrative charges in the bill credit. So my proposal is to compensate grant recipients with an energy value associated with the kilowatt hours generated by the granted capacity of the solar PV facility -- I know this is probably confusing -- as an offset to the energy portion of the grantee's rate as determined by the Solar Subscriber Program.

And, finally, in my direct testimony, I made a statement about the importance of using this pilot project as an opportunity to learn about allocating costs associated with distributed or non-wires transmission alternatives across jurisdictional lines. And that's been a common theme today.

Q. Does that conclude your summary of your direct testimony?

A. Yes.

Q. Did parties file rebuttals to your direct

testimony?

A. Yes. The Division -- yes. The Division and the Office did not oppose my proposal for a Blue Sky grant program and provided additional questions and recommendations. The Company does not support my recommendations.

Q. Will you review the Division's response to your proposal?

A. Yes. The Division's primary response with regard to the solar facility is that the market value of the energy output flow to Utah ratepayers via the EBA. This recommendation would ensure that benefits flow to Utah ratepayers. The Division highlighted some additional details that, if addressed in my proposal, could permit both the Division's and Utah Clean Energy's recommendations to be implemented.

First, the Division proposes allocating Blue Sky grants based on capacity rather than energy, then using the actual energy output to allocate bill offsets proportionately to grant recipients. In a way, customers cannot by credited for more energy than is actually produced by the facility. This is similar to how the Solar Subscriber is structured for customers with interval

meters now where customers receive one kilowatt blocks, and their bills are offset by the actual energy generated by the solar facility.

Second, the Division proposes that grants have a limited duration. The Division notes that grant recipients under Utah Clean Energy's proposal are not leveraging their own funds, unlike other Blue Sky grant recipients, nor are they responsible for ongoing operations, maintenance, or capital expenses. The Division proposes the length of the pilot period as the duration of the grant period.

Finally, the Division makes some additional comparisons between the Subscriber Solar and Utah Clean Energy's Blue Sky grant program.

Q. Would you please respond as to Division's recommendations?

A. Well, firstly, I sincerely appreciate the Division's thoughtful recommendations on my proposal. I'm not opposed to allocating grants based upon capacity and offsetting bills based on actual generation. It is an appropriate way to protect ratepayers from the potential negative impact of granting more energy PV system produces. However, I am concerned that it would increase the administrative burden of the program, and I think

there's a simple way to decrease administrative burden while simultaneously avoiding oversubscribing the PV system.

The grant program could withhold capacity from the system -- say 10 percent of the PV system capacity -- thereby providing a cushion to protect ratepayers in --

MR. SOLANDER: Your Honor, I'm going to object. This isn't rebutting. This is direct testimony that wasn't filed as direct testimony. This isn't rebutting any assertion made by the Division. It's just additional detail that could have been included in Ms. Wright's direct testimony.

CHAIRMAN LEVAR: Well, let's see if Ms. Hayes wants to respond to the objection.

MS. HAYES: Well, it's a fair objection. It is a sincere response to -- I mean, a sincere attempt to respond to the Division's rebuttal testimony. And I will leave it to the Commission to decide.

CHAIRMAN LEVAR: Let me ask Mr. Jetter to weigh in on this.

MR. JETTER: I don't think that the Division has a ton of passion on the nuance of this and, I guess, this is something that I think would

show up in the surrebuttal potentially, so I don't think I have any objection to Ms. Wright providing her proposal to the extent that it's, I guess, limited to a response to our critique or suggestions. I know that's kind of a long-winded answer, but I suppose my real answer is we don't object to the question.

CHAIRMAN LEVAR: Mr. Olsen or Ms. Gardner, do either of you have any input or any interest in this objection?

MS. GARDNER: No, we have nothing to add.

CHAIRMAN LEVAR: Mr. Olsen?

MR. OLSEN: I believe that it seems to be a logical consequence of surrebuttal to provide alternatives, so we would not object to the continuation of that.

