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BEFORE THE ARIZONA CORPORATION COMMISSION

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TOM FORESE
COMMISSIONER

ANDY TOBIN
COMMISSIONER

IN THE MATTER OF THE APPLICATION OF UNS ELECTRIC, INC. FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF THE PROPERTIES OF UNS ELECTRIC, INC. DEVOTED TO ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA, AND FOR RELATED APPROVALS.	**DOCKET NO. E-04204A-15-0142** **THE ALLIANCE FOR SOLAR CHOICE'S POST-HEARING BRIEF**

POST-HEARING BRIEF

OF THE ALLIANCE FOR SOLAR CHOICE

April 25, 2016

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The Alliance for Solar Choice ("TASC"), through its undersigned counsel, hereby submits its Post-Hearing Brief.

MEMORANDUM OF POINTS AND AUTHORITIES

I. INTRODUCTION

In this docket, UNS Electric, Inc. ("UNSE" or "Company") is proposing unprecedented rate designs that, if approved, would in one brush stroke: (1) wipe away any and all economic benefit derived from distributed generation ("DG") rooftop solar; (2) end the State's successful and cost effective net metering ("NEM") program; (3) subject *all* residential and small commercial customers to volatile and hard to manage mandatory three-part demand rates; and (4) leave customers adopting solar since June 1, 2015, without protection from financially harmful new rate structures.

While the proposed rate design changes may best be characterized as a utility executive's dream, the results will be a nightmare for the ratepayers in UNSE's service territory. Subjecting solar customers to mandatory demand rates or eliminating NEM has already been shown to individually have the power to kill the solar industry as evidenced by the adoption of those tariffs in Salt River Project ("SRP") territory and Nevada, respectively. UNSE now proposes to combine these two anti-solar mechanisms into one rate design within its service territory in a clear effort to bolster its own interests and eliminate perceived competition from the rooftop solar industry thereby depriving its ratepayers of the ability to utilize solar to save money on electricity.

It is axiomatic that the Company must demonstrate that any proposed rate increase is justified[1] and just and reasonable.[2] Any new rates must be reasonably supported by the evidence, and may not be arbitrary or unlawful.[3] Changes in rates must be supported by cost of service studies amongst other information.[4] Additionally, any changes to net metering tariffs that would "increase a [NEM] Customer's costs beyond those of other customers with similar load characteristics or customers in the same rate class" *must* be non-discriminatory and "fully supported with cost of service studies and

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[1] A.R.S. § 40-250(A).
[2] *Id.* at § 40-250(C); *see also* Ariz. Const. art. XV, § 3.
[3] *Tucson Elec. Power Co. v. Ariz. Corp. Comm'n*, 132 Ariz. 240, 243, 645 P.2d 231, 234 (1982).
[4] A.A.C. R14-2-103.

benefit/cost analyses."[5]

UNSE has fallen far short of its burden to present the necessary cost of service studies, cost-benefit analysis, and additional requisite support to justify adoption of several parts of its proposed rate design. These studies and support are required, not optional. The purpose of these analyses are to ensure that just and reasonable rates are adopted in a non-discriminatory and non-arbitrary manner. As a result of UNSE's legal failures and obvious policy deficiencies, its proposed mandatory RES-01 Demand three-part rate mechanism for solar and non-solar customers, its proposed elimination of retail rate net metering, and its proposal to treat solar customers as a separate rate class must all be rejected.

II. SUMMARY OF ARGUMENT AND PROPOSED FINDINGS

In each of the following Sections, the various aspects of UNSE's proposal will be discussed outlining the policy and legal reasons that each must be rejected and the Commission should find based on the record:

A. NEM must remain at a retail rate.

The only comprehensive and data-driven cost-benefit analysis submitted in this docket supports maintaining NEM at the retail rate. UNSE failed to present evidence adequate to prove that the NEM is not a cost effective program as it is currently set forth in Commission Rules. In addition, the NEM Rules, unlike other provisions of the Commission's Rules, do not permit a waiver, meaning that UNSE's request should be brought in a rulemaking, not in this venue where a waiver cannot be granted.

The appropriate and proper venue for adopting a methodology for valuing DG is in the currently pending Value of Solar docket, not in this proceeding. Further, by deferring to the Value of Solar docket, the Commission would avoid piecemeal solutions and permit the Commission to develop a comprehensive declaration concerning the proper method of measuring the cost effectiveness of the NEM program.

Finally, the Company's Renewable Credit Rate ("RCR") as well as any variation from the full retail NEM rate established in the Rules must be rejected. The RCR creates substantial uncertainty and subjects DG customers to unfair terms. It also inappropriately compares DG solar rates to rates

[5] *See* A.A.C. R14-2-2305.

for utility-scale solar. This docket is devoid of any credible evidence that supports eliminating NEM and replacing it with a program that undercompensates DG customers for their exported energy.

B. Mandatory demand charges are not in the public interest.

The proposed mandatory demand charges, are unprecedented, volatile, and confusing and must be rejected. *The evidence suggests that all* low-usage customers, including DG and non-DG residential customers and small-commercial customers, are likely to see a significant bill increase if the proposal is adopted.

These rates have never been adopted by any other regulated utility in the country. The rates will require all customers to avoid even a single mistake over hundreds of hours of on-peak usage per month and engage in extreme diligence to avoid wild fluctuations in their bills. In its haste to propose these mandatory demand charges, the Company developed no plans to educate its customers as to how to adapt to these rates. Such a proposal is completely unjust, and fails to meet the burden of proof for adoption. Instead, the Company seeks to unfairly treat all customers as guinea pigs to test out the impacts these unprecedented rates will have upon them. Worse yet, the demand charges are unlikely to redress any of the Company's real problems.

Finally, the Company cannot support application of demand charges solely to DG customers. Not only do DG customers not possess any greater ability to adjust to demand charges, but UNSE failed to provide the requisite studies or analysis needed to support the imposition of discriminatory rate treatment of DG and non-DG customers.

C. UNSE's Motive is to decimate the solar industry.

The evidence demonstrates that the Company perceives DG as a risk to its revenues and business. Not only is the Company inaccurately claiming that DG is the root of its problems, but also testified that it would prefer to monopolize the solar industry through increased adoption of utility-scale solar at the expense of DG.

UNSE admits that less than 95% of the low use bills it reported being concerned about are generated by non-DG customers, meaning DG customers are a miniscule contributor to problems UNSE suffers due to low-usage or decline in sales. Thus, any discriminatory rate proposals specifically impacting DG are unsupportable and are offered only due to the Company's motive to stamp out its

perceived competition.

D. Grandfathering DG customers that purchased up through the date of the decision in this docket is essential.

Grandfathering *all* DG customers from the date of this docket is essential. To do otherwise would be to depart from the Commission's clear and consistent rejection of retroactive application. The Commission has shown no indication of abandoning its support of grandfathering. Commissioner Little is the most recent staunch advocate for grandfathering.

Indeed, given the stark nature of the proposed rate changes in this docket, retroactive application would be especially inappropriate. The State has a long history of encouraging adoption of DG systems. To now impose onerous new rates on DG customers would be to essentially punish them for their investments, investments encouraged and promoted by the State.

Accordingly any retroactive application, even to customers that invested in DG systems on or after June 1, 2015, would be manifestly unfair and a departure from Commission precedent and current policy.

E. RUCO's alternatives are unavailing.

RUCO has also furnished several alternative proposals all of which lead to one ultimate outcome, the elimination of net metering. These alternatives are flawed in the fact that they restrict DG customers' ability to export excess generation to the grid, seek to impose an inappropriate buy-all/sell-all tariff, and fails to properly value the benefits of DG solar.

In sum, RUCO's alternatives cannot be adopted for many of the same reasons as the Company's three-part rates with mandatory demand charges. The alternatives are discriminatory, not supported by the mandated studies and analysis, and does not address the actual problems faced by UNSE, namely, those caused by vacant homes and seasonal customers.

F. Staff's proposal should not be adopted.

Staff's last minute alternative rate proposal also fails to meet the requisite burden for adoption. Staff simply seeks to reduce net metering rates to a flat 7 cents. Absolutely no studies or analysis have been presented to justify such a reduction. Instead, this rate is simply an arbitrarily selected "midpoint" between short term avoided DG and the current retail rate. Arbitrary rates cannot be approved and

therefore, this proposal is unable to be adopted.

G. Better alternatives exist.

Initially, rate designs with options (such as opt-in or opt-out rates) are always preferable to a single mandatory rate. Providing customers with options has long been valued in rate-design. Options provide customers the tools needed to lower their energy bills and enjoy the benefits of their investments in various energy reducing technologies. Additionally, the principle of gradualism is recognized industry-wide as a principle to be utilized in any rate design. If the unprecedented three-part rate design with mandatory demand charges were adopted, such rates would represent a quantum leap from the prior two-part rate. Instead, rates options should be adopted to honor the principle of gradualism.

What should be explored is adoption of a two-part rate with optional time of use rates and a minimum bill. This would comport with the principles of gradualism, grant UNSE customers options, and represent the most effective means of recouping costs while maintaining a billing structure that is simple, understandable and fair.

H. The Proposed Lost Fixed Cost Revenue mechanism ("LFCR") should be denied as unconstitutional.

The LFCR cannot be utilized to recover generation costs as UNSE proposes to do here. But more important is the fact that the constitutionality of mechanisms such as the LFCR have been questioned in recent jurisprudence. A pending case before the Arizona Supreme Court is considering the constitutionality of an alternative ratemaking mechanism that is similar to the LFCR after the Arizona Court of Appeals struck the mechanism down. Due to the questionable constitutionality of the LFCR, the Commission should refrain from adopting it.

I. The Company's requested return on equity is not supported.

Since UNSE's last rate case, the Company has seen significant improvement to its financial position. The Company has attempted to ignore these improvements, but such changes must be accounted for when setting its return on equity.

Ultimately, the return on equity ("ROE") should be set at 8.75%. The Company would still see a substantial return, and this ROE is the most-supported by evidence. All other proposed ROEs are

deficient, lacks sufficient supporting data and otherwise unreliable.

III. NET METERING MUST REMAIN AT THE RETAIL RATE

A. The *Only* Cost-Benefit Analysis Provided Fully Supports the Retail Rate as the Right Rate for NEM.

TASC witness Mr. Fulmer has provided sufficient evidence in the record that the value of solar DG is analogous to the current UNSE retail rates and that NEM is a cost effective program.[6] No other Intervenor has provided cost-benefit evidence to the contrary.

