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BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of Application of Rocky Mountain Power to Establish Export Credits for Customer Generated Electricity	**Docket No. 17-035-61**

SURREBUTTAL TESTIMONY OF

CHRISTOPHER THOMAS

Salt Lake City Corporation ("SLC Corp") hereby submits this Surrebuttal Testimony of Christopher Thomas in this docket.

DATED this 15th day of September, 2020.

Salt Lake City Corporation

By: _____
Megan J. DePaulis
Attorney for Salt Lake City Corporation

CERTIFICATE OF SERVICE
Docket No. 17-035-61

I hereby certify that a true and correct copy of the foregoing was served by email this 15th day of September, 2020 on the following:

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/s/ Christopher Thomas

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of Application of Rocky Mountain Power to Establish Export Credits for Customer Generated Electricity	**Docket No. 17-035-61**

Surrebuttal Testimony of Christopher Thomas

On Behalf of Salt Lake City Corporation

September 15, 2020

I. INTRODUCTION AND SUMMARY

Q. Please state your name and business address.

A. My name is Christopher Thomas. My business address is the Salt Lake City & County Building at 451 S. State Street, Salt Lake City, Room 404, Salt Lake City, UT 84114-5467.

Q. By whom are you employed and in what capacity?

A. I am employed by the Salt Lake City Sustainability Department. My title is Senior Energy and Climate Program Manager.

Q. On whose behalf do you offer this testimony?

A. My testimony is on behalf of Salt Lake City Corporation ("SLC Corp").

Q. Please provide your qualifications.

A. I have a bachelor's degree in biology and English from Grinnell College. I hold a Master of Science in Information Systems degree from the David Eccles School of Business at the University of Utah.

Q. What duties and responsibilities do you have as Senior Energy and Climate Program Manager?

A. A big part of my job is working to fulfill renewable energy goals set forth in joint Mayoral and City Council resolutions. One of these goals has to do with sourcing SLC Corp's electricity from renewable generation resources, and the other has to do with implementing a community-wide renewable energy program for residents and businesses within Salt Lake City's boundaries. I submit this testimony in the hope that I can provide the perspective of a local government on some of the issues raised in this docket. We

have appreciated collaborating with Rocky Mountain Power ("RMP"), the Utah Public Service Commission ("Commission"), the Office of Consumer Services ("Office"), the Division of Public Utilities ("Division"), Utah Clean Energy ("UCE"), and other stakeholders as we work to accomplish our renewable energy goals.

Q. Have you previously testified before the Public Service Commission of Utah?

A. Yes. I provided comments, later adopted as testimony, in docket 19-035-18 before the Commision.

Q. Have you testified previously before any other state utility regulatory commissions?

A. No.

Q. What is the purpose of your surrebuttal testimony?

A. My testimony addresses rebuttal testimony filed by other parties. In Section II of this surrebuttal testimony I address rebuttal testimony filed by the Division. In Section III, I address rebuttal testimony filed by RMP. In Section IV, I address surrebuttal testimony filed by UCE.

Q. Please summarize your recommendation to the Commission regarding RMP's request with respect to Schedule 32?

A. I hope the Commission considers the following recommendations:

- Do not approve RMP's proposed export credit rate and proposed effective date.
- Allow the Transition Program rate to be maintained until the Transition Program Cap has been reached.
- Require further analysis on the interplay among the export credit rate, the adoption of distributed generation, the timing of incremental transmission, and coincident system

peak prior to the adoption of a new export credit rate.

- Create placeholders that allow for the following benefits of customer generation to be quantified: ancillary services, reliability, and resilience.
- Should a lower export credit rate be adopted, a glide path using capped tiers—similar to NV Energy's program—should be used.

II. SURREBUTTAL OF ROBERT A. DAVIS REBUTTAL TESTIMONY

Q. Do you agree with Mr. Davis from the Division that "[i]t is plausible that roof-top solar in Utah has reached maturity" (Mr. Davis rebuttal, lines 370 – 371)?

