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BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power to Establish Export Credits for Customer Generated Electricity	**Docket No. 17-035-61 Phase 2**

CLOSING ARGUMENT

ON BEHALF OF

VOTE SOLAR

BY JOSHUA S. MARGOLIN

October 6, 2020

I. INTRODUCTION

Good afternoon Chair LeVar, Commissioner Allen, and Commissioner Clark. Thank you for the time and care you have taken throughout this proceeding, and of course for allowing me to make some closing remarks on behalf of Vote Solar today.

Before I speak to the evidence presented, I want to emphasize that each party proposing a rate bears the burden of demonstrating that its proposed rate is just and reasonable. The unsubstantiated "say so" or intuition from a party cannot be relied upon. Back of the napkin calculations are insufficient. Similarly, strings of unrealistic hypotheticals provide the Commission no support. The Commission requires evidence. Hard math, real science, actual calculations, all from qualified witnesses. Through this lens, it is clear that Vote Solar has met its burden through the rigorous work of its expert witnesses, whereas RMP and the OCS fall well short. The DPU has not proposed its own rate.

Likewise, in determining a just and reasonable rate, the Commission is expressly permitted by statute to consider the "well-being of the state of Utah" and means of encouraging energy conservation. Ms. Steward's contention that the Commission may only consider direct avoided costs by RMP is incorrect. Ms. Beck's contention that all this Commission is permitted to consider are benefits accruing to non-CG customers in their capacity as ratepayers is also incorrect.

Vote Solar has presented substantial expert evidence quantifying each benefit of CG exports it has proposed. These calculations demonstrate that the benefits of

CG exports outweigh the costs, and thus that there is no subsidy from CG customers to non-CG customers. No party has properly called into question any of Vote Solar's calculations. Accordingly, the Commission should institute a new net metering program and should not adopt any new rate structure until it has evaluated the question of whether costs exceed benefits, or vice versa.

Vote Solar's experts have been candid with the Commission, their testimony remaining consistent throughout the proceeding. The same cannot be said for others. Mr. MacNeil, Mr. Meredith and Ms. Steward all concede the value of CG exports as well as behind the meter CG, but refuse to properly credit them for their value. Mr. Meredith has talked himself in circles trying to defend RMP's proposed time-of-use rates, first telling the Commission that these rates will drive customers to export when it is more economical do to so and most valuable to the grid, but more recently in his sur-rebuttal he completely changed course, telling the Commission that these rates are designed with one goal in mind — to reflect the value of CG solar. Likewise, Mr. Meredith admitted countless times that he had no hard evidence to support the rate structure RMP proposes. All of RMP's witnesses find themselves in a massive contradiction as they now lobby for a value far below the transition rate, which RMP acknowledged just a few years ago was fair and reasonable.

RMP's shifting testimony should be seen for what it is: blind advocacy of a tailor-made proposal to disincentivize future CG investment in Utah. This position makes sense for RMP, a vertically integrated monopoly that maximizes profits when it controls all aspects of energy generation and sales. CG exports, and more broadly,

CG, cut into these profits. RMP's loyalties are not to the captive ratepaying citizens of Utah. Rather, RMP is beholden to its corporate shareholders in Nebraska, and RMP takes positions purely designed to increase its own revenue and deter competition.

RMP has put forth a proposal designed to make it untenable for CG installation to continue in Utah. And RMP has carved out two paths to achieve that goal. *First*, it proposes an export credit so low that there is almost no benefit for a CG customer to ever export energy to the grid. RMP thus tries to eliminate CG customers' ability to be compensated at a fair and reasonable rate for their exports. *Second*, RMP proposes a rate structure so uncertain and so larded up with excessive fees that the average consumer — households and small businesses — are unable to calculate the costs and benefits of installing solar, and will therefore opt not to do so. In effect, RMP seeks to treat CG customers like QFs by paying them a low avoided cost rate, while at the same time depriving CG customers of the rate certainty that PURPA requires. If you choose either approach, RMP gets what it wants: to deter CG solar in Utah. But the Commission cannot countenance RMP's attempt at a checkmate in this proceeding because neither RMP's valuation of exports nor its proposed rate structure are supported by any evidence.