CHAIRMAN LEVAR: I think the objection is well noted. This does tend to seem like the type of thing that generally would be allowed in a written surrebuttal, the kind of thing we typically see, so we'll allow a little more leeway on this issue. Ms. Wright?

A. Thank you. So with this cushion, if the PV system -- but if the PV system generates energy

in excess of the granted energy, then the market value could flow through the EBA to all ratepayers, and this would ensure that benefits stay in Utah.

And regarding the Division's recommendations to set a time limit on the grant, I'm also not opposed to this recommendation. However, given that the project will not come online until 2018, I recommend setting a duration longer than the STEP pilot period, perhaps five to ten years from the online date of the project, with a review of the grant program scheduled as part of the Blue Sky Program and in determination of whether the program should be continued, continued with modifications, or discontinued.

BY MS. HAYES:

Q. Will you please describe the Office's response to your proposal?

A. Yes. The Office sees merit in the concept of using the output of the Blue Sky funded project for the benefit of the Blue Sky Program instead of for the benefit of all ratepayers. However, the Office is concerned with the complexity of the program and the potential administrative costs, as well as whether the compensation level is too high. As I indicated before, my initial proposal was not

clear, and the Office and Division responded as though I was proposing a kilowatt hour for kilowatt hour credit as compensation. The Office proposed compensation at Schedule 37 avoided cost rates. The Office also proposed that administrative costs be charged to the Blue Sky Program.

Q. What is your response to the Office's recommendations?

A. I support charging the administrative costs to the Blue Sky Program. And perhaps the simplest and least costly way to administer this program would be an annual bill credit awarded at the beginning of the year based upon the projected energy output associated with the awarded capacity grant. A credit based on the determined value of the energy could be applied to the grant recipient's bill and thus carried forward every month for which the value remains. This greatly decreases the administrative burden. And it may take up to multiple months to use this credit.

And with regard to the matter of compensation, there are currently three options before the Commission: Utah Clean Energy's proposal to use the energy value that was recently established in the Solar Subscriber docket; DPU's

proposal to use the market value of the solar output; or OCS's proposal to value using Schedule 37 avoided costs.

Given that the project does not come online until 2018, if the Commission finds merit in Utah Clean Energy's recommendation to create a Blue Sky grant program for the energy output of the solar facility, I believe there is time to evaluate these options.

Q. Will you describe the Company's response UCE's proposal?

A. Yes. Steve McDougal, in his rebuttal testimony, raises two primary concerns. First, Mr. McDougal argues that the energy generated by the solar facility is not excess generation that can be counted on for use in a grant program because it is needed to reduce loading on the distribution circuit. Second, Mr. McDougal argues that the grant program will create an administrative burden.

Q. What is your response?

A. With regard to the administrative burden, I believe it is appropriate to charge the Blue Sky Program with the cost of administering this grant program. The Blue Sky Program already has the infrastructure for managing the grant program, and

the Subscriber Solar Program already has the billing infrastructure.

And regarding Mr. McDougal's other assertion that the PV system is not excess generation, I accept and applaud that the energy from the solar PV system will be used in conjunction with battery storage to provide system benefits to avoid transmission and distribution upgrades in the project area. However, the fact that the energy from the PV system will work in conjunction with batteries to reduce line loading is not mutually exclusive to providing energy benefits to Utah ratepayers through the Blue Sky Program. I'm not sure if I articulated that well -- is not mutually exclusive to the energy having value for use in the Blue Sky grant Program.

If you consider a Subscriber Solar project, if it's built on an area of the system that provides benefits and reduces line loading, that isn't mutually exclusive to providing those energy benefits to the Subscriber Solar program.

So they're very much two different issues, and my proposal is that the energy benefits funneled by Blue Sky customers be conveyed to deserving grantees, such as food banks, homeless shelters,

et cetera, to a grant program operated from the Blue Sky Program. And that they're not -- because they're providing line benefits and system benefits doesn't mean that the energy benefits can't go to the Blue Sky grant program.