A. No. PacifiCorp commissioned a private generation assessment by Navigant as part of its 2019 Integrated Resource Plan (IRP). In part, it reads: "[f]rom past work in projecting the penetration of new technologies, Navigant has found that Simple Payback Period is a key indicator of customer uptake."[1] In other words, the adoption of a technology like rooftop solar is influenced by the number of years required for the cumulative cost savings to equal or surpass the incremental first cost of equipment. The export credit rate directly influences the simple payback period calculation.

Q. Does the private generation assessment performed by Navigant for the 2019 IRP suggest that Utah's rooftop solar market has reached maturity?

A. No. Between 2021 and 2038, the Navigant private generation assessment for the 2019 IRP projects 323 MW of additional Utah residential solar and 83 MW of additional Utah commercial solar for a total of 406 MW in the base case.[2]

[1] See docket 19-035-02, 2019 Integrated Resource Plan Volume II, Appendix O, page 8.
[2] See docket 19-035-02, 2019 Integrated Resource Plan Volume II, Appendix O, page D-9.

Q. Does the Navigant private generation assessment for the 2019 IRP indicate that smaller incentives and a reduced export credit rate reduce the adoption of private generation?

A. Yes. Table 1 from that study is reproduced below.[3]

Table 1 Adoption Change from Electric Rate, System Cost and Policy Changes from 2016 to 2018

State	Estimated Adoption Change	Key Adoption Drivers
CA	**2036** – Market increased from 20 MW to 40 MW	• Rates: Increase (residential, commercial, industrial) • Solar PV Cost: Declines in the later years are more sustained • Policy: New mandatory solar for new building is included in the analysis
ID	**2036** – Market increased from 40 MW to 90 MW, primarily in the residential sector	• Rates: Increase (residential, commercial, industrial) • Solar PV Cost: Declines in the later years are more sustained • Policy: No change
OR	**2036** – Market remained relatively consistent, with adoption shifting to later years which seems reasonable given incentive declines offset by cost declines in future years	• Rates: Decrease (commercial, irrigation) • Solar PV Cost: Declines in the later years are more sustained • Policy: Incentive and cap reduced for residential and C&I; Residential Energy Tax Credit – sunset in 2017
UT	**2036** – Market decreased from 800 MW to 470 MW. Decline seems reasonable given residential incentive declines, and commercial rate declines	• Rates: Reduced net metering rates • Solar PV Cost: Declines in the later years are more sustained • Policy: Incentive for residential solar PV reduced from $2000 to $1600 in 2019 declining to $400 in 2024 and $0 beyond; NEM reduction to around 90% of full rates • The report reflects the regulatory modifications to the PG program in Utah, as included in Schedule 136 (Utah Docket 14-035-114)
WA	**2036** – Market increased from 25 MW to 50 MW	• Rates: Small changes only • Solar PV Cost: Declines in the later years are more sustained • Policy: Solar and wind FiT reduced rate for an 8 year period
WY	**2036** – Market increased from 40 MW to 85 MW	• Rate: Small changes only • Solar PV Cost: Declines in the later years are more sustained • Policy: None

Navigant indicates that between its 2016 and 2018 studies, the cumulative private generation market for Utah in 2036 decreased from 800 MW to only 470 MW—a reduction of 41%. As key drivers, Navigant lists "[i]ncentive for residential solar PV reduced…" and "NEM reduction to around 90% of full rates." In other words, policy decisions like reducing incentives and reducing the export credit rate are expected to drive technology adoption down.

[3] See docket 19-035-02, 2019 Integrated Resource Plan Volume II, Appendix O, page 5.

Q. Did the Division recommend that the Commission acknowledge RMP's 2019 IRP, of which the Navigant's private generation assessment is a supporting study?

A. Yes. In a letter dated February 4, 2020, the Division recommended that the Commission "acknowledge that PacifiCorp's 2019 Integrated Resource Plan (IRP) largely adheres to the Commission's Standards and Guidelines." If the Division objects to Navigant's private generation assessment, I am unaware of what those objections may be. I believe the simple payback period is widely acknowledged and accepted as an important driver of technology adoption.