The Commission is unable to look to the DPU or the OCS for independent testimony. Counsel for both the DPU and the OCS often pushed harder on Vote Solar's witnesses to defend RMP's position that even RMP did. DPU witnesses Mr. Davis and Dr. Abdulle filed testimony with the Commission calling Dr. Lee's criticism

of their work "baseless," yet both conceded that they weren't able to evaluate Dr. Lee's work — which was based on Mr. Davis's own workpapers. The DPU's findings amount to little more than copycatting RMP's positions and cannot be considered independent. Moreover, the DPU's counsel suggested during questioning that it would support a rate of 8.54 cents per kilowatt hour, based on no evidence provided by the DPU's own witnesses.

The OCS too has been carrying water for RMP, with Ms. Beck admitting that the OCS came into this proceeding with the unsupported yet galvanized assumption that a subsidy and cost shift were already in existence. The Commission will recall that Mr. Snarr tried to demonstrate that the OCS is willing to challenge RMP by pointing out that the OCS has, in another proceeding, challenged RMP's proposed 10.2% rate of return, and instead supported a 9% rate of return. The best example the OCS could come up with to argue for its independence was taking a position that RMP should, in this economy, obtain a virtually risk-free 9% rate of return. This is a goldmine for RMP and supporting it should never be mistaken as a badge of courage for the OCS. What's more, this demonstrates RMP's standard game plan: ask for something so outrageous that the OCS and DPU have cover to push back and still get RMP what it wants. These dynamics were on full display here, when at the last minute, even after submitting corrected sur-rebuttal testimony, Mr. Hayet decided to increase the OCS's supported rate from 2.24 cents to 3.7 cents per kilowatt hour. The OCS knows that even a rate of 3.7 cents would be a tremendous win for RMP, and its last-minute increase fits perfectly into RMP's playbook.

What is most telling, is that not a single witness from RMP, the DPU, or the OCS could point to any evidence of an actual subsidy or cost shift from CG to non-CG customers — and you can be sure if there was any evidence they would have shouted it from the rooftops. Despite countless allegations of a subsidy in their written and oral testimony, these allegations remain entirely unsubstantiated. Throughout the hearing, RMP, the DPU, and the OCS made a lot of noise about how reduced demand from CG customers will supposedly shift fixed costs to non-CG customers. However, no party presented any evidence of this supposed cost shift. More fundamentally, this argument looks behind the meter; if the Commission is inclined to look behind the meter, it must account for *all* of the behind the meter benefits CG provides, including in the form of reduced system demand. The suggestion that customer generators are imposing a cost by purchasing less energy from RMP is absurd. Surely RMP does not seek to impose such costs on its energy efficiency customers when they reduce their bills. Likewise, the suggestion that the true benefit to customer generators is their ability to avoid paying full rates for buying energy also improperly relies on unquantified behind the meter benefits, and the false assumption that RMP should get any credit for not finding a way to charge customers for energy RMP played no role in generating. The Commission has no basis to find any subsidy from CG to non-CG customers. By contrast, Vote Solar has presented unrebutted evidence that the benefits of CG exports — and therefore the net metering program — exceed costs and that in fact CG customers currently subsidize non-CG customers.