Q. What is your recommendation to the Commission based on your review of the party's positions?

A. I recommend that if Blue Sky funds are used for this project, that the Commission approve the creation of a Blue Sky grant program for the energy output associated with the solar facility. The grant should be awarded the same way other Blue Sky grants are awarded but with grant recipients receiving bill credits based on the value of the energy produced from their granted capacity allocation.

Utah Clean Energy recommends that the energy value be based upon the energy value and the Commission-approved Solar Subscriber Program. Grants can be time limited but should not last less than five years from the online date of the solar facility, with a review prior to the expiration date of the grant within the Blue Sky docket to determine whether the current grant program should continue in

its current form, be modified, or end.

Grants could be awarded based on capacity allocations, but bill credits should be allocated based on either actual generation or estimated generation. If there is concern that using estimated generation may result in granting more energy than is produced by the system, the program could limit its grant allocation to a portion of system capacity, reserving a cushion to protect ratepayers in the event that the system does not produce as projected.

Administrative costs should be charged to the Blue Sky Program, and I recommend that the Commission set up a technical conference or a Blue Sky work group meeting to receive comments on this program, elements and design, and compensation prior to the online date of the solar facility.

Q. Do you have any other recommendations for the Commission?

A. Yes. I recommend that the Commission host a technical conference on distribution-sited, non-wires transmission alternatives and cost allocation issues. Given that one of the main objectives of this pilot program -- that one of the main objectives of this pilot program is

educational, it would be a missed opportunity not to try to learn how to replicate projects without stumbling over this critical cost allocation issue.

Q. Does that conclude your summary, surrebuttal testimony and conclusions?

A. Yes. Thank you very much.

MS. HAYES: Ms. Wright is now available for questions.

CHAIRMAN LEVAR: Thank you. Ms. Gardner, do you have any questions for Ms. Wright?

MS. GARDNER: No. Thank you.

CHAIRMAN LEVAR: Mr. Olsen, do you?

MR. OLSEN: No questions. Thank you.

CHAIRMAN LEVAR: Thank you. Mr. Jetter?

MR. JETTER: I have no questions. Thank you.

CHAIRMAN LEVAR: Mr. Solander?

EXAMINATION

BY MR. SOLANDER:

Q. Yes, thank you. Would you agree that your proposed grant program is essentially setting up an offsite or virtual net metering program?

A. I would disagree. It's very similar to

your Solar Subscriber Program.

Q. But the energy generated in one area by this project would then by used to offset usage by other parties.

A. Just as it is in your Solar Subscriber Program.

Q. Who would determine who receives the benefits of your grant program?

A. The Blue Sky Program has a current grant program, and I'm not sure how you decide on the grant recipients, but a number of applications are received every year. And the Company, I assume, unless you have a committee that works with you, determines the grant recipients.

Q. Do you have any idea who you would want to be eligible for this program?

A. It could be very similar to the grant recipients that you now give. Community organizations, schools apply, churches apply, a number of different -- and as a company, you could set up a steering committee to decide. You know, I think that food banks and, you know, homeless shelters would be an excellent idea.

Q. So more administrative costs?

A. No. Just it's just a matter of

applying -- just as they do now, they apply for grants and the Company reviews those proposals, and they make a decision on who should receive those grants.

Q. Isn't this awfully similar to a repackaging of the USEP program?

A. No. Do understand the grant program that you currently have for the Blue Sky grant program?

Q. Yes. I participate in it.

A. No, the Blue Sky grant program.

Q. Yes. I participate in the evaluation phase, so yes.

A. I don't see it as a repackaging. I see that it is a grant program, but the companies are not putting the solar on site. You are granting the energy just as you would through the Subscriber Solar.

Q. How is it then a public benefit to the Solar Energy Storage program if the benefits are repackaged to benefit a select group of customers?

A. The benefits of this -- the main benefits of this -- this is a small solar project; it's 650 kilowatts. The main benefits are in the transmission deferral.

Q. Are you aware of whether the Commission

has ever previously ordered the Company to implement a program that it didn't propose and didn't support and for which the costs are totally speculative?

A. I'm not aware. I've been involved with the Blue Sky Program for a long time, and you have done grant programs for a long time.