Q. Does Mr. Davis provide evidence to substantiate the claim that rooftop solar has plausibly reached maturity in Utah?

A. No, not that I am aware of.

Q. Why does the Division's position on this issue of solar adoption matter to you?

A. I am concerned that the Commission might rely on the notion that the solar industry has already run its course in Utah as a rationale for implementing a dramatic and abrupt change to the export credit rate as requested by RMP. However, there is an established methodology embedded in Utah's acknowledged electric system planning that shows the Utah market for distributed solar is subject to the same forces as markets elsewhere. As the installed cost of distributed solar declines and electric rates increase over time, Navigant's private generation assessment indicates that the market for distributed solar in Utah will continue to grow. By the same token, we should expect that a precipitous drop in the export credit rate could predictably produce a dramatic drop in the market for distributed solar in Utah, with the possibility of introducing unintended consequences for

incremental transmission and coincident system peak. I address these possible unintended consequences in lines 135 to 168 of this surrebuttal testimony.

Q. Why do you care whether there is a dramatic drop in the market for distributed solar in Utah, particularly now?

A. We appreciate that RMP plans to build cost-effective utility-scale solar as part of its 20-year plan. While we expect that utility-scale renewable energy will play a major role in helping SLC Corp and the Salt Lake City community achieve our renewable energy goals at an affordable price, we recognize that distributed solar generation conveys a unique benefit of creating local jobs in and around our community. We fear that an abrupt and dramatic change to the export credit rate will eliminate these solar installer jobs. Particularly now, when the Salt Lake County area is experiencing increased unemployment due to effects of the global coronavirus pandemic, we hope that any change to the export credit rate should be implemented gradually.

III. SURREBUTTAL OF JOELLE R. STEWARD REBUTTAL TESTIMONY

Q. Do you agree that gradualism is an important rate design principle that guides RMP's current export credit proposal (Ms. Steward rebuttal, lines 77 – 80)?

A. No, I do not. While I concede that issues related to customer generation rates have been discussed by parties since 2014, and that RMP may well feel that a change to this program is overdue, I would not characterize the company's current proposal as "gradual." I would characterize the current proposal to reduce the residential export credit rate 84% by January 2021 as both dramatic and abrupt, having been proposed less than a year before the proposed effective date. I fear that if the Commission approves RMP's

proposal, the effect on solar installers will be calamitous, at a time when unemployment and economic uncertainty are already high because of the Coronavirus pandemic.

Q. Are you aware of any other matters in which RMP suggests a comparatively more gradual approach to change?

A. Yes. In its 2020 rate case, RMP proposes to phase in a general rate increase of 4.8% over a period of three years.[4] I believe a similarly gradual approach is warranted for the export credit rate, especially given that the agreed-upon Transition Program Cap has not yet been reached.

V. SURREBUTTAL OF KATE BOWMAN REBUTTAL TESTIMONY

Q. Do you agree with Ms. Bowman that RMP's proposal does not address the breadth of categories of benefit that distributed solar provides (Ms. Bowman rebuttal, lines 189 – 190)?

A. I agree. RMP's proposal does not address two benefits conferred by customer generation: reducing the coincident system peak and reducing or deferring the need for incremental transmission.

Q. What evidence is there that customer generation can reduce coincident system peak and reduce or defer the need to build new transmission lines?

A. In the 2019 IRP there are two sensitivities that examine how the preferred portfolio would change under a low customer generation scenario or a high customer generation scenario. The low customer generation scenario results in four transmission upgrades and

[4] See docket 20-035-04, Application for General Rate Increase, pages 2 – 8.

a higher coincident system peak (red line) than the base case (blue line), as reproduced below.[5]

Sensitivity Fact Sheets

CASE ASSUMPTIONS

Description

The low private generation sensitivity reflects reductions in technology costs, reduced technology performance levels, and lower retail electricity rates, compared to base penetration levels incorporating annual reductions in technology costs. This sensitivity is a variant of the preferred portfolio, P-45CNW.