1. TASC's analysis was comprehensive.

Mr. Fulmer was comprehensive in his analysis and is the *only* witness to provide a full analysis of the cost and benefits of DG in this docket. Mr. Fulmer's conservative calculations were based on UNSE's own 2014 IRP.[7] Mr. Fulmer calculated the full value of DG using the IRP while assuming a south-facing PV array and alternatively a west-facing PV array.

Mr. Fulmer's full analysis revealed a value of solar as follows:[8]

Categories Set Forth by Commissioner Little	**UNSE IRP Analysis**	**UNSE IRP Analysis with West facing PV arrays**
Avoided Energy Costs	$50.44	$50.44
Generation Capacity Savings	$40.16	$77.62
Transmission Capacity Savings	$2.78	$5.15
Distribution Capacity Savings,	$0.00	$2.00
Environmental Benefits – avoided Greenhouse gases	$6.76	$6.76
Total Avoided Costs	$100.13	$141.97
Incremental integration Costs	($4.55)	($2.00)
With integration costs	$95.58	$139.97
Avoided environmental externalities	$40.28	$40.28
With Emissions Costs	**$135.86**	**$180.25**

[6] Fulmer Surrebuttal Test., TASC Ex. 21, at 30-47.
[7] *Id.* at 33:10.
[8] *See* Fulmer Surrebuttal Test., TASC, Ex. 21, at 34, Table 2.

As clearly shown, under an accurate valuation of DG, the benefits of DG are on the order of 10-14 cents per kWh. Accounting for DG integration costs and the benefits of avoided air emissions, the value of solar is approximately 13.6 – 18 cents per kWh. This is the only evidence derived from a cost benefit analysis in this case on the value of DG solar.

2. UNSE's analysis was incomplete and unpersuasive.

In contrast to TASC's study, UNSE witness Dr. Overcast addresses only the first two categories: utility distributed solar costs and energy generation savings.[9] In addition, Dr. Overcast's approach is flawed for several reasons: (1) it does not examine *any* actual usage data from UNSE's NEM customers;[10] (2) it attempts to extrapolate specific findings about DG exports from utility-scale solar data that contains no information about consumption patterns, resulting in significant errors; (3) it is limited to short-term load reduction impacts; (4) it focuses only on load reductions due to DG despite evidence that DG-related load reductions are only a fraction of UNSE's load concerns; and (5) that load reductions from seasonal and vacant homes and energy efficiency reductions far eclipse the reductions from DG.[11]

Notwithstanding, Dr. Overcast assigns, without any UNSE DG specific cost of service study or review of UNSE's latest Integrated Resource Plan ("IRP"), a zero figure for the other five value of DG factors.[12] The value of DG cannot be evaluated on such a basis and must include an accurate evaluation of the costs and benefits of the DG investment as the Commission has already recognized.[13]

B. The NEM Rules Do Not Legally Permit a Waiver.

Unlike other provisions of the Commission's Rules, the NEM Rules do not include a provision permitting a waiver. Other Sections, like the Commission's Renewable Energy Standard and Tariff and Electric Energy Efficiency Standards, include specific subparts permitting the granting of a waiver.[14] The NEM Rules do not include such a provision. As a result, the Commission cannot waive the Rules. The only legal way to consider the RCR or any other proxy rate for exported power has to

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[9] Overcast Rebuttal Test., UNSE Ex. 34, at 19:13-14.
[10] Overcast Tr. Vol. VII, at 1443:10-15.
[11] *See* Kobor Surrebuttal Test., Vote Solar Ex. 7, at 10-21.
[12] Overcast Tr. Vol. VII, at 1443:10-15, 1444 – 1447, 1493.
[13] *See* Commission Docket No. 14-0023, Comm'r Little Letter dated December 22, 2015, at 1-2.
[14] *See* A.A.C. R14-2-1816 & R14-2-2419, respectively.

be through a Commission Rulemaking process as there is no mechanism in the Rules today to permit any other treatment of exported power. This applies equally to other proposals to set the NEM rate at something other than the retail rate called out in the Rules.

From the very beginning, the NEM Rules have required that solar customers be charged only on monthly net purchases, stated otherwise, they must receive a full retail credit for exported power from DG solar.[15] At the same time, wholesale prices for utility scale solar power have always been different than the retail price of power.[16] UNSE would have the Commission believe the fact that wholesale and retail prices are different is some sort of new development that merits a waiver of the Commission's Rules. On the contrary, the difference between wholesale and retail prices is plainly obvious and has been in electric markets since utilities charged their first customers. A comparison of wholesale and retail prices in this fashion lacks recognition of the extensive transmission and distribution system which ratepayers pay to support. This is nothing new and certainly cannot be justification for granting a waiver even if it were legal to grant one.

C. The Value of Solar Docket is the Only Appropriate Venue to Determine Methodology for Accounting for Cost and Benefits of DG and Any Changes to NEM.

Currently, the Commission is engaged in the "Value of Solar" docket.[17] That docket is expressly designed to create a methodology to be implemented to value the DG exports. This methodology is then to be applied in rate cases. UNSE is asking that the Commission ignore that ongoing process and authorize an end to NEM without proper supporting analysis.

The Commission should not engage in the piecemeal valuations of DG and changes to NEM rates requested by UNSE here. The good news is that there is no urgent need to do this now and the Commission can easily implement the methodology in UNSE's next rate case. In fact, while UNSE asserted that this change was needed because of the low use nature of DG customers, the evidence presented showed that approximately 95% of its low usage customers were *not* DG customers.[18] With

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[15] A.A.C. R14-2-1801(M); R14-2-2302.
[16] A.A.C. R14-2-2306(F); Miessner Tr. Vol. XIV, at 3315.
[17] *See* Commission Docket No. 14-0023.
[18] Kobor Direct Test., Vote Solar Ex. 6, at 13.

standards to be set in the near-future as a result of true engagement by all stakeholders and a deep review of all substantive issues, the Commission should refrain from adopting any DG/NEM specific rate changes proposed by the Company in this docket.

D. UNSE's Renewable Credit Rate Must be Rejected.

UNSE proposes that retail rate NEM be replaced with a new and unpredictable program that utilizes the RCR as a substitute in the likely event that the mandatory three-part rate is rejected by the Commission.[19] The purpose of the NEM rules is to develop and preserve DG in the service territories regulated by the Commission. The Commission has manifested its support for developing customer-sited renewable energy by promulgating these rules along with the Renewable Energy Standard. The central tenet of the Net Metering rules is R14-2-2306 which states that, "[o]n a monthly basis, the Net Metering Customer shall be billed or credited based upon the rates applicable under the Customer's currently effective standard rate schedule and any appropriate rider schedules." The intent of the Commission to enact this rule is loud and clear; net metering facilities are to be credited at the full retail rate that is charged to all residential customers. For numerous reasons UNSE's RCR proposal must be rejected.

1. The RCR Violates Commission Rules.

As set forth above, the RCR plainly violates existing NEM Rules. A.A.C. R14-2-1801 and -2302 define net metering to give NEM customers the right to a one-for-one kilowatt-hour offset for exported generation. Further, the NEM rules also already define what power is credited at the retail rate and what is paid out at avoided costs (end of year reimbursement). The Rules are clear, and the RCR is not legally permissible.

2. The RCR Undercompensates for the Exported Power.

As shown above in Section III(A)(1), the value of solar is 10-14 cents per kWh – double the RCR. This evidence was the only complete benefit-cost analysis submitted on this point and demonstrates unequivocally that NEM is a cost effective program at the retail rate. As a result, compensation below the retail rate would undercompensate ratepayers for their valuable exported power.

[19] Tilghman Direct Test., UNSE Ex. 25, at 7:1 – 8:9.

3. The RCR would Create Substantial Uncertainty Subjecting Ratepayers to Terms to which no Utility Scale Developer would Agree.

The RCR deprives the solar customer of certainty. The Company has proposed to base the RCR on the single most recent contract between a third-party utility and a third-party project developer.[20] UNSE also proposes to periodically update the rate, possibly every year.[21] How and when that rate will be updated are complex questions that neither the Company nor its ratepayers can answer. Utility power purchase agreements ("PPAs") from utility scale suppliers are entered into for long term fixed prices[22] yet UNSE seeks to subject its own customers to constantly adjusting prices that no renewable project developer would ever agree to.

UNSE has indicated that even the Company itself cannot predict future RCR adjustments or levels.[23] By setting the RCR based on a single PPA, UNSE has also made the rate subject to large annual fluctuations. This can be seen through examination of utility-scale solar prices from recent Tucson Electric Power PPAs. The PPA used as the basis for UNSE's proposal has a rate of 5.84 cents/kWh, while another contract signed by TEP has a rate as high as 10.875/kWh.[24] Further, the UNSE PPA at issue is the second phase of an already commenced project and it took Staff investigation – something a regular DG customer could not do – to determine if that phase of the project included interconnection costs and distribution costs in the PPA calculations.

Utilities have every incentive to game the system to create uncertainty, discourage the DG customer and disincentive DG, while increasing their own utility scale projects and having the ratepayers pay for them. RCR fluctuations would also subject NEM customers to significant uncertainty and volatility, making investments difficult and expensive. Once a DG customer was locked into a purchase or lease agreement, a new RCR could make the investment untenable and a DG customer may have to breach their respective agreement (remove the solar) to stop the financial harm caused by the new compensation rate. No rational investor would implement DG in such an

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[20] Tilghman Direct Test., UNSE Ex. 25, at 7:14 -20.
[21] *Id.* at 8:4 – 9.
[22] *Tilghman* Tr. Vol VI, at 1286:5 – 1287:18.
[23] *Id.*at 1279:4 -1282:17.
[24] *Id.* at 1278:19 – 25.

environment.

4. Utility Scale Solar is Not the Same as DG Solar and Should Not Set the Price of DG Solar.

Comparing solar DG and utility scale solar is an "apples to oranges" comparison and UNSE's suggested parallels must be rejected for several reasons.

a) The Market for Utility Scale and DG are Significantly Different

A utility scale developer can choose to develop projects in various locations and can bid into several utility requests for proposals and even sell the power to any interconnecting utility.[25] In contrast, the DG customer can only export power to his utility and only has one possible buyer for that power – UNSE.[26] UNSE has a monopoly and there is no market to price DG exports.[27] Thus, the only fair rate to use for NEM is the full value the utilities receive from the DG customer.

b) DG Solar has Added Value Not Found in Utility Scale Solar

When a generation facility is located behind a residential customer's meter, it has added benefits that a utility scale solar facility simply cannot provide. These added benefits include: avoided energy, avoided generation capacity, avoided transmission costs, and avoided distribution costs.[28] In addition, solar DG offers the same emissions savings as central solar PV, "but without the potential habitat, visual and cultural impacts associated with utility scale solar plants.[29] The DG system also avoids line losses when compared to the utility generation that must travel across the service territory on transmission and/or distribution lines. The geographic diversity of dispersed DG provides added reliability and offsets issues of intermittency that utility scale solar cannot mitigate.[30] Also, DG solar, as a whole, enables an electric utility to defer or avoid the need to invest in capital projects for plant while utility scale solar, when owned by the utility, is itself an investment in plant that must be rate based and paid back with a rate of return thereby increasing rates for all customers.[31]

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[25] Kobor Tr. Vol X at 2122:6-12.
[26] *Id.* at 2122:13 – 2123:5.
[27] *Id.*
[28] Fulmer Surrebuttal Test., Ex. 21, at 31:18 – 32:19.
[29] *Id.* at 4:14 – 16.
[30] *Id.* at 21:3 – 22:13.
[31] *Id.* at 37:9 – 38:12.