MR. SOLANDER: Thank you.

CHAIRMAN LEVAR: Is that all you have, Mr. Solander?

MR. SOLANDER: It is. Thank you.

CHAIRMAN LEVAR: Any redirect?

MS. HAYES: No. Thank you.

CHAIRMAN LEVAR: Commissioner White, anything for Ms. Wright?

COMMISSIONER WHITE: You may have described this but I may have missed it.

THE WITNESS: It's confusing. I'm sorry.

COMMISSIONER WHITE: It was helpful. With respect to the output, were you saying you're talking, like, gross generation or talking, like, a net excess based upon what's the generation left after the use of the batteries or what's the --

THE WITNESS: There are two different issues. I would say gross, you would probably do

something for line losses, to remove line losses, but it would be the gross generation because this project is providing dual benefits. Energy is a secondary benefit, whereas the primary benefit, as Mr. Marx explained, is to reduce the peak loading on the grid. And so it's providing that benefit, but then there's also an added energy benefit. So it's just a matter of because you sited that project in a location, it provides benefits. Just like if you built a Solar Subscriber project in a location that provided grid benefits, those kilowatt hours would still be available for the Solar Subscriber Program.

COMMISSIONER WHITE: One other question -- and I understand you probably don't have the calculations readily available, but, I mean, what are we talking about in terms of -- and I know there's three different concepts. There's the Schedule 37 and some other compensation. Is there any kind of rough estimate of what the total value -- based upon your gross generation -- of what that would be in terms of dollars?

THE WITNESS: I could probably quickly do it. I looked at the total in my direct testimony; I calculated the total output, I believe. Sophie, if you're looking at it and you can point me

to the right page --

MS. HAYES: My screen just went to sleep.

THE WITNESS: Okay. So the PV watts calculator online -- I just did that simple, online calculation -- that showed the entire system would generate about 1,118,000-kilowatt hours a year. And divide that annual output by 12, and let's see, let me -- sorry, I have to follow through my math again -- it would be approximately 466-200 kilowatt hour blocks. And I didn't really -- so we would multiply that times whatever value that the Commission determines -- the value and the Subscriber Solar program I think are part of a confidential docket, so I probably shouldn't say that right now -- avoided costs, Schedule 37, I'm not sure where that lands right now, but you would multiply 466 -- if someone has a calculator they can do this -- times 200 times the different values. So it's not a huge value, but it could provide really meaningful benefits to organizations in Utah. And it would also align -- I think when people -- I mean, right now the Blue Sky Program is way overpriced, and when we filed our last comments, we said if the benefits still flow to the community,

we're okay with it being overpriced. But if the benefits are not going to flow to the community, I think we need to reduce the Blue Sky price to maybe $.50 per kilowatt or block. But, sorry I don't have the math; I don't have a calculator.

COMMISSIONER WHITE: I guess the final question is, putting aside, I guess, the philosophical benefits versus who should be entitled, is there anything in your opinion that is contrary to the Blue Sky Program as written by law, rule, et cetera, tariff, that would prohibit the use of the funds for this project?

A. For the project? So there's nothing by law -- and I was involved in the changes that allowed them to do demonstration projects or do projects, but it was -- and I guess I failed in not saying that those benefits should flow to Blue Sky customers or grant programs, because the law definitely allows it. It's just a big deviation from what Blue Sky customers have supported in the past.

COMMISSIONER WHITE: Thank you. I have no further questions.

CHAIRMAN LEVAR: Commissioner Clark?

COMMISSIONER CLARK: No questions.

Thank you.

CHAIRMAN LEVAR: Thank you. I don't have anything else either, so Ms. Hayes?

MS. HAYES: No further questions.

CHAIRMAN LEVAR: Thank you, Ms. Wright.

THE WITNESS: Thank you.

CHAIRMAN LEVAR: Ms. Gardner?

MS. GARDNER: Before I call my witness, would anybody object to me moving so that my witness's back isn't to me during direct?

CHAIRMAN LEVAR: No. I think we've got two chairs right here.