III. COST/BENEFIT CALCULATION

Let's first turn to the evidence before the Commission concerning the competing valuations of CG exports, starting specifically with avoided generation capacity costs. You heard the testimony of Dr. Milligan who explained that he calculated avoided generation capacity costs by using an industry-accepted methodology that accounts for the variable nature of CG solar exports. But RMP, the DPU, and — until the middle of this hearing — the OCS, attribute zero value to this benefit. And on what basis? The simple notion that CG customers don't have a contract to export. This ignores reality. Contract or not, CG customers are captive exporters. They invest substantial funds in generation systems that typically last for 25 years and the only possible buyer for their exports is RMP. In fact, RMP, DPU, and OCS witnesses all acknowledge that CG exports do offer value in the form of avoided generation capacity. But RMP simply says no: no contract, no capacity value. RMP, the DPU, and the OCS twist themselves in knots to create hypotheticals showing why CG exports cannot be relied upon to defer or avoid capacity costs. What if a customer disconnects their panels from the grid and uses them to charge a car? What if CG customers are permitted to sell to a buyer other than RMP in the future? What about a giant cloud or a broken inverter? What these hypothetical scenarios all have in common, besides being outlandish and unsupported by any evidence, is that they intentionally ignore the aggregate impact of all CG exports. As Dr. Milligan, Dr. Berry, and Dr. Worley testified, it is improper to assess avoided capacity value by looking at a single system. Instead, you must look at the full geographically

distributed population of CG customers to understand their true value. CG systems are spread across the state, and so function like a giant QF, but without the drawback of being located in a single spot. All of the solar panels in Utah will never be covered by a cloud, but the same cannot be said of a single QF. It is precisely these characteristics that Dr. Berry concluded make CG solar both less variable and more resilient than QFs. By taking into account the aggregate nature of CG exports, as Dr. Milligan has done, you arrive at the true avoided generation capacity value for CG exports. The Commission should include this value as calculated by Dr. Milligan.

While Vote Solar supports the OCS's sudden decision to finally quantify avoided generation capacity, the OCS's method of calculating this value is unprincipled. As Mr. Hayet explained, in the few hours between filing revised sur-rebuttal testimony and taking the stand, he decided to attribute a value of less than 50% of what Vote Solar calculated, because he thought a discount would be appropriate. This unscientific methodology, unsupported by data, does not approach the standard of reliability that this Commission requires.

Avoided transmission and distribution capacity costs have been calculated by Dr. Yang and Mr. Volkmann using the same methodology RMP uses to calculate these benefits for its own energy efficiency programs. RMP refuses to credit this value because Mr. Barker conducted a "back of the napkin" calculation as to whether a single cherry-picked project could be deferred because of CG exports. Based on this, RMP concludes that not a single transmission and distribution ("T&D") project would be deferred in its service territory despite Mr. Barker's own admission that you have

to look at each T&D project on an individual basis to determine if the project is deferrable and if so, what its deferral value is — something he failed to do entirely. Dr. Yang and Mr. Volkmann must be credited.

Dr. Milligan calculates avoided energy costs using PacifiCorp's Official Forward Price Curve, which the Company itself admits is the best available forecast of future market prices. Does RMP rely on this? Of course not. Instead, RMP trots out two flawed methods. First, RMP calculates avoided energy costs based on the GRID Model. The trouble with RMP's use of the GRID Model is that RMP manipulated it such that it no longer functions as an economic dispatch model. RMP locks in certain resources, credits other yet to be built resources ahead of CG that is already on the grid, and openly admits to other modifications of GRID's results. On top of this, RMP uses historical EIM prices to shape the model's output; but, as Dr. Milligan testified, this nonsensically results in avoided costs from CG being allocated to less expensive nighttime hours when there is no solar generation. Perhaps recognizing these flaws, RMP retreated to relying on historical EIM prices from the past three years — a methodology that Mr. MacNeil aptly referred to as a "backcast." According to businessdictionary.com, backcasting is "a reverse-forecasting technique which starts with a specific future outcome and then works backwards to the present conditions," which appears to be precisely what RMP has done here. It decided upon the lowest rate it thought it could get away with, and then tried its hardest to make the math work. Moreover, as Dr. Milligan testified, relying on historical prices to generate a future rate is guaranteed to produce an inaccurate estimate of future

avoided energy costs. The Commission should adopt a forward-looking, long-term rate, and in doing so should rely upon a forward-looking methodology.