5. The RCR and other Proxy Rates Create Income Tax Uncertainties for Customers.

The evidence in this case indicates that there are real questions as to the possibility that compensation at levels other than the full retail NEM will cause utility customers with DG to incur income tax liability.[32] The fear is that the payment or non-NEM credit for the export would result in the customer earning taxable income.

IV. MANDATORY DEMAND CHARGES ARE NOT IN THE PUBLIC INTEREST

An energy efficiency expert, Jeffrey Schlegel testified that, "The three-part rate design that's before us in this case is multifaceted and complex."[33] Unfortunately, 'multifaceted' and 'complex' are not words we want to invoke when discussing residential rate design. Several witnesses testified that low-usage customers would experience significant bill increases as a result of mandatory demand charges. Vote Solar's witness Briana Kobor analyzed the proposed three-part rate design and determined that "for residential customers you see that 66 percent of customers will have a bill increase, while 34 percent will have a bill decrease.[34] RUCO's witness, Lon Huber, readily agreed during his testimony, stating that "the average increase to the bills of lower than average users would be about 21 percent."[35]

The utilities proved to be quite cavalier about the potential catastrophic consequences that could occur if residential ratepayers suffer from rate shock because of three-part rate design. The exchange between APS counsel and Western Resource Advocate's witness Wilson was especially revealing as to the utilities' attitudes:

APS Attorney: "I am just going to ask you one thing. I am not saying this might be their ideal thing, but couldn't they go to a mall or a movie or something like that for awhile?

Wilson: "Every day? 30 days?"

APS Attorney: "A lot of mall walkers."

Wilson: "For five hours? I think, I just think it is very difficult for, especially for lower income

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[32] *See* Fulmer Tr. XIV, at 3375:13 - 3376:10, *see also* Fulmer Direct Test., Ex 20, 6:16-20.
[33] *See* Schlegel Tr. Vol IX, at 1951:8-17.
[34] Kobor Tr. Vol. X, at 2131:2-5.
[35] Huber Tr. Vol. X, at 2287:16-19.

customers to do all that stuff."[36]

Despite APS' attorney's shopping spree fantasy, the low-income customers, or any customers for that matter, should not be expected to leave the comfort of their home and wander around air conditioned shopping plazas because of inherently harsh demand charges.

The evidence showed that the proposed mandatory demand charges are unprecedented, volatile, punitive, and confusing for small commercial and residential ratepayers, including those with solar. In addition to these numerous problems, UNSE's proposal was rushed and not well thought out, appearing for the first time in its rebuttal testimony. As set forth below, UNSE's proposal for mandatory residential demand charges is a bad idea that is being compounded by poorly thought out implementation.

A. No Regulated Utility in the Country has Mandatory Residential Demand Charges.

UNSE is asking the Corporation Commission to be the first Commission in the country to mandate demand charges on all residential customers. The evidence showed that no other regulated utility has imposed mandatory demand charges on its residential customers. The only example that UNSE could find a small cooperative that had implemented residential demand charges in only the last couple months. Certainly the residents and families in UNSE's serviced territory deserve better than to be made into an experiment.

B. UNSE's Residential Customers Deserve Better.

The Company has essentially admitted it has not done enough to understand the impact of these rates. Put simply, UNSE's residential and small commercial customers deserve better. Indeed, the Company tacitly acknowledges as much when it asks to keep the rate case open for 18-months after adoption of the new rates just so it can actually assess how the rates will be implemented and the impacts they have on customers. The Company's own witnesses admit as much in saying that this unprecedented post-adoption 18-month period would be used to "reduce the demand charges appropriately" if it leads to an over-collection, "monitoring how the rates are working" to implement

[36] *See* Wilson Tr. Vol XI, at 2494:18-25, 2495:1-2.

changes as needed, and only at the end of this period would UNSE "know whether or not the revenues collected are more or less than what was anticipated."[37]

These are the exact types of analyses that must be conducted prior to adopting a new rate in order to shield the customers from unreasonable, unjust or unintended consequences. These are the types of issues that can be resolved with pilot programs and further study. Remember, UNSE is a Company that has failed to roll out its time of use rate with any success whatsoever. [[38] To permit UNSE to implement these demand charges, that themselves include a time of use element that UNSE has already failed, over the course of a few years, to educate its customers about, would be an abdication of the Commission's duty to adopt just and reasonable rates in a non-arbitrary fashion.[39]

C. The Company's Proposal is Incomplete.

The Company's witness, Dr. Edwin Overcast, stated, "the three-part rate being proposed now in this case is a long way from being perfect but it is a step in the right direction." Frankly, the inconsistency and lack of cohesion among the Company's witnesses is troubling because there is no assurance that they are on the same page in terms of what the new rate design should look like. Dr. Overcast expanded up on his comments to state that, "You know, there is lots of pieces to this, and you are not going to get there in one piece. In fact, if you read my paper, I specifically recommend that you don't get there in one step."

What is alarming about that statement is that rate cases are not theoretical case studies. We cannot afford to get it wrong and consider this docket a 'do-over' for the next rate case. A decision to implement a poorly designed demand charge will have real-world consequences that impact people's lives and pocketbooks.

Initially UNSE's entire Application was prepared to support the implementation of a slightly revised two-part rate design. It was only after Staff proposed a three-part rate design with mandatory demand charges that UNSE advocated for such an approach. As a result, it is not surprising that its Application is lacking in sufficient information to support a radical rate design proposal that was only

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[37] Dukes Tr. Vol. IX, at 1884:24 – 1886:8; Jones Tr. Vol. IX, at 2084:6-18; *see also* Solganick Tr. Vol. XII, at 2716 – 2717.

[38] Smith Tr. Vol III, at 642:10-17.

[39] *See generally* Fulmer Tr. Vol XIV, at 3360.

made for the first time in rebuttal testimony containing mandatory tariffs for which optional tariffs do not even exist. Further, because UNSE currently has zero residential customers on demand rates, it similarly should not be surprising that UNSE could not answer questions regarding the expected impact of its proposal.

Indeed, the entire docket is devoid of significant or substantial analyses. No studies have been done to determine amount of peak demand expected to be shifted under demand rates.[40] No analysis was prepared comparing impacts of potential time of use ("TOU") rates to demand rates in UNSE territory.[41] Further, the Company has not shown proof of how the proposed rate would impact CARES customers nor customers in multi-family dwellings. A proof of revenue analysis has only ever been provided for the 2-part rate, and although UNSE claims to have "calculations" concerning the impact of the newly-proposed rate mechanisms on revenue, such calculations were not provided at the time of the hearing.

The implementation of the proposed demand charges is being rushed, with very little knowledge of how and to what extent the demand rates will impact bills, and virtually no identification of the unintended consequences that will ensue.[42] The Company acknowledged that there is a likelihood of unintended consequences resulting from the adoption of demand charges.[43] UNSE's customers do not deserve to act as guinea pigs for this type of rate experimentation, especially when the results will almost certainly constitute marked increases in bills.

D. The Company has Not Proven Itself Able to Educate its Customers.

Even more troubling, there was no proof the Company will be able to appropriately educate its customers as to how to react and adjust to this unprecedented transition in rates.[44] As a result, it seems that the Company has rushed into a proposal without any sort of game plan and we believe the transition for the customers will be very difficult.[45] The Company needs to assuage well-founded concerns because a well-developed educational plan is the only means that "will empower customers

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[40] Smith Tr. Vol III, at 645:9-13.
[41] *Id.* at 647: 24 – 648:17.
[42] Huber Tr. Vol. X, at 2371:4 – 2372:8.
[43] Jones Tr. Vol XI, at 2546:4-13.
[44] Solganick Tr. Vol. XII, at 2828; *see also* Broderick Tr. Vol XV, at 3703.
[45] Hutchens Tr. Vol II, 423:5-12.

to significantly alter their demand in response to their demand charge."[46]

The company's Director of Customer Service and Programs, Denise Smith, readily admitted that the company does not have a firm plan in place to educate residential customers about three-part rate design and demand charges. She could not identify costs for DSM measures including education, outreach, home energy calculator, smart thermostat, smart plugs, and demand controllers.[47] Ms. Smith also described the current barebones rates education effort by the company. To promote its current TOU rate, she claimed customers can see "it's on the web, and there are some brochures, and if a customer requested or asked about it, the [customer service representative] may talk about it at the call center."[48] When asked if the company has provided bill inserts, Smith answered, "I don't recall."[49] When asked if the Company had paid for advertising or promotions, Smith replied, "not that I am aware of."[50]

For comparison, UNSE implemented a demand ratchet charge applying to its large general service customers in its last rate case. UNSE witness Craig Jones testified that in order to implement that rate, UNSE analyzed the impact on each and every customer subject to the proposed demand charge, corresponded with the subject customers about the impact pre-adoption, met individually with customers who would experience a 25% increase under the new rate, held multiple meetings on this issue, sent out employees to work with the customers on new equipment and mitigation measures and placed a one-year temporary hold on demand charges to allow customers to "adapt."[51] These are the types of outreach and analysis that would be expected by a utility prior to implementing new, game-changing rates, especially when the rates would be unique in the entire nation.

Yet UNSE has failed to perform any similar functions, simply seeking to make monumental changes as quickly as possible. This leaves all its residential and small commercial customers, without any protection or ability to know how the proposed rates will impact them. The reason that analysis, studies, pilot programs, options, and customer education are required or encouraged is to ensure that

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[46] Kobor Tr. Vol. X, at 2134:25 – 2136:2.
[47] Smith Tr. Vol III, at 641:13 – 642:9.
[48] *Id.* at 642:10-17.
[49] *Id.* at 642:19.
[50] *Id.* at 642:21.
[51] Jones Tr. Vol. IX, at 2043:24 – 2045:21.

the rates are just and reasonable *before* they are adopted and implemented. The Commission should not allow UNSE to adopt these confusing mandatory demand charges after proving itself unprepared and unadapt at educating its customers.