KENNETH WILSON,

having been first duly sworn to tell the truth, was examined and testified as follows:

EXAMINATION

BY MS. GARDNER:

Q. Good morning. Will you please state your name, position, and business address for the record.

A. My name is Kenneth Wilson. I'm representing Western Resource Advocates. I'm an engineering fellow, and my office address is 2260 Baseline Road, Boulder, Colorado.

Q. Thank you. And Mr. Wilson, did you file

direct testimony as well as your CV in this docket on November 9, 2016 marked as WRA Exhibit 1.0 and 1.1 respectively?

A. Yes, I did.

Q. And to the best of your knowledge, is everything in your testimony and CV still true correct?

A. Yes, it is.

MS. GARDNER: I'd like to move the admission of Mr. Wilson's testimony and CV into evidence at this time.

CHAIRMAN LEVAR: Thank you. If any party objects to the motion, please indicate to me. And I'm not seeing any, so the motion is granted.

BY MS. GARDNER:

Q. Mr. Wilson, at this time, will you please summarize your direct testimony for the Commission?

A. Yes. Thank you. Commissioners, I'd like to focus on some technical issues in this case. I find the proposal by Rocky Mountain Power to be very solid technically. This is a typical non-wire solution to a voltage problem, and I have been testifying in Nevada, Colorado, Arizona on similar proposals by utilities there. We find these to be very reasonable first steps for utilities to start

testing battery storage technology. While that technology is still a little expensive today, we believe that within a few years it will be more economical than typical wired solutions. And you've heard some testimony about non-wire solutions, but I will just add to my testimony on that non-wire solutions are being looked at in states all across the country. This is not a new solution. These technologies have been in use for five or six years.

Each utility really needs to get some experience with this technology to see how it works, how do they manage, how do they operate a battery storage system by itself with solar, with other distributed generation, because each utility system is different. And I think maybe one misperception -- non-wire solutions can solve problems that are strictly in the distribution grid; they don't have to be related to transmission. You can avoid putting in a new transformer at a substation, you can avoid re-conductoring feeders, which are totally in the distribution side. So I don't find it rings true to say that this would always involve an allocation issue because it would always be on the transmission side. There are many examples across the country where these non-wires,

battery storage and solar solutions are being used at the substation and feeder level and have nothing to do with transmission. So I wanted to clear that up a bit.

We find this a very good use for STEP funds. We think that this type of pilot project was contemplated and that the R&D purpose for this is quite sound. As I mentioned, the Company needs to get experience. It's like you have a new type of car; you need to drive it, you need to drive it on your roads in your neighborhood to see how it works, how does it work for you, and that's very important. And as I said, this will be an important choice that the Utility and the Commission needs to have in its portfolio of solutions for distribution problems, for transmission problems, for mixes of those problems. And I would hate to see an allocation issue stop a good project like this.

I have been involved in R&D for 40 years in a variety of technologies and have evaluated hundreds of projects, and I would say this is a very good example of what we should be promoting as choices for utilities.

One other thing that I mention in my testimony that I think needs to be added to the

conversation are the additional benefits that a battery storage system can bring to the customers in Utah. While the Company is proposing this project strictly to solve a voltage problem, as you heard in testimony earlier today, the battery will only be used a couple of months a year for that purpose. That leaves a large part of the year available to use this battery storage system to solve other problems and essentially to make money for the customers of Utah. Two examples of that are energy shifting. In a month like April when there's no voltage problem, they could use the battery to store up excess energy at night and then discharge it in the daytime when they would have had to add additional generation into the mix. So that's a definite economic advantage.

And the second advantage or example is frequency regulation. The Company has to provide a steady frequency of 60 Hertz 24-hours a day, seven days a week to the second -- to the millisecond, really. And a battery system has been shown to be very good at helping to balance the frequency on the system. And what I'm saying is that once the Company learns how to use this system to solve the voltage problem, they can start using the same

battery to get economic benefits for the customers, and that will be very important for this project; but more so in the future, when batteries are much cheaper and will be in the running to replace (inaudible), to replace burning fuel wastefully, just to do this frequency balancing. You can store the excess energy and ramp the battery up and down and balance the frequency. So there are a lot of benefits to this project that I see, and it is typical of other projects that I'm supporting in other states. Thank you very much.