Dr. Berry calculated a benefit from avoided fuel hedging costs. The proposition is a simple one. RMP has a fuel hedging program. This program costs RMP money. CG exports will reduce the amount of fuel RMP needs to hedge, thus saving RMP money. RMP calculates no benefit here, again refusing to look at the aggregate benefits of all CG exports, improperly focusing on the impact of a single system.

Dr. Berry also calculated avoided carbon compliance costs using RMP's own projections from its 2019 IRP. RMP's response is that such costs are not presently incurred, so should not be factored into any export credit rate. But in setting a long-term rate the Commission should take into account not just present benefits to RMP, but also future ones, and in this case, costs that RMP itself is projecting and planning to incur. Similarly, Dr. Berry calculated avoided environmental costs and avoided health costs due to reduced carbon emissions. Dr. Berry relied upon RMP's own calculation of the social cost of carbon from its 2019 IRP and EPA data to calculate the health benefits. The argument that RMP does not receive a similar credit is misguided. It is RMP that is generating these environmental and health costs to begin with. If RMP were assessed these costs, then Vote Solar agrees that it would be fair to also credit RMP for its carbon reduction efforts. But that counterfactual does nothing to question the benefits that Dr. Berry has calculated, and this Commission should seize the opportunity to credit CG exports for improving the quality of life in Utah.

Finally, Dr. Berry calculated the economic benefits of CG exports in Utah. This includes job benefits, economic growth, and increased tax revenue. Rather than challenge Dr. Berry's calculations, RMP, the OCS and the DPU raise the specter of potential job losses from CG solar; but they did not quantify this potential loss, or even offer a single piece of evidence supporting the idea that CG solar is going to take people's jobs. Moreover, as Dr. Berry pointed out, RMP's strategy is to build its own renewable projects out of state, thus benefitting other states at Utah's expense. She called this "leakage." Dr. Berry's calculation, which as she testified looks only at jobs being brought back to Utah from out of state, should be credited.

RMP, the OCS, and the DPU seek to further diminish the value of CG exports by adjusting the export credit rate downward to account for so-called integration costs. RMP's proposed integration cost is based upon a study that did not even assess the impact of CG solar on the grid. There is no evidence before the Commission that CG exports at current penetration levels — or at any conceivable future penetration level — will impose such costs. RMP could have presented evidence to the Commission of when it anticipates integration costs would be incurred, and an estimated value of such future costs; if that evidence was reliable, Vote Solar would not have raised a challenge. Instead, RMP made the strategic decision to rely upon its one-year rate, neglecting to look forward. In doing so, RMP gave the Commission nothing to rely upon. This is an insufficient basis for the Commission to assess a cost.

So where does the evidence leave us as to the value of CG exports? Vote Solar has presented substantial expert evidence that the true value of CG exports is 24.17

cents per kilowatt hour, and no party has rebutted Vote Solar's findings. In fact, even if the Commission were to disregard the community benefits that RMP argues it will never have to pay, the value of CG exports is 12.14 cents per kilowatt hour, still in excess of current retail rates. What's more, Vote Solar's calculation is conservative as it does not take into account the value of CG's ancillary services, CG's reliability and resiliency, avoided fossil fuel lifecycle costs, market price effects, or the substantial behind the meter benefits of CG, including deferred T&D capacity and reduced demand on the grid during peak periods. Although not quantified here, the Commission is entitled to take these benefits into consideration. Accordingly, the Commission should accept Vote Solar's valuation and institute a new net metering program, which itself will result in a substantial subsidy running from CG customers to non-CG customers, but which is reflective of the principles of proper rate design and provides the proper incentives for CG solar adoption in Utah.

IV. Rate Design

So let's turn to RMP's second front, rate structure. Here, Vote Solar's proposal is simple and easy to understand: institute net metering and set the export credit rate according to the applicable retail rate; or, in the alternative, set a fixed 20-year rate at 24.17 cents per kilowatt hour, and under either scenario use hourly netting and allow customers to keep the credits that they rightfully earn. RMP's proposal is designed to sow uncertainty by instituting annually changing rates, punitive fees, and a time-of-use and netting proposal that will only increase customer confusion,

while driving inefficient energy use. RMP's rate structure is designed to stop CG investment in its tracks.