E. Demand Charges are Volatile and Burdensome Rates.

1. Demand charges subject customers to wild bill fluctuations.

The nature of demand charges makes them volatile, subjecting customers to the higher likelihood of high monthly bills than traditional residential rates or TOU rates. The volatility stems from the fact that the demand charges set a large part of a customer's bill based on a short period of time. This means that a customer's entire bill could be based upon a single aberration, a moment that is not indicative of the efforts the customer took to conserve all month. The customer must be diligent in every peak period over the course of an entire month, and any deviation for any hour within the month could lead to a high bill.[52]

In sum, to avoid increased charges under the demand rate, customer must have the ability and knowledge to not only avoid simultaneous use of appliances but also how and when to use such appliances on a monthly basis.[53]

Customers will not be provided with access to real-time information[54] regarding consumption data and will struggle mightily to assess their load and demand behavior. It would be foolhardy to expect residential customers to behave like commercial customers, day in day out, each month, throughout the year, in different seasons in order to minimize their exposure to demand charges. Residential customers, as opposed to commercial businesses, are composed of various households and family groups that prepare meals, use water, enjoy entertainment and utilize appliances at irregular times and for irregular intervals. The introduction of rates sensitive to the whims of residential behavior would only risk dramatically increasing monthly bills. As staff witness Solganick pointed out, even informal pot-luck dinners would not be immune from the demand charge impacts when he testified, "we're just trying to show people that sometimes there are costs to that lifestyle choice."[55]

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[52] *See generally*, Wilson Tr. Vol XI, at 2494 - 2495, 2509; Jones Tr. Vol XI, at 2686 – 87.
[53] Faruqui Tr. Vol XIII, at 3072.
[54] Smith Tr. Vol III, at 644:6–13.
[55] Solganick Tr. Vol XII, at 2849; Miessner Tr. Vol XIV, at 3291.

The implementation of the proposed demand charges are being rushed, with very little knowledge of how and to what extent the demand rates will impact bills, and virtually no identification of the unintended consequences that will ensue.[56] The Company acknowledged that there is a likelihood of unintended consequences resulting from the adoption of demand charges.[57] UNSE's customers do not deserve to act as guinea pigs for this type of rate experimentation, especially when the results will almost certainly constitute marked increases in bills.

2. Demand Charges are Burdensome.

Residential customers, unlike commercial facilities that have a staff trained to monitor and minimize energy costs, are on their own in dealing with demand charges. Unfortunately, the demand charges require an extreme level of diligence to avoid the above described volatile swings in bills.

The Company conceded that one hour with greater-than-normal demand could drastically increase the customer's bill for that month.[58] The peak periods for summer months are proposed to be from 2:00-8:00 PM (a total of six hours a day) and in the winter, from 5:00 to 9:00 AM and 5:00 to 9:00 PM (a total of eight hours a day) excluding weekends and holidays.[59] The Company claims that simple appliance management will allow its customers to control demand during peak hours.[60] This design will impose an unconscionable burden of ratepayers every month. The following Table demonstrates the monthly on peak hours that all solar and non-solar residential and small commercial customers would need to perfectly manage to avoid volatile charges in 2016:

	Non-Holiday Weekdays	**On Peak Hours**
January	**19**	**152**
February	**20**	**160**
March	**23**	**184**
April	**21**	**168**
May	**21**	**126**
June	**22**	**132**
July	**20**	**120**
August	**23**	**138**
September	**21**	**168**
October	**20**	**160**
November	**20**	**160**
December	**21**	**168**

[56] Huber Tr. Vol. X, at 2371:4 – 2372:8.
[57] Jones Tr. Vol XI, at 2546:4-13.
[58] Overcast Tr. Vol. VII, at 1466:2-12.
[59] Jones Direct Test., UNSE Ex. 31, at CAJ-3.
[60] Overcast Tr. Vol. VII, at 1466:21 – 1467:4.

This chart indicates that residential customers will need to manage demand between 120-138 hours per month in the summer and approximately 152 – 184 hours per month in the winter. It is unfair and unjust to adopt a rate design that could see a residential customer's diligent electricity usage wiped out by one hour that would constitute just .005% (one-half of one-percent) of the total on peak hours for an entire month. Accordingly, these rates can hardly be said to be "just and reasonable" for residential customers.

F. Demand Charges are Particularly Difficult for Solar Customers to Manage.

The Company recognized that it will be particularly difficult for non-grandfathered solar customers to respond to demand charges and control their bills as they simply lack the ability to do so.[61] Unisource's CEO David Hutchens highlighted that solar customers have a particular difficulty in handling demand charges because of weather issues. When asked, if it would be more difficult for solar customers to estimate what their future bill would look like if they were subject to demand charges, Hutchens replied, "I would say yes, because they can't predict the weather."[62]

UNSE's witness Craig Jones alluded to a plan for a "temporary relief mechanism to limit demand charge impacts for low load factor customers," a desirable safeguard against unintended consequences because "there was some concern… the demand charge would affect them potentially disproportionately to the overall class as a whole."[63] Further, UNSE witness Denise Smith acknowledged the "variability" issue as a strong reason why solar customers would have specific issues reacting to demand charges.[64]

The evidence makes it clear that the problems of adapting to and dealing with demand charges are significant for all customers but even more so for solar customers.

G. Demand Charges do not even solve UNSE's Real Problems.

While the Company attempted to point a spotlight at solar rooftop customers, there are significant several symptoms of UNSE's financial illness; the loss of large commercial customers, the multitude of "snowbirds" in the service territory, the number of vacant homes, and the lackluster

[61] Hutchens Tr. Vol. II, at 361:4-14.
[62] *Id.*
[63] Jones Tr. Vol. IX, at 2043:2-23.
[64] Smith Tr. Vol. III, at 663:7-21; Kobor Tr. Vol. X, at 2118:23 – 2119:9.

performance of the service territory's economy. In his Direct Testimony, Dallas Dukes outlined the myriad of difficulties that the company is contending with.

- "Nearly one out of every four residential (Residential RES-01) bills issued by UNS Electric during the test year - 205,129 to be precise - reflected usage of 300 kWh or less"
  - "these bills probably were generated by vacant homes, seasonal customers and DG customers"
- "UNS Electric experienced a reduction in energy sales and use-per-customer ("UPC") for the residential and small commercial rate classes"
  - "Since 2007 UNS Electric has seen a decline of 8% in its UPC in just the residential customer class alone"
  - "several factors contributing to lower consumption, including: adoption of energy efficiency measures; more energy efficient building codes and appliance standards; increased use of distributed generation; challenging economic conditions; and other conservation efforts by UNS Electric's customers."[65]

In his hearing testimony, Craig Jones readily agreed that "there are more vacant homes and snowbirds than distributed generation owners right now."[66] He continued by saying, "Specifically, out of the total customer base, there are about 15,000 [bills to] non-net metering customers who show zero bills. There's about 8,000 net metering customer [bills] [that] show zero bills.[67]

The most significant impediment to UNSE's revenue recovery was the loss of their largest retail customer, a mining operator in Mohave County.[68] In fact, the witness Briana Kobor testified that when she analyzed UNSE's load reduction, "94 percent of the overall decline in retail sales was due to factors other than DG, and that 95 percent of the customers that UNSE identified as customers who are not paying their fair share of fixed costs were not DG customers." [69]

Demand charges will not solve UNSE's real problems and should be rejected.

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[65] Dukes Direct Test., UNSE Ex. 28, at 12:10 – 14:18.
[66] Jones Tr. Vol XI, at 2576:22 – 2577:1.
[67] *Id.* at 2577:15-20.
[68] Grant Tr. Vol III, at 504:15-19.
[69] Kobor Tr. Vol X, at 2214:24 – 2115:4.

H. Staff's Primary Reason for Proposing Demand Charges is Wrong.

By the conclusion of the hearing it was clear that Staff's main argument in favor of demand charges was the result of an incorrect assumption that demand charges would help deal with UNSE's specific issue. Mr. Thomas Broderick, the Director of the Commission's Utilities Division, argued that the principle reason for recommending mandatory demand charges in UNSE service territory was due to the utility's declining sales, which in turn are a victim of the local economy. He testified, "the problem, as I understand it, is a utility which is experiencing a significant pattern of declining sales. We could spend quite a bit of time on the reasons for that, but I understand them generally as service territory economic related conditions appear to be affecting all of their major classes of service such that they have had declining sales, loss of customers, and so forth for a sustained period of time."[70]

Staff's reasoning is undermined by the fact that these demand charges are designed – theoretically- to be revenue neutral.[71] This alone indicates that these rates cannot counteract the loss in revenue caused by the economic downturn in the service territory. In fact, making the service territory less attractive by implementing volatile, punitive and confusing rates would seem much more likely to discourage much needed economic growth than e solve the issue of revenue recovery.

To be clear, there is nothing about demand charges in the record that suggest they will help the Company overcome the problems caused by the stagnating economy it is faced with. Nevertheless, Staff testified that solving problems of poor economics is the *primary* reason for proposing demand charges. TASC is hopeful that Staff will re-evaluate its position in light of all it has learned during the hearing about this subject.

I. UNSE Failed to Legally Justify its Request to Single Out Solar Customers for Demand Charges.

UNSE's original proposal suggested the Commission subject solar customers to demand charges that other residential customers would not be exposed to. To the extent this is a consideration, this proposal must be rejected as a matter of law.

UNSE has not provided a solar specific cost of service study and failed to undertake a cost

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[70] *See* Broderick 3589:7-17.
[71] *Id.* at 3726:20 – 3727:2.

benefit analysis and as a result, it has not carried its burden as required before signaling out NEM customers for discriminatory treatment.[72] As set forth in A.A.C. R14-2-2305:

"Net Metering charges shall be assessed on a nondiscriminatory basis. Any proposed charge that would increase a Net Metering Customer's costs beyond those of other customers with similar load characteristics or customers in the same rate class that the Net Metering Customer would qualify for if not participating in Net Metering shall be filed by the Electric Utility with the Commission for consideration and approval. *The charges shall be fully supported with cost of service studies and benefit/cost analyses*. The Electric Utility shall have the burden of proof on any proposed charge." (Emphasis added).

This Rule sets out clear requirements that UNSE must meet before it would be permitted to subject solar customers to a demand charge. Despite the fact that the Commission's own Rules clearly require a solar specific cost of service study and benefit/cost study, UNSE has dismissed such research as an "unnecessary exercise."[73] Given the wide-ranging impact these proposed rates would have on existing and future customers, however, this "exercise" is actually of great importance in addition to being legally required.