PORTFOLIO SUMMARY

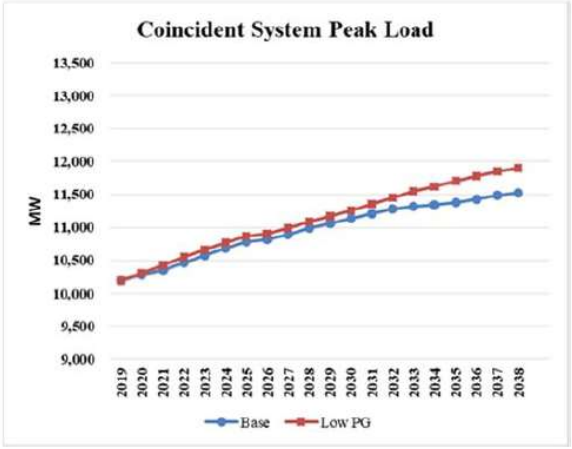
System Optimizer PVRR (Sm) ***$21,758***

Incremental Transmission Upgrades

Description	*Year*	*Capacity*
Aeolus Wyoming – to - Utah S	*2024*	*1,700*
Goshen – to – Utah N	*2030*	*800*
Yakima- to – S. Oregon/California	*2036*	*450*
Willamette Valle - to – S. OR/CA	*2037*	*1500*

Load Forecast

The figure below shows the base system coincident peak load forecast applicable to this case before accounting for any potential contribution from DSM alongside Base Case forecast. Loads include private generation resources.



The high customer generation scenario results in only two transmission upgrades, a lower coincident system peak (red line) than the base case (blue line), and saves $387 million relative to the low customer generation scenario, as reproduced below.[6]

[5] See docket 19-035-02, 2019 Integrated Resource Plan Volume II, page 389.
[6] See docket 19-035-02, 2019 Integrated Resource Plan Volume II, page 391.

Sensitivity Fact Sheets

CASE ASSUMPTIONS

Description

The high private generation sensitivity reflects more aggressive technology cost reduction assumptions, higher technology performance levels, and higher retail electricity rates, compared to base penetration levels incorporating annual reductions in technology costs. This sensitivity is a variant of the preferred portfolio, P-45CNW.

PORTFOLIO SUMMARY

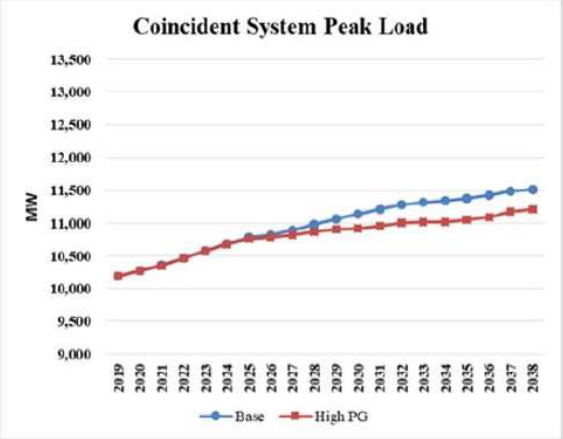
System Optimizer PVRR ($m)	*$21,371*

Incremental Transmission Upgrades

Description	*Year*	*Capacity*
Aeolus Wyoming – to - Utah S	*2024*	*1,700*
Goshen – to – Utah N	*2030*	*800*

Load Forecast

The figure below shows the base system coincident peak load forecast applicable to this case before accounting for any potential contribution from DSM alongside Base Case forecast. Loads include private generation resources.



These sensitivities demonstrate that a larger amount of customer generation can have two predictable benefits: reducing or deferring incremental transmission, and reducing the coincident system peak.

Q. Does RMP's methodology for valuing the avoided cost of distributed solar in this docket account for reduced or deferred transmission, or the benefit of a reduced coincident system peak?