Q. Thank you. Does that conclude your summary of your direct testimony?

A. It does.

Q. And did any parties file rebuttal to your direct testimony?

A. They did not.

Q. Do you have any other recommendation that you'd like to share with the Commission today?

A. I think all of my recommendations are in my direct testimony.

Q. And finally, does that conclude your summary and conclusions?

A. Yes, it does.

MS. GARDNER: Mr. Wilson is now

available for questions from the parties as well as from the Commission.

CHAIRMAN LEVAR: Thank you. Ms. Hayes, any questions?

MS. HAYES: No questions. Thank you.

CHAIRMAN LEVAR: Thank you. Mr. Jetter?

MR. JETTER: I have no questions.

CHAIRMAN LEVAR: Mr. Olsen?

MR. OLSEN: No questions. Thank you.

CHAIRMAN LEVAR: Mr. Solander?

MR. SOLANDER: No questions. Thank you.

CHAIRMAN LEVAR: Commissioner White?

COMMISSIONER WHITE: No questions.

CHAIRMAN LEVAR: Thank you. Commissioner Clark?

COMMISSIONER CLARK: I have a question or two. If you're conversant enough with battery technology to take these on, I'd be grateful for your thoughts. The additional uses of the battery capacity that you described, avoiding having to transmit certain amounts of energy to that area because it's been produced and stored and is available in the month and days when it's not doing

its primary -- fulfilling its primary purpose -- is that going to affect the longevity of the battery's life in any material way as far as you know? In other words, if this battery were used ten months a year instead of two, have we reduced the life of the battery by 5 or not at all or 50 percent or --

THE WITNESS: That's an excellent question, because this is an issue that utilities and commissions and the battery providers are looking at across the country, and electric vehicles is a good example of this. It turns out that if you use battery storage, for instance, frequency regulation, what you're going to do is set it kind of in the half-filled, and sometimes you have to store energy because there's too much on the system, sometimes you discharge. If you keep a battery around the 50 percent charged level, it lasts a lot longer than if you deeply discharge and then fully charge. And I don't think that your question on cycles would concern me. I'd almost say that it's better to use it than to let it sit, because, you know, you'll be letting it sit there fully charged in case you have a problem. I'd really rather see it used in a sensible way, and I would not worry about the cycle issue. I have not see where that

has significantly reduced the life.

COMMISSIONER CLARK: Thank you.

CHAIRMAN LEVAR: I don't have any further questions, so thank you, Mr. Wilson. Anything else, Ms. Gardner?

MS. GARDNER: No. Thank you.

CHAIRMAN LEVAR: Any final matters from any party?

MR. SOLANDER: Rocky Mountain Power would request that we call Douglas Marx as a rebuttal witness. I have three questions for him just to clarify some issues that have been raised during this session today.

CHAIRMAN LEVAR: We are at a point where I probably ought to give our court reporter a short break, so maybe a five-minute break and then come back and do that.

MR. SOLANDER: That would be great. Thank you.

(A brief recess was taken.)

CHAIRMAN LEVAR: Mr. Solander?

MR. SOLANDER: Thank you. We'd like to call Douglas Marx as our rebuttal witness.

CHAIRMAN LEVAR: Okay. And you're still under oath, Mr. Marx.

EXAMINATION

BY MR. SOLANDER:

Q. Mr. Marx, were you here during Mr. Vastag's testimony regarding the Company's process for evaluating whether to make transmission or distribution level decisions?

A. Yes, I was.

Q. And can you describe for the Commission's benefit the process that the Company uses to evaluate where to invest and what type of investments to make?

A. Yes. I'll give kind of a high level overview, and I'll also answer a question that also came up with Commissioner Clark earlier, too.