The Company has made virtually no effort to gather data as to how the proposed changes in rates would impact UNSE's solar customer.[74] There has been no solar specific cost of service study or benefit/cost analysis produced.[75] Company witness Carmine Tilghman stated that the Company had developed only "rough estimates" concerning the size of installed solar DG systems or how many of UNSE's DG solar customers' systems produce a net zero bill despite the fact that data was available to him to conduct an actual analysis.[76]

To impose unique new rates and burdens on DG customers without sufficient and substantial analysis would be wholly improper.[77] UNSE simply has not provided the legally required level of analysis.

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[72] *Id.*
[73] Tilghman Tr. Vol. VI, at 1272:7 – 1275:16.
[74] Dukes Tr. Vol. VIII, at 1798:5 - 1799:13.
[75] Jones Tr. Vol XI, at 2548 – 2549.
[76] Tilghman Tr. Vol. VI at 1240:19 – 1241:7, 1243:14 – 1244:1.
[77] *See generally*, Rubin Tr. Vol. VIII, 1730:6 – 1731:4.

V. UNSE'S MOTIVE IS TO DECIMATE THE SOLAR INDUSTRY.

A. UNSE Perceives DG as a Risk to its Revenue and Business.

Fortis' own annual report to shareholders defines DG as a key risk to UNSE's business operations:

> New technology developments in distributed generation, particularly solar, and energy efficiency products and services, as well as the implementation of renewable energy and energy efficiency standards, *will continue to have a significant impact on retail sales, which could negatively impact UNSE Energy's results of operations, net earnings and cash flows.*[78]

Even Fortis' CEO has publically stated it is his goal to increase utility scale solar:

> I look at, for example, in Arizona I would love to do utility-scale solar with long-term PPAs he said. I'm challenging Mr. Hutchens at UNS to find some of those opportunities. Those are the kind of things I'm looking for, very much consistent with the risk profile of the regulated business. I can tell you if we don't have two or three more of those over the five-year period, I'm going to be pretty disappointed.[79]

UNSE witness, Mr. Tilghman made it clear that UNSE, and its sister utility, Tucson Electric Power ("TEP") desire to provide utility owned or controlled, utility scale solar power in place of third party or customer owned solar.[80] Mr. Tilghman even admitted that should the changes they are proposing cause the Company to fall short of its DG requirements under the REST, UNSE would be happy to step in and provide utility scale solar to meet the requirement. In fact, TEP is actually proposing to use utility scale solar in place of DG right now in another docket.[81]

Witnesses speaking on behalf of the utilities consistently displayed hostility and antipathy towards the rooftop solar industry. It's the net metering rules, which buttress the rooftop solar industry

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[78] *See* TASC Ex. 1, at 51.
[79] *See* TASC Ex. 8.
[80] Tilghman Tr. Vol. V, at 1082:2-21.
[81] *See* Commission Docket No. E-01933A-15-0322.

which draws their ire. For example, APS expert, Ashley Brown, testified that, "net metering is a relic of another era. It is an era of stupid meters, stupid markets, of low market penetration by rooftop solar. It was a default product that was never thought through"[82] Even though he was representing a monopoly that enjoys earning a rate of return from captive ratepayers who are unable to exercise electric choice in providers, Brown channeled his inner Robin Hood and described net metering as an unfair system, "I find that offensive, that net metering simply transfers wealth from lower income households -- this is in the aggregate -- from lower income households to higher income households. That's what it does. There have been a number of studies on it."[83]

In fact, in an admission against his client's interest, Dr. Ahmad Faruqui, testifying on behalf of APS, explained how a three-part rate design could hurt the rooftop solar industry, "[ ] as you roll out the three-part rate in place of the two-part rate, you are going to reduce the attractiveness of rooftop solar."[84]

As outlined below, UNSE's largest problems are due to having lost its largest mining customer, the sizable amount of "snowbird" and vacation homes that do not use electricity for months at a time. However, the Company keeps obsessively focusing on a small component of its cost of service, rooftop solar installations. From its corporate filings to its plans to substitute utility owned solar for free market solar, UNSE's motives to harm the DG solar industry are obvious.

B. UNSE's Arguments that DG Causes "Cost Shifts" are Just a Pretext For its Desire to Stop DG solar.

The evidence in this case makes it clear that UNSE is not experiencing any real problem resulting from the adoption of DG solar. In fact, the Company's own numbers indicate that DG solar accounts for *only* 2% of the reduction in energy usage it saw in its residential class.[85]Further, UNSE admitted it was unable to account for even a single cost the Company has incurred as a result of the implementation of solar.[86]

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[82] *See* Brown Tr. Vol V, at 832:1-5.
[83] *Id.* at 833:19-23.
[84] *See* Faruqui Tr. Vol XIII, at 3061:15-21.
[85] Hutchens Tr. Vol II, at 307:5 – 308:1.
[86] Tilghman Tr. Vol. VI, at 1310:1 – 1313:8 (admitting that UNSE can't quantify any cost resulting from providing ancillary services to DG customers, can't quantify any cost resulting from excess backflow, can't quantify any cost

The Company is seeking drastic rate design changes alleging that DG customers are shifting costs to others. [87] Despite this alleged justification, it was revealed through discovery, that in fact, approximately 95% of the low use residential customers under 300kWh/month *were not DG customers*.[88]

UNSE argues for a switch to demand rates, in part, because of problems with vacant homes and seasonal customers. However, the cost shift attributable to low usage bills from these customers account for nearly *20 times the number of low usage bills* compared to NEM customers.[89] The alleged solar cost shift is a mere fraction of the Company's problems (if a problem at all) yet UNSE proposes discriminatory rates and changes that will take the rooftop solar option away from its customers.

The evidence proved, and UNSE failed to rebut, that DG customers are no more than a tiny contributor to the problems the Company alleges are occurring as a result of low-usage customers.[90] The actual facts and bill frequency data provided by UNSE demonstrates that NEM customers' bills are not outliers or even the real cause of UNSE's decline in sales. The Company's attempts to single-out NEM customers for different rate treatment would not only be discriminatory, but also would not materially impact the load reduction problems that UNSE alleges are occurring.[91]

VI. GRANDFATHERING DG CUSTOMERS THAT PURCHASED UP THROUGH THE DATE OF THE DECISION IN THIS DOCKET IS ESSENTIAL.

A. Grandfathering Must Occur on a Going Forward Basis from the Date of the Decision.

There are numerous examples of the Commission protecting customers from rate changes that would retroactively disadvantage them.

1. The Recent APS NEM charge Decision.

The Commission recently considered and addressed a proposal by APS to apply newly designed rates for solar customers. In the "net metering" case on alleged cost shifts, Decision No.

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borne due to alleged phase imbalance).

[87] Jones Tr. Vol. XI, 2542:5-12.

[88] Dukes Tr. Vol. VIII, 1787:6 - 1788:11.

[89] Hutchens Tr. Vol II, 385:1-7; Kobor Rebuttal Test., Vote Solar Ex. 7, at 11-25.

[90] Dukes Tr. Vol. VIII, at 1792:14 - 1793:16; Kobor Rebuttal Test., Vote Solar Ex. 7, at 11-25.

[91] Kobor Rebuttal Test., Vote Solar Ex. 7, at 11-25.

74202, the Commission decided that an LFCR DG adjustment for all residential DG installations would go into effect more than 30 days after the Commission voted to approve the new charges.

In Docket # E-01345A-13-0248, APS asserted in its application that existing residential customers would be "grandfathered" and not be subjected to the new LFCR DG charge. Staff recommended to the Commission that "any consideration of grandfathering existing NM situations to existing NM customers should view the grandfathering as pertaining to the DG system and premises where the DG system is sited (in other words, "runs with the land"), versus a 'right" that resides with a specific customer."[92]

In fact, APS grandfathering proposal included "customers that apply before APS' suggested deadline of October 15, 2013."[93] Staff's interpretation of "grandfathering" was that "the status quo for existing DG customers should be preserved...."[94] The Commission decided that, "Residential customers who either have a DG system installed on their homes now, or who submit an application and a signed contract with a solar installer to APS by December 31, 2013, shall have their system grandfathered under the current net metering policies..."[95] Accordingly, any proposal by Staff or the Company to deny grandfathering to existing DG customers as of the date of the Commission's Decision in this docket should be denied.

2. Implementation of Special Rates for Air Conditioning Customers.

In reaction to the rise of air conditioning usage, APS proposed the institution of a demand rate to apply to those with air conditioning starting in the early 1980's. The EC-1 Rate was created by order of the Commission in Decision No. 51472 on October 21, 1980.[96] The EC-1 Rate was adopted in October 1980 but, by its own terms, did not impact any customer who installed central air conditioning prior to April 1, 1981.[97] Thus a grandfathered status was created for anyone with a pre-existing air conditioner.

In a subsequent proceeding, Commission Staff proposed forcing all remaining customers with

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[92] Corporation Decision # 74202, at 11:23-26.
[93] *Id.* at 11: 15-17.
[94] *Id.* at 21: 14-16.
[95] *Id.* at 24: 17-19.
[96] *See* Corporation Decision # 51472.
[97] *Id.*

central air conditioning off of the EC-10 rate which housed the majority of such customers. In Decision No. 55228 (October 9, 1986) the Commission expressly rejected Staff's recommendation to force the grandfathered customers onto a different rate plan and permitted them to continue on the EC-10 rate plan.

3. Protecting Solar Customers from Retroactive Impact of Change in Application of REST Surcharge.

In the 2012 APS Rest Plan (Docket No. 11-0264) Commissioner Brenda Burns proposed that the REST surcharge begin to be applied to customers with DG. This proposal was a departure from the longstanding treatment whereby solar customers were largely excused from paying the monthly REST surcharge. Commissioner Burns revised her proposal after stakeholders and Commission legal counsel pointed that out that existing DG customers would be subject to the REST surcharge on a "retroactive" basis. There was considerable discussion of this problem during the December 14, 2011 hearing.[98]

ACC Attorney Janice Alward explained that the Commission's alteration of the proposal to make it forward looking took away due process claims that would arise if the proposal had retroactively impacted customers. During the Open Meeting Alward said, "I think the fact that the language is now prospective takes away the due process clause issues because a person can decide whether or not that want to go forward with this on a prospective basis."[99]

Later in the same Open Meeting, then-Chairman Gary Pierce and Alward expressed additional reservations about applying the charge retroactively. Pierce said, "[w]e never want to be retroactive. I just want us to be on firm [legal] ground and I'm not sure that [retroactive] would work."[100] Alward reiterated her earlier stated position and legal advice and said, "I just wanted to be clear [ ] The rate case is a good place to consider this. I would be very concerned if there was a retroactive nature back to January 2012 without the Commission deciding this at this point. In other words, I don't think if the Commission later adopts this is can look back to January 1st 2012."