Instead of net metering or a fixed 20-year rate, RMP proposes, and the DPU and the OCS support, a rate that resets annually, something no other customer is subject to. In fact, the best RMP could do to justify this discrimination against CG customers was to point to certain rate riders that reset annually — but such riders make up only a small portion of a customer's rates, whereas RMP proposes a wholesale CG rate redesign each year. RMP knows that resetting rates annually will make it next to impossible for any future CG customer to estimate benefits of installing solar and thus not likely to invest. The Commission heard this point made countless times during public comment yesterday, Dr. Berry made this point clear throughout her testimony, and Mr. Meredith agrees that "a less certain future could make a customer less likely to purchase an investment." The hypocrisy from RMP is thick, as RMP would never invest its capital without a virtually risk free rate of return, yet it expects everyday CG customers to do so, insisting that customers can retain an expert like the ones who appeared in this proceeding if they want to estimate their rate of return. RMP knows that an uncertain rate will hurt future CG, and that is its intention.

Not only does RMP propose an annually updated rate, but it also wants to forfeit customers' unused credits — the only compensation they receive for the energy they produce and provide to RMP. Why take such an anti-CG position? Supposedly to prevent system "oversizing" — but the record is devoid of any facts evidencing

system oversizing, or that forfeiting credits is a way to control this phantom problem. Why not institute a cap on system size as other states have done? Well, RMP invokes another boogeyman with no evidence — the duplicitous solar salesman who will necessarily max out every customer's solar array. And what does RMP propose to do with these expired credits? Deposit them in the Energy Balancing Account for the benefit of all ratepayers, which Ms. Steward admitted on the first day of this hearing constitutes a subsidy from CG customers to non-CG. Let me repeat that: the party that has alleged cost shifting and subsidy against customer generators for years is now proposing to take credits rightfully earned by customer generators and hand them out to everyone, and this position is baselessly supported by the OCS and the DPU. The Commission should allow customers to keep what they rightfully earn.

And the problems with RMP's proposed rate structure go on. RMP proposes $310 in application and metering fees, which no other customer is subject to — not even those who apply for labor-intensive programs like Cool Keeper and Wattsmart that require an RMP field visit. Mr. Meredith acknowledged that the metering fee will be levied against all new CG customers, whether they require a new meter or not. He also acknowledged that CG customers will be charged when RMP rolls out new meters to all of its customers. So not only is this a punitive fee, but CG customers will be double charged. Mr. Meredith justifies the application fee as a way to discourage non-serious applications, but when asked to quantify how many such applications RMP received, all he could say was that he didn't "have a particular number, but it happened." As Dr. Lee has calculated, given the low export credit rate

RMP proposes, it would take an average residential customer three years of exporting energy to the grid to generate sufficient credits just to offset the $310 entry fee into the CG program. This is no accident.

Finally, RMP proposes a time-of-use rate and no netting. In his initial testimony, Mr. Meredith defended these proposals as providing useful price signals that would encourage customers to shift their exports to times of high system demand. But now Mr. Meredith backtracks, acknowledging that these proposals, when combined with the grossly disproportionate delivery rate, are not intended to send the customer any price signals at all. There is no debate that CG exports and behind the meter CG provide valuable relief to the grid. RMP acknowledges that CG exports and CG production provide benefits. Mr. Meredith acknowledged that increasing exports during periods of high demand is beneficial for the system. Both Mr. Meredith and Mr. MacNeil acknowledged that every kilowatt of exported CG is energy RMP does not have to produce, and thus is a benefit to RMP. Rather than try to incentivize these benefits, however, RMP tries its hardest to avoid them by setting a rate that incentivizes customers to, in Mr. Meredith's words, "consume the power they produce rather than export it to the grid." In fact, Mr. Meredith conceded that for a customer to be able to take full advantage of the signal to avoid exports at all costs, it would require battery storage, an extra cost on top of already expensive solar systems, and a cost that RMP of course will not credit the customer generator for. The Commission simply cannot bless such an inefficient design whose only signal is to inefficiently consume at will.