When we look at system issues, we look at it kind of holistic, and we look for the least cost economic decision to upgrade that. So we will look at distribution, transmission investments from an economic standpoint.

Two years ago, in 2014, we recognized that these nontraditional investments would be coming into their own in the near future, so inside our decision matrix for all of our planning, that's actually one of the first line items our engineers who are doing the planning are required to look at

is will a nontraditional solution solve this. So they look at battery storage, they look at issues like -- we have looked at electromechanical battery systems, which are basically giant gyroscopes that we can use for frequency regulation, so that's part of the decision matrix now in all states to look at. Because as the costs started to come down -- and as Mr. Wilson mentioned, they are coming down very fast in the battery world -- as the energy densities get greater, the costs are collapsing fast. So when you look at the decision thing, unless there's a physical component to require a conductor to be changed out, i.e., it's completely overloaded, you may not do that if you can do something else to relieve that.

So as we looked at this whole process, we have looked at this in several concepts. We've looked at these in different states, different areas, but this is the first project that came real close to being a very economic decision. And it's actually the first time it came down to be the lowest first cost for a solution on a system. So again, we're talking here in this aspect about a radial transmission line that does no other purpose except to serve my distribution substation.

So when you start to say how do I solve this problem, we looked at many things. And one of the alternatives in the testimony was basically increasing another substation in the area. So we can put another substation in, we can expand the transmission line, we can increase the regulation on the distribution. So I think when we start to look at a fully optimized system, we look at it holistically and not just say I've got a little problem. Do I solve with it the transmission because I know my allocation levels are lower, or do I do it on distribution because it's a lower cost.

I think you've got to do it on a full economic analysis over the life cycle of the projects, too. And as I mentioned, the life cycles are tough because you're looking at some future projections. And I know my estimates are pretty much wrong as soon as the ink dries on the paper, so that's kind of the problem you're looking at when you're trying to do this kind of planning stuff.

What we believe is with these newer technologies, the battery technologies, electromechanical batteries, whether we use synchrophasors on transmission lines, all of these come into play when you're starting to do your

analysis. And how quickly can you put them in and at what cost can you put them in, and is there a need to do it. Does that answer that?

MR. SOLANDER: I believe it does. Mr. Marx is available for additional questions from the Commission or the parties.

CHAIRMAN LEVAR: Thank you. Mr. Jetter?

MR. JETTER: I don't have any additional questions.

CHAIRMAN LEVAR: Mr. Olsen?

MR. OLSEN: No additional questions. Thank you.

CHAIRMAN LEVAR: Ms. Hayes?

MS. HAYES: No questions. Thank you.

CHAIRMAN LEVAR: Ms. Gardner?

MS. GARDNER: Also no questions.

CHAIRMAN LEVAR: Commissioner White?

COMMISSIONER WHITE: No questions. Thanks.

CHAIRMAN LEVAR: Commissioner Clark?

COMMISSIONER CLARK: No questions. Thank you.

CHAIRMAN LEVAR: I don't have anything further either. Thank you. Anything

further from any party before we adjourn? I'm not seeing any indication, so we're adjourned. Thank you all.

(The hearing concluded at 11:55 a.m.)

REPORTER'S CERTIFICATE

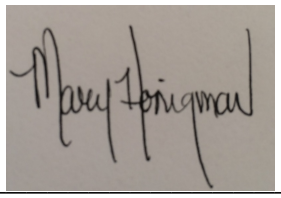
STATE OF UTAH)

COUNTY OF SUMMIT)

I, Mary R. Honigman, a Registered Professional Reporter, hereby certify:

THAT the foregoing proceedings were taken before me at the time and place set forth in the caption hereof; that the witness was placed under oath to tell the truth, the whole truth, and nothing but the truth; that the proceedings were taken down by me in shorthand and thereafter my notes were transcribed through computer-aided transcription; and the foregoing transcript constitutes a full, true, and accurate record of such testimony adduced and oral proceedings had, and of the whole thereof.

I have subscribed my name on this 12th day of December, 2016.



Mary R. Honigman
Registered Professional Reporter

Q