Accordingly, in the actual rate case where this change was adopted, the Commission held in

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[98] Video of the hearing can be found at: http://azcc.granicus.com/MediaPlayer.php?view_id=3&clip_id=314
[99] *Id.* at 9:42:30.
[100] *Id.* at 9:48:45.

Decision No. 73183 that:

"We believe that customers who benefit by receiving incentives under the REST rules should provide an equitable contribution to future REST benefits for other customers. We will therefore require that residential, small commercial, large commercial and industrial customers who receive incentives under the REST rules pay a fixed cost, the monthly REST cap. This payment shall begin when APS reprograms its billing system to accomplish this, or with the March 2013 billing, whichever is sooner. This requirement shall only apply to renewable systems installed on and after July 1, 2012."[101]

This decision was effective May 24, 2012. It was intentionally prospective, not retroactive. The Commission made it plainly clear that it did not want to set retroactive REST surcharge rates on customers that had already received REST incentives and that it thought the alternative would violate due process.

4. Protecting Developers from Retroactive Impact of Line Extension.

When the Commission approved UNS Electric's proposal to eliminate free line extensions it instituted a "grace period" to last six months from the effective date of the decision. The Commission wrote:

> "In addition, all existing approved line extension agreements and service applications will be grandfathered in under the policy in effect from August 11, 2003 to May 31, 2008. Grandfathered customers must make provisions for the Company to install and energize the extension and service facilities within eighteen (18) months from the effective date of these Rules and Regulations or they will be subject to the new line extension policy."[102]

These provisions not only grandfathered past customers but provided additional time for those customers who may have been counting on utilizing the existing line extension process in the near future.

B. The State Encouraged Solar Customers and Should Support them.

Tens of thousands of solar customers have made significant investments, at the behest of

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[101] Commission Decision # 73183, at 42:6-12.
[102] Commission Decision # 71285, at 2:2-7.

elected officials and utility executives, to "go solar" and the Company admitted as much in this docket.[103] The "early adopters" of solar rooftop installations willingly took on significant costs in exchange for incentives approved by the Commission.

As recently as 2011, residential incentives were $2.00 per watt.[104] UNSE's residential customers signed agreements with the utility that handed over their renewable energy credits for a period of 20 years.[105] The Company has a 20-year claim to the renewable energy credits that flow from the energy associated with the renewable energy systems.[106] In fact, this is no boon to the early adopter ratepayer but a gamble on emerging technology and nascent Commission policy.

For example, if the rooftop solar system would ever become an uneconomical venture, the ratepayer is bound by their agreement with UNSE, otherwise they could be responsible to pay a penalty by reimbursing the incentives that they had received.[107] Therefore, grandfathering existing solar customers is an essential function underpinning a covenant between the solar customers, the utilities and the Commission. The Company even understands the difficulty in "reaching back" and subjecting existing solar customers to the new rates. [108] Regardless of "penetration levels", this matter should not even be contemplated.[109] Even if there was only one solar customer in the company's entire service territory, that customer should not be subjected to being punished for adopting solar under a different set of circumstances.

C. Commissioner Little Indicated Clear Support For Grandfathering.

TASC was pleased to hear the words of Chairman Little in the August 2015 Open Meeting where he and the Commission's General Counsel, Janice Alward, confirmed their opinion that retroactive ratemaking would be illegal. Specifically, the two discussed, in the public meeting, how applying NEM changes to solar customers who had already adopted solar would be illegal. The following back and forth occurred at the TEP REST Plan hearing, Docket # E-01933A-15-0100 on August 18, 2015:

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[103] *See* Hutchens Tr. Vol. II, at 388.
[104] Commission Decision # 72033.
[105] *See* Tilghman Tr. Vol. VI, at 1319:6-15.
[106] *Id.* at 1319:16-20.
[107] *Id.* at 1320:10-17.
[108] *Id.* at 1321:1-17.
[109] *See* Faruqui Tr. Vol. XIII, at 3120.

Little: In your experience, Ms. Alward, how many times has the Commission approved retroactive rate structures? I'm not looking for a precise number but is it frequent, non-frequent, nearly non-existent?

Alward: I would have to say, in all the many years, it's nearly non-existent.

Little: So, what you're saying is there's no meaningful precedent for retroactive rate changes, in this Commission.

Alward: That's true. And, typically, case law across the country, as well as here, would be against retroactive ratemaking as a ratemaking principle.

Little: It would almost in fact be an ex-post-facto type situation, would it not?

Alward: Yes, it could be viewed that way. [110]

Commissioners Bob Burns and Little followed this exchange by expanding their own statements and thoughts to outline why they are against retroactive rates and charges.

Burns: On the discussion of whether or not the Commission ever does a retroactive rate increase, I agree that it probably doesn't happen. But, the message that gets sent out if the utility is sending out to their customers, a notice that they are going into a rate case, and they going to consider asking for a retroactive rate increase. That's a notice everyone reads and sees, they don't hear and understand that it doesn't really happen at the Commission. We don't have that newsletter ability. They have a much easier method of notifying the public, even if it's not something that might come to pass.[111]

Little: I would just like to echo the comments of Commissioner Burns… I think in the absence of any specific rulemaking. I would agree that is probably inappropriate to have companies putting out grandfather dates that says this is the date we are going to stick in the sand and it is going to be a retroactive increase. I would say that precisely because of what Ms. Alward just shared with us. It is inappropriate to do that, because it simply has no precedent at the Commission. And I would

[110] ACC hearing for Commission Docket No. E-01933A-15-0100, at 4:11:55- 4:13:03.
[111] *Id.* at 4:13:03 – 4:14:27.

strongly encourage all utilities, in the state of Arizona, not just electric utilities, but all utilities, to avoid trying to communicate that message to their ratepayers."[112]

D. The June 1, 2015, Cutoff Date is Arbitrary and Should Not be Applied Herein.

This proposed cutoff date contravenes the express will of at least two of the commissioners and even the company's own testimony, if it results in a rate design change that impacts the contractual solar agreements entered by the parties.[113] The Commission's general counsel has already indicated that there is no precedent at the Commission, or nation-wide, for retroactive rates. There is no sound basis to start implementing retroactive rates in this docket. Instead, this docket should follow precedent which means any new rates to be imposed on any or all classes should be done so with an effective date that takes place after the Commission's ultimate vote.

VII. RUCO'S ALTERNATIVES ARE UNAVAILING

RUCO has proposed a DG program that would include three separate tariff options, all of which eliminate net metering.[114] The first option, called the "Non-Export Option," would allow DG customers to take service on the standard residential rate, but would eliminate net metering all together by not allowing customers to receive any credit for exporting energy back to the grid. The second option, called the "Advanced DG TOU Option," would place DG customers on a rate with a minimum bill, but require them to pay a demand charge for summer peaking hours, and implement a volumetric charge (base energy rate) linked to an incomplete approximation of the value of solar. Compensation for solar generation would be based on this same base energy rate. The third option, called the "RPS Bill Credit Option," would allow customers to take service on the standard residential rate, but would require that all energy generated by the customer's DG system be sold to the utility at a predetermined credit rate that would decline over time. While TASC commends RUCO for the proposed tariffs, unfortunately there a number of issues with the proposals.

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[112] *Id.* at 4:14:28 - 4:15:17.
[113] Tilghman Tr. Vol. VI, at 1325:5-9.
[114] Huber Direct Test., RUCO Ex. 5, at 10:1 – 11:1.

Initially as noted *infra*,[115] UNSE has not put forth sufficient evidence to meet its burden to change the current tariff structure for NEM customers only or quantified any cost shift, either to or from non-NEM customers.[116] As a result, there is no basis for approving differential rate treatment for NEM customers. Similarly, RUCO's rate tariffs have not been supported with NEM cost of service studies and benefit/cost analyses.[117]

RUCO's proposed non-export option would restrict the customer's ability to export excess generation to the distribution grid and is impractical unless paired with batteries.[118] Such a tariff would remove much of the economic value of solar DG and appears to put "the cart before the horse" relying on technology that is not yet ready for widespread residential adoption. Rather than taking advantage of the electricity generated by customer-financed distributed energy, the excess energy would be wasted. Thus, under this option the excess energy would provide no benefit to the utility in terms of reducing the overall demand for electricity on the circuit, nor any benefit to customers. Such an outcome would also violate the Commission's REST goals.[119]

The non-export rate also falls short by failing to account for the value of excess energy supplied to the grid. Under-sizing DG systems and dumping excess energy through inverter curtailment is not the most efficient outcome for anyone.[120] .

RUCO's Advanced DG TOU Rate has several problems. Although not immediately clear from Mr. Huber's testimony, the rate is a buy-all sell-all tariff.[121] A customer would not have the right to self-consume the electricity they generate on their own property from their own investment. This would violate Staff's position that what happens on the customer's side of the meter is the customer's business. Rather, the customer would be required to sell all energy output from their DG facility to UNSE.[122]

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[115] *See* Section III(A)(1).
[116] *See* A.A.C. R14-2-2305.
[117] *Id.*; Huber Tr. Vol. X, at 2293:21 - 2294:6.
[118] It is worth noting that RUCO witness Lon Huber testified that his employer is the founder of two organizations that promote the utilization of battery storage solutions which may explain why his proposals largely point to use of this storage technology when it is far from affordable at this time. [Huber Tr. Vol X, at 2334:11 – 2336:4]
[119] *See* A.A.C. R14-2-1801 *et. seq.*
[120] Kobor Tr. Vol. X, at 2245:25 – 2246:19.
[121] Huber Tr. Vol. X, at 2270:22 – 2273:12.
[122] Kobor Tr. Vol. X, at 2139:15 – 2140:6.

The RPS Bill Credit Option is also a buy-all sell-all tariff in which the customer would be able to choose to take service on any standard residential tariff but would lose the right to self-consume the electricity they generate.[123] The RPS Bill Credit Option suffers from the same issues as the Advanced DG option as DG loses its economic benefits and DG power would not be efficiently used by the utility or the DG customer under the tariff. In addition, the RPS Bill Credit Option would include a credit mechanism that would decline over time as DG grows in UNSE's territory. RUCO, however, has not even proposed what that full DG penetration percentage would be under this tariff. Yet the final rate would be based on the Market Cost Comparable Conventional Generation ("MCCCG"), which is currently only 4.2 ¢/kwh for solar PV as set forth in UNSE's REST plan.[124]

Over time the RPS Bill Credit Option would compensate new DG at a level that is roughly half of even Mr. Huber's very basic approximation of the value of solar. Thus, no one would invest in DG as they would not know how to value their DG investment based on the ambiguous credit option. A DG customer would only know that their investment would only decline in value in the future and clearly not incentivize DG or help utilities with the REST requirements. Worse still, all of the tariffs would eliminate NEM banking or crediting,[125] further reducing any incentive to invest in DG and ultimately killing the DG industry.