V. CONCLUSION

In closing, the record contains no evidence of any subsidy or cost shift going from CG to non-CG customers. And the record is clear that the rate structure that RMP proposes, and that the DPU and the OCS support, is punitive, based on no evidence, and designed purely to drive CG out of RMP's territory. Why? To protect RMP from any erosion in its rate base. To keep its customers captive.

On the other hand, the record reflects that at each step Vote Solar has quantified the benefits of CG exports based upon industry accepted methodologies. And at each step RMP, the OCS and the DPU have unsuccessfully tried to drive down or outright deny the clear benefits that CG exports provide. All of the evidence demonstrates that Vote Solar's proposed rate, whether based on net metering or the true value of 24.17 cents per kilowatt hour, is supported by reliable expert calculations, and is designed to incentivize the valuable growth of CG solar and all of its substantial benefits — all at no cost to non-CG customers. Accordingly, Vote Solar respectfully asks the Commission to accept Vote Solar's proposal.

Thank you for your time and consideration of this matter.

VOTE SOLAR
CLOSING ARGUMENT
DEMONSTRATIVES

VOTE SOLAR

The “Non-Firm” Argument Is a Fallacy

- Customer generation systems require substantial investment
- Customer generation systems have a 20-25 year life span
- Unused solar energy is automatically sent to RMP’s grid
- RMP is the only possible buyer of CG exports

Category	Value ¢/kWh 2021 USD (levelized)
Utility-Based Benefits	
Energy	
Avoided Energy	3.55
Avoided Line Losses	0.31
Capacity	
Avoided Generation Capacity	3.43
Avoided Transmission Capacity	1.34
Avoided Distribution Capacity	0.52
Grid Support Services	
Ancillary Services	-
Financial Risk	
Fuel Price Hedge	0.19
Market Price Effect	-
Security Risk	
Reliability and Resilience	-
Environmental	
Carbon (CO2) Compliance Costs	2.80
Utility Costs	
Integration Costs	0.00
Subtotal	12.14

VOTE SOLAR

Category	Value ¢/kWh 2021 USD (levelized)
Community Benefits	
Environmental	
Health Benefits from Reduced Air Pollution)	2.09
Benefits of Reduced Carbon Emissions (CO2)	6.57
Avoided Fossil Fuel Lifecycle Costs	-
Societal	
Local Economic Benefits	3.37
Subtotal	12.03

Total Value of CG Exports	24.17

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Benefits Not Included in Vote Solar's Proposed ECR

- Ancillary Services
- Reliability & Resilience
- Avoided Fossil Fuel Lifecycle Costs
- Market Price Effects
- Behind the Meter Benefits
  - Reduced System Load
  - Deferred/Avoided Transmission & Distribution Capacity

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Vote Solar's Proposed Rate Structure

- Net Metering/20-Year Rate
- Rollover of Credits
- Hourly Netting
- No Metering Fee
- Reasonable Application Fee for Level 2 and 3 Systems
- Single, Easy to Understand Rate

VOTE SOLAR

RMP's Proposed Rate Structure

- 1-Year Rate
- Expiration of Credits
- No Netting
- Discriminatory Metering Fee for All Customers
- Punitive Application Fee for All Customers
- Confusing Time of Use Rate Designed to Prevent Exports

VOTE SOLAR

Unreasonable Application & Metering Fees

RMP seeks to impose $310 in fees ($150 application fee + $160 metering fee)

- Customers will be charged twice for RMP's new meters (once in the general rate case and again through their metering fee)
- RMP will charge a metering fee *even if the customer already has an AMI meter*
- RMP admits reprogramming only costs $20 but will charge $160
- No other Energy Saving Programs require application or metering fees
- RMP has not introduced evidence to show fees are cost-based
- It will take three years of exporting for CG customers to recoup the $310 fee
- Fees will further impair the growth of CG in Utah and the benefits it provides