A. To my knowledge, no. To the extent that RMP's PVRR and GRID methodology was designed to model utility-scale Qualifying Facility (QF) resources, it would not be able to capture the ability for customer generation to avoid or defer incremental transmission. To my knowledge, it also does not calculate a benefit associated with a reduced coincident system peak. For this reason, I do not believe that RMP's proposal adequately values the benefits of customer generation.

Q. What is your recommendation regarding customer generation and its relationship to reduced or deferred transmission and a reduced coincident system peak?

A. Before implementing a new export credit rate, RMP and stakeholders should analyze the interplay between various levels of export credit rate, customer generation, and the timing of incremental transmission and coincident system peak. For example, RMP's proposed export credit rate and the resulting drop in distributed generation might have the effect of advancing the date of incremental transmission, causing additional system costs. If such analysis demonstrates a relationship between private generation and reduced or deferred transmission and coincident system peak, such information should be used to help determine the export credit level and the timing of any changes.

Q. Do you agree with Ms. Bowman that the Commission should create placeholders for grid support services and for reliability and resilience, so that these benefits can be quantified in the future (Ms. Bowman rebuttal, lines 1149 – 1150)?

A. Yes. To the extent that customer generation can be implemented with smart technologies that add value to the operation of the electric grid, those smart technologies should be appropriately incentivized by the export credit rate. In addition, the recent high wind event that resulted in outages for 170,000 Utahns[7] is a pointed reminder that customer generation can provide reliability and resilience benefits that should be quantified. Especially as batteries become increasingly affordable, there is an opportunity to pair distributed solar generation with grid-connected batteries in a way that increases resilience and reliability for customer generators and other customers.

[7] See Rocky Mountain Power press release, September 8, 2020, "Rocky Mountain Power crews working to restore power to over 180K customers due to high winds and gusts".

Q. Do you agree with Ms. Bowman that the Transition Program rate be maintained until the Transition Program Cap has been reached (Ms. Bowman rebuttal, lines 1158 – 1159)?

A. Yes. I do not believe RMP's proposed methodology reasonably values the avoided costs associated with customer generation. In addition, I do not believe RMP's proposal to reduce the export credit rate by 84% by January of 2021 is gradual. Therefore, I hope the Commission will allow the Transition Program to remain open to new customers at the Transition Program rate until the cap is reached and a more reasonable and better supported export credit rate can be determined.

Q. Do you support Ms. Bowman's suggestion to use a glide path, like the one used by NV Energy, to gradually introduce any new export credit rate that is lower than the Transition Program rate (Ms. Bowman rebuttal, lines 1078 – 1105)?

A. Yes. If the Commission adopts an export credit rate that is lower than the current export credit rate, it should be implemented in a gradual way that allows solar installers and prospective customers to adjust accordingly. Capped tiers allow the export credit rate to be periodically and gradually adjusted while also allowing solar installers and customers to reasonably calculate a payback period. The capped tier proposal reasonably balances the goals of providing just and reasonable rates to non-customer generators while also providing predictability for customers who want to consider investing in their own generation. Otherwise, the Commission risks unnecessarily decimating the solar installer industry at a time of increased unemployment and economic uncertainty.

V. SUMMARY AND CONCLUSION

Q. Please summarize your recommendations.

A. I hope the Commission will consider the following recommendations:

- Do not approve RMP's proposed export credit rate and proposed effective date.
- Allow the Transition Program rate to be maintained until the Transition Program Cap has been reached.
- Require further analysis on the interplay among the export credit rate, the adoption of distributed generation, the timing of incremental transmission, and coincident system peak prior to the adoption of a new export credit rate.
- Create placeholders that allow for the following benefits of customer generation to be quantified: ancillary services, reliability, and resilience.
- Should a lower export credit rate be adopted, a glide path using capped tiers—similar to NV Energy's program—should be used.

Q. Does this conclude your direct testimony?

A. Yes, it does.