RUCO's proposals discriminate against DG when: (1) UNSE has not met its burden of proof to demonstrate any DG cost shift; (2) RUCO's proposals are not supported with cost of service studies and benefit/cost analysis; and (3) the major problem for UNSE is not DG but seasonal customers and vacant homes. Thus, the Commission must summarily reject the proposed tariffs.

VIII. STAFF'S FALLBACK PROPOSAL SHOULD NOT BE ADOPTED

To the extent Staff has offered an alternative rate it must also be rejected for several of the reasons discussed above. Mr. Broderick testified that if the Commission rejects the proposed three-part rate, then the NEM rate should be reduced to a completely arbitrary and unsupported number of 7 cents. Staff, however, and UNSE have not performed any analysis that supports this arbitrarily suggested number. The 7 cent proposal is based on sheer conjecture. The 7 cent NEM rate is based

[123] Huber Tr. Vol. X, at 2270:22 – 2273:12.
[124] Commission Docket No. 15-0233, at Ex. 2.
[125] Huber Tr. Vol. X, at 2365:3 – 2366:6.

on "some midpoint" between short term avoided DG costs and the retail UNSE rate. Clearly such an arbitrary proposal must be rejected.

IX. BETTER ALTERNATIVES EXIST

Rather than throwing aside gradualism and jumping into a volatile, confusing and unpopular rate, the Commission has options. Importantly, the Commission should make sure that viable rate options remain for all customers, with and without solar.

A. Rate Options are Better for Customers than a Single Mandatory Rate.

If the Commission were to adopt the proposed rates, it would depart from a long precedent of valuing consumer choice in their utility rates. UNSE would be permitted to jump from a common two-part rate design to a mandatory exotic and untested three-part rate design with demand charges with no choice or option. But options and choice, especially when introducing wholly new rates, are almost always the better approach and also embody the principles of gradualism.

The three-part rate plus the demand charges represent five significant and mandatory changes to current rate design, they eliminate tiered rates, and eliminate a customer's impetus to adopt energy efficiency measures.[126] All customers will mandatorily be subject to; (1) Up to a 50% increase to base service charge; (2) mandatory time of use component for collecting base fuel rates (both on and off peak); (3) demand charge for residential customers; (4) elimination of tiers for kilowatt hour delivery charge; (5) elimination of optional rate charges; (6) increased revenue requirements; (7) higher fixed charges; and (8) volumetric time of use pricing.[127] That represents a massive overhaul for residential customers regardless of use, load, and cost-saving measures. In proposing this new rate mechanism, UNSE essentially seeks to adopt a one-size-fits-all mechanism by eliminating consumer choice.[128] In so doing, the Company wholly ignores that customers like and need choices in their utility rates.[129]

In essence, the proposed rates effectively eliminate the customer's abilities to lower their energy bills and nullifies the benefits of investing in energy efficient measures, including DG solar

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[126] Schlegel Tr. Vol. IX, at 1941:6 – 1944:7.
[127] Schlegel Tr. Vol. IX, at 1944:11– 19.
[128] Schlegel Tr. Vol. IX, at 1941:6 – 1944:7; Kobor Tr. Vol. X, at 2119:10-19.
[129] Miessner Tr. Vol XIV, at 3258 – 3262, 3302 – 3304, 3321:11 – 13, 3349:7-12.

systems.[130] But if choice were implemented, either opt-out or opt-in, UNSE could implement many of its proposals and alternatives proposed by other parties to this docket without blatantly running afoul of the Constitutional mandate that rates be just and reasonable.[131] The Company itself admitted that opt-outs protect customers from unintended consequences of new rate designs and mechanisms, and given the breadth and scope of the wholly new rate designs and mechanisms at bar here, the Commission should implement options and flexibility now more than ever.[132] A failure to provide such choice could lead to pandemonium by the customers, especially when their first bill arrives and they realize they are trapped within an unfavorable or discriminatory mechanism or rate design.[133]

B. Time of Use Rate and Adoption of a Minimum Bill Present a Good Opportunity for UNSE to Achieve its Goals.

The two-part rate, with appropriately designed time of use options coupled with a minimum bill, is a solution that would allow the Company to gain confidence in revenue collection while sending price signals to customers to conserve at proper times. In addition, if done right, it would preserve a customer's ability to go solar while saving the jobs of those working in the DG industry.

There is general consensus that time of use ("TOU") rates are easier to understand than demand charges and when properly designed, can be as effective or more so than demand rates in recovering costs and aiding customers in lessening demand.[134] Additionally, there is ample data demonstrating that residential customers can understand and react to TOU, especially as these rates have been utilized in a residential context unlike the proposed demand rates.[135] Even if it is true that volumetric TOU rates do not eliminate all intra-class subsidies, the Company admits that demand rates are not ideal and would not wholly eliminate such subsidies either.[136] In light of the fact that there is very little data

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[130] *See generally* McElrath, Tr. Vol. VI at 1172:21-24, 1174:5-7, 1182:16-19; Solganick Tr. Vol XII, at 2902:15-17; Faruqui Tr. Vol XIII, at 3092:16-25.
[131] *See generally* Kobor Tr. Vol. X, at 2238:8-25; Broderick Tr. Vol XV, at 3664 – 3667.
[132] Jones Tr. Vol XI, at 2653:4-12.
[133] Faruqui Tr. Vol XIII, at 3091.
[134] Hutchens Vol II, at 364: 9-12; Dukes Tr. Vol. IX, at 1882: 14 – 1883: 2, 1934: 1-18; Schlegel Tr. Vol. IX, at 1968: 6-18, 1970: 15 – 1971: 14; Wilson Tr. Vol XI, at 2463 – 68, 2488 – 2489, 2495: 11-20, 2511 - 2512; Faruqui Tr. Vol XIII, at 3099, 3134 – 3135; Fulmer Tr. Vol XIV, at 3411.
[135] Huber Tr. Vol. X, at 2268: 5-12; Wilson Tr. Vol XI, at 2487: 2-7; Solganick Tr. Vol XII, at 2811 – 2813; Miessner Tr. Vol XIV, at 3333 – 3334, 3346: 1-5.
[136] Overcast Tr. Vol. VII, at 1454:16 – 1455:9.

about how mandatory demand rates will impact residential rates, TOU is the superior option to obtain roughly the same result.

A minimum bill will also be a more effective mechanism in aiding the Company in recouping any lost costs that it incurs from serving low-load customers – including DG, vacant, seasonal and other low load customers.[137] Unlike the three-part rate and mandatory demand charges, the minimum bill would apply uniformly to all low-load customers regardless of the reason why they generate a low load without discriminatorily impacting those customers that may not qualify as low-load but have DG systems.[138] In so doing, the minimum bill is the best means of redressing the Company's revenue issues associated with serving low load customers.

X. THE PROPOSED LOST FIXED COST REVENUE MECHANISM ("LFCR") SHOULD BE DENIED AS UNCONSTITUTIONAL

UNSE also requests the adoption of an expanded LFCR mechanism to increase its revenues. As a practical matter, this mechanism should not be adopted. The LFCR mechanism is proposed by the Company as a means of recovering generation costs, which the solar industry, Commission staff and RUCO all agree is an impermissible use for an LFCR.[139]

More important, however, is the fact that the LFCR mechanism is likely unconstitutional and therefore cannot be adopted or approved by the Commission. The Commission, as a State agency, is beholden to act in accordance with the Arizona Constitution.[140] In a recent Court of Appeals decision, *Residential Utility Consumer Office ("RUCO") v. Arizona Corp. Comm'n*, 238 Ariz. 8, 355 P.3d 610 (App. 2014), *cert. granted* Feb. 9, 2016, the Court of Appeals held that the System Improvement Benefits mechanism was unconstitutional. The *RUCO* decision is currently on appeal before the Arizona Supreme Court.

Assuming the Supreme Court upholds the *RUCO* decision, it is very likely that the LFCR mechanism will necessarily have to be considered unconstitutional as well. The SIB mechanism and the LFCR are substantially similar mechanisms for the purposes of constitutionality examination. Both

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[137] Huber Tr. Vol. X, at 2291:6-14.
[138] Kobor Tr. Vol. X, at 2156:5 – 2157:17; Wilson Tr. Vol XI, at 2459 – 2461.
[139] Dukes Tr. Vol. IX, at 1917:9-25.
[140] *See Polaris Int'l Metals Corp. v. Arizona Corp. Comm'n*, 133 Ariz. 500, 506, 652 P.2d 1023, 1029 (1982); *Kilpatrick v. Superior Court In & For Maricopa Cnty.*, 105 Ariz. 413, 419, 466 P.2d 18, 24 (1970).

mechanisms act to allow a utility to increase rates and revenue in between standard rate cases. Both provide for a new rate adoption only on the basis of the Commission's review of information that purports to justify the new rate. Both seek to effectuate the adoption of higher rates without finding safe harbor in any long held exemptions to the constitutionally mandated rate-making process. Both are subject to the constitutional mandate that the Commission prescribe "just and reasonable" rates and charges. It is therefore reasonable to conclude that the Court's *RUCO* decision would apply with equal force in this context and render the LFCR mechanism unconstitutional.[141] In the event that the *RUCO* decision applies with equal force to the LFCR mechanism, the Commission cannot proceed with approving the maintenance of the LFCR mechanism.

Given the substantial questions concerning the constitutionality of rate mechanisms like the LFCR, the Commission should refrain from utilizing such a mechanism unless and until the use of such mechanism is sanctioned by the Arizona Supreme Court.

XI. THE COMPANY'S REQUESTED RETURN ON EQUITY IS NOT SUPPORTED

Since the conclusion of its last rate case in 2013,[142] UNSE has benefited from a pair of significant improvements in its financial position. In 2014, it was acquired[143] by a massive corporation, Fortis Inc., which assumed its debt and injected $220 million in equity into both UNSE and TEP's operations.[144] UNSE's bond rating has also increased from Baa3 to A3 since 2013.[145] Further, long term interest rates have fallen over that same period of time.[146] Tellingly, despite earning a Return on Equity ("ROE") of only 5.5% in 2014, the Company's Moody's issuer rating was upgraded to A3.[147] On March 2, 2015, the Company has raised over $100 million in capital this year.[148]

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[141] *See, e.g., Rail N Ranch Corp. v. State*, 7 Ariz. App. 558, 559, 441 P.2d 786, 787 (1968) ("A formal opinion by an appellate court on the merits of the case in a certiorari or other similar proceeding partakes of the nature of an appellate proceeding and the law stated therein is conclusive as the law of the case on a subsequent appeal."); *see also Lowing v. Allstate Ins. Co.*, 176 Ariz. 101, 108, 859 P.2d 724, 731 (1993) ("Normally, [] decisions in civil cases operate retroactively as well as prospectively.").

[142] *See* Commission Decision # 74235.

[143] *See* TASC Ex. 4, at 9.

[144] http://www.uns.com/acquisition-docs/acc-settlement-agreement-5-16-2014.pdf, Commission Docket Nos. E-04230A-14-0011 and E-01933A-14-0011, Attachment A at 1, ¶ 2.

[145] *See* Woolridge Surrebuttal Test., TASC Ex. 23, at 5:2-11.

[146] *Id.* at 9 - 15.

[147] Woolridge Direct Test., TASC Ex. 22, at 30.

[148] https://www.fortisinc.com/Investor-Centre/Financial-and-Regulatory-Reports/Documents/ThirdQtrReport-FINAL.pdf, at 22, n.1.; Woolridge Direct Test., TASC Ex. 22, at 30:2-4.

Astonishingly however, UNSE (and Staff and RUCO) believe the Commission should simply ignore each of these significant factors and merely award UNSE the exact same 9.50% return on equity ("ROE") it was awarded in the last rate case. The Commission should step in and recognize the tremendous improvements in UNSE's financial position that should lead to a lower ROE.

As demonstrated by Mr. Randall Woolridge, UNSE's justified ROE should be correctly calculated at 8.75% based on current market conditions.[149] Mr. Woolridge has empirically supported his calculations through exhaustive research into the Company's weighted cost of capital and capital structure.[150] His exhaustive calculations were derived using the holy grail of financial metrics - Discounted Cash Flow ("DCF") and Capital Asset Pricing Model ("CAPM') analyses.[151] To confirm his results, Mr. Woolridge also compared the ROE's of similar publicly-held electric utility companies (the "Electric Proxy Group") to UNSE as well as the group of utilities developed by UNSE witness, Ms. Bulkley (the "Bulkley Proxy Group"). DCF analyses for the Electric and Bulkley Proxy Groups indicated ROEs of 8.70% and 9.00%, respectively.[152] The CAPM ROE results for the Electric and Bulkley Proxy Groups were 8.1 % and 8.3%, respectively.[153] These results further reveal that Mr. Woolridge's 8.75% ROE is in fact on the conservative side, especially given the Company's increase in credit rating and historically low interest rates.

Staff witness Mr. Abinah has recommended a ROE of 9.50% for UNSE.[154] Mr. Abinah acknowledges that each case stands on its own merit - but he has not performed *any* equity cost rate studies or analysis in giving this recommendation.[155] Instead, he has "phoned it in" and recommends that UNSE be granted the same ROE as the Commission allowed the Company in its last rate case in 2013. The 9.50% ROE awarded, however, was the result of a settlement between the Company, Staff, and RUCO and not based on empirical analysis. Not only has Mr. Abinah not performed any analysis for the Company in this rate case, he has justified his 9.50% ROE recommendation on equity cost rate studies that are three to six years old. Such studies rely on dated financial information and fail to

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[149] Woolridge Direct Test., TASC Ex. 22, at 26 - 27.
[150] *Id.*
[151] *Id.* at 4.
[152] *Id.* at 26.
[153] *Id.*
[154] Abinah Direct Test., Staff Ex. 3, at 2; Woolridge Surrebuttal Test., TASC Ex. 23, at 2.
[155] *See* Abinah Tr. Vol IV, at 800: 2-16; Mease Tr. Vol IV, at 789: 6-24.

account for current capital market conditions and Mr. Abinah's recommendation simply cannot be relied upon as credible by the Commission.

UNSE witness Ms. Bulkley recommends a ROE of 10.35% even though the Company has decreased its credit risk and interest rates remain at a historic low. Indeed, Ms. Bulkley has recommended an ROE, almost 100 basis points higher than UNSE was awarded in its last rate case, in 2013 even though UNSE's investment risk continues to decline. Ms. Bulkley's own analysis is flawed and even further supports Mr. Woolridge's conclusions. The average of her mean constant-growth DCF equity cost rates is 9.24% and the average of her multi-stage DCF equity cost rates, using improbable projected GDP growth rate of 5.51%, is 9.44%.[156] These are about 100 basis points below her 10.35% ROE recommendation and based on projected GDP growth rates that are already highly inflated. Reducing the projected GDP growth rate to actual real and projected rates, would lower Ms. Bulkley's ROE calculations even more. During the period from 1929-2014, the real GDP growth rate was 3.26% and 3.9% from 2005-2014.[157] Even the Congressional Budget Office ("CBO"), in its forecasts for the period 2015 to 2040, only project a nominal GDP growth rate of 4.3%.[158]

Ms. Bulkley similarly inflates the long term projected 30-Year Treasury yield of 4.90% and expected market return of 13.17% in her CAPM[159] analysis. Using such inflated figures of course results in a higher ROE than can be justified. Her figure of 4.90% is about 200 basis points above the current 30-year Treasury rate. This figure is simply not reasonable.[160] Thirty-year Treasury bonds are currently yielding about 3.00%. Institutional investors would not be buying bonds at this yield if they expected interest rates to increase so dramatically in the coming years. An increase in yields of 200 basis points on 30-year Treasury bonds within the next couple of years would result in significant capital losses for investors buying bonds today at current market yields, suggesting that Ms. Bulkley's use of a 4.90% 30-year projected treasury rate is unreasonable. In fact, in April of 2016, the average

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[156] Bulkley Direct Test., UNSE Ex. 22, at 30, Table 6; Woolridge Direct Test., TASC Ex. 22, at 33.
[157] Woolridge Direct Test., TASC Ex. 22, at 33.
[158] *Id.* at 33, n.14.
[159] CAPM reveals the expected rate of return for a company, stock (UNSE), which is equal to the risk free rate of interest (*Rf* - 10-year or 30-year bond rates) plus the measure of systemic risk of the asset (*Beta*) multiplied by the market risk premium), which is calculated by taking the return an investor expects to receive from the overall stock market (*Rm* - S&P 500) minus the risk-free rate of interest.
[160] Woolridge Direct Test., TASC Ex. 22, at 37:2-11.

30-year rate is around 2.6%.[161]

Market risk premium is a critical component of CAPM analysis and is calculated by taking the return an investor expects to receive from the overall stock market (S&P 500) minus the risk-free rate of interest (10-year or 30-year bond rates). Ms. Bulkley's estimated expected overall stock market return of 13.19% is not realistic. She uses a dividend yield of 2.00% and an expected DCF growth rate of 11.06% in her calculations to derive her 13.19% average stock market return.[162] Ms. Bulkley's long-term EPS growth rates of 11.06%, however, is not consistent with historic or projected economic and earnings growth in the U.S. Long-term growth in earnings growth is far below Ms. Bulkley's projected EPS growth rate and more recent trends in GDP growth, as well as projections of GDP growth, suggest slower long-term economic and earnings growth in the future.[163] The long-term economic, earnings, and dividend growth rate in the U.S. has only been in the 5% to 7% range.[164]

Ms. Bulkley's inflation of key metrics again carries through in her risk premium calculations.[165] Equity risk premium is the excess return that investing in the market provides over a risk-free rate, such as the return from government treasury bonds. For her risk premium analysis, Ms. Bulkley develops an equity cost rate by, in part, regressing the authorized returns on equity for electric utility companies on the thirty-year Treasury Yield.[166] A higher Treasury yield will produce a higher estimated ROE as defined by the Risk Premium calculation, which is the risk premium rate plus the risk free rate. Ms. Bulkley, again, incorrectly uses a 30-year Treasury yield of 4.90% and incorrectly calculates the risk premium.[167] Her methodology produces an inflated measure of the risk premium because it uses historic authorized ROEs and Treasury yields. Since Treasury yields are always forecasted to increase, the resulting risk premium would be smaller if done correctly, which would be to use *projected* Treasury yields in the analysis rather than historic Treasury yields.[168]

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[161] http://finance.yahoo.com/echarts?s=^TYX+Interactive#
[162] Bulkley Direct Test., UNSE Ex. 22, at 36:18-25.
[163] Woolridge Direct Test., TASC Ex. 22, at 38 - 39.
[164] *Id.* at 38 - 39, Ex. JRW-14.
[165] Bulkley Direct Test., UNSE Ex. 22, at 39 - 40.
[166] *Id.*
[167] Woolridge Direct Test., TASC Ex. 22, at 40-42.
[168] *Id.*

As seen above, Ms. Bulkley's projected earnings growth rates, implied expected stock market returns, risk free rates and equity risk premiums are not indicative of the realities of the U.S. economy and stock market. Her expected DCF, CAPM and Risk Premium ROEs for UNSE are significantly overstated and should not be treated as credible by the Commission. Mr. Woolridge's ROE of 8.75% should be adopted by the Commission as it is empirically cemented using actual market conditions and UNSE's Fair Value Rate of Return accordingly adjusted downward.

XII. CONCLUSION AND PROPOSED RECOMMENDATIONS

For the reasons stated above, the following actions should be taken:

(1) Recognize that UNSE has failed to carry its burden to provide the proper evidence to support (a) waiver of the NEM Rules to permit an alternative compensation for exported DG power, including the RCR; and (b) adoption of its unprecedented proposal for a mandatory three-part rate with demand charge as applied to all residential customers or solar customers alone. Accordingly, these proposals should be rejected;

(2) Recognize that Commission Staff, RUCO and the Company have all also failed to carry their burden to justify the adoption of the alternative rate proposals proposed by Commission Staff and RUCO and reject the same;

(3) Recognize that the evidence only supports the use and exploration of an optional two-part rate with a minimum bill and TOU component;

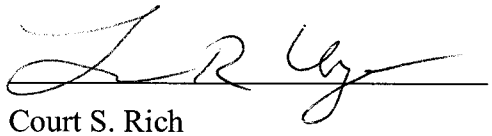
(4) Regardless of the rate adopted, all DG customers that invested in DG systems prior to the final order issued in this docket should be grandfathered and continue to utilize currently-implemented rates;

(5) Regardless of the rate adopted, reject UNSE's proposal to include an LFCR in its new rate design; and

(6) Set a ROE of 8.75%.

Respectfully submitted this 25th day of April, 2016.

ROSE LAW GROUP pc



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