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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

DOUG LITTLE - CHAIRMAN
BOB STUMP
BOB BURNS
TOM FORESE
ANDY TOBIN

IN THE MATTER OF THE COMMISSION'S DOCKET NO. E-00000J-14-0023
INVESTIGATION OF VALUE AND COST OF)
DISTRIBUTED GENERATION)

**INITIAL POST-HEARING BRIEF
OF TUCSON ELECTRIC POWER COMPANY
AND UNS ELECTRIC, INC.**

Arizona Corporation Commission

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1 Tucson Electric Power Company (“TEP”) and UNS Electric, Inc. (“UNS Electric”)
2 (together “Companies”), submit their Initial Post-Hearing Brief in this docket.

3 **I. Introduction.**

4 Distributed generation (“DG”) deployment is increasing at a rapid pace in Arizona. Under
5 the current Net Metering (“NEM”) Rules and typical utility rate design, an increasing amount of
6 fixed costs of service is no longer being recovered between rate cases or is being shifted to
7 customers without distributed generation. These cost-recovery inequities require modification of
8 both rate design and how energy produced from distributed energy systems is treated. This docket
9 addresses both the cost to serve DG customers and the value of the energy DG produced.

10 The overarching concern in this docket should be that ratepayers pay only for the true,
11 known and measurable benefits of the avoided utility costs provided by DG as the value assigned
12 to DG energy, particularly the exported DG energy that is ultimately paid for by the ratepayers.
13 Accordingly, the methodologies adopted here should not overvalue DG or value DG based on
14 future, uncertain benefits that are not actual avoided costs because they are not incurred by the
15 utility. Once ratepayers overpay for DG, it may be impossible to equitably correct the
16 overpayment.

17 The current NEM rules and policies were established to provide an incentive to customers
18 in the early years of renewable energy development, particularly solar DG due to its initial high
19 installed per kW costs. Net metering was a first step in the process – often referred to as “rough
20 justice” – to compensate DG customers for excess DG generation.¹ This approach reflected the
21 limited metering abilities and other operational restrictions. As a result, DG customers were being
22 compensated at the retail volumetric rate for energy they displaced in the current month and for
23 energy they consumed at other times but could be reduced by using banked volumes. Given the
24 limited number of DG installations and the *de minimus* total amounts being paid for DG energy,
25 the impact on other ratepayers was not front and center. Moreover, given the high costs of
26 renewable energy from PPAs at that time, the “retail rate” proxy did not necessarily

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¹ Ex. TEP-1 (Tilghman Direct) at 8-9.

1 overcompensate for renewable energy from DG systems as compared to non-DG renewable
2 resources.

3 However, the rapid technological advancement of solar and subsequent decline of prices,
4 as well as the availability of generous federal tax credits for solar DG systems, have led to a
5 dramatic increase in DG solar installations. The improved technologies and reduced costs have
6 also led to dramatically lower solar PPA costs. While the technology has advanced and prices
7 have declined, the continuation of various rate subsidies for DG (including NEM) have not been
8 addressed. This has led to: (i) a disconnect between the appropriate price signals for the market
9 and technology adoption; (ii) a significant cost shift from DG customers to non-DG customers due
10 to antiquated rate design structures; and (iii) inefficiencies in the design and placement of DG
11 systems resulting in the promotion of more expensive DG technologies.²

12 The current retail NEM Rules -- and DG policies under the REST Rules -- do not promote
13 the incorporation of DG as system resources in the most cost-effective manner. Instead, it has led
14 to the installation of DG systems that are designed to result in the maximum annual kWh
15 production to offset charges for kWh consumption from the utility's system rather than promote
16 demand reduction and system-wide benefits. DG systems are typically sized and situated to
17 generate substantial amounts of energy at times when most of that energy cannot be used onsite.
18 The excess energy is typically pushed into the grid at times of low system load and provides no
19 benefit to the utility with respect to reducing peak system demand. Even considering the total
20 production of DG facilities, the maximization of kWh production results in little peak demand
21 reduction (and potentially no reduction as summer peak load shifts to later hours in the evening).
22 Excess energy also is typically pushed in to the grid at times when wholesale energy costs are very
23 low. Yet, under the current NEM Rules, the DG owner is effectively compensated at the retail rate
24 for the excess energy that the utility would acquire at a much lower cost.

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² Ex. TEP-1 (Tilghman Direct) at 3-4.

1 The Companies believe that it is no longer appropriate to pay full retail credit for DG solar
2 when DG solar provides little, if any, system benefits and a utility-scale solar facility on the same
3 distribution system can be built or purchased for approximately half the cost and that provides the
4 same green energy with the same environmental attributes. Indeed, the benefits and value of
5 utility-scale solar production on the distribution system is superior to rooftop DG because the
6 utility can: (i) use the facility for both energy and grid management and (ii) site the facility where
7 it can provide more system benefits. And while utility-scale developers have consistently lowered
8 their costs to reflect the maturity of the industry and advancement of solar development, and have
9 passed those savings on to utilities and customers, the solar DG industry has fought to preserve
10 full retail net metering, a proposition that does not result in just and reasonable rates for all
11 customers.

12 It also no longer makes sense to provide retail credit for excess DG energy when, as both
13 the Companies' and the APS cost studies show, the non-fuel costs to serve residential DG
14 customers are the same as, if not more than, non- DG customers. Moreover, DG customers
15 currently receive significant subsidies through both rate design and net metering. These subsidies
16 are primarily due to avoiding the fixed costs to serve them due to rate design that recovers fixed
17 costs through volumetric rates.³ However, DG customers are also able to benefit from arbitrage of
18 exporting energy at times when energy demand and prices are low but getting credit for such
19 energy when demand and prices are high.⁴

20 Any potential system benefits from residential or other smaller DG systems not reflected in
21 cost of service studies are both uncertain and available only in the long-term (if at all). They are
22 certainly not known and measurable benefits that should be paid for by customers today. As a
23 result, the value of DG energy to the utilities – and to the ratepayers – is similar to the utilities'
24 short-term avoided cost of energy. This value is similar to value for “as available” energy
25 provided for qualifying facilities under Public Utility Regulatory Policy Act of 1978 (“PURPA”)

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27 ³ See Tr. (Solganick) at 1338-40; Ex. TEP-3 (Overcast Direct) at 33, 41-44.

⁴ See Ex. TEP-3 (Overcast Direct) at 41-44.

1 and related FERC regulations. It is this avoided cost that PURPA and the FERC have established
2 as the maximum value to be paid to a QF and all solar DG systems less than 1 MW is
3 automatically a QF under FERC regulations.

4 Ideally, the value of exported DG energy should reflect a variety of elements for a
5 particular system, such as the location of the DG system within the distribution grid, the impact of
6 the specific DG system on the grid, and the timing of the exported DG energy relatively to the
7 system load.⁵ However, the necessary time, resources and technology to assess the value of DG
8 on such a granular level create significant challenges. Moreover, the infrastructure necessary to
9 establish real time locational pricing is several years away.⁶ Although it is necessary to move past
10 the “rough justice” of net energy metering, the move to such a complex analysis at this time is not
11 feasible.⁷ An “intermediate” approach that results in a more accurate and equitable value for DG
12 energy – a value that will ultimately be paid for by ratepayers – should be adopted at this time.
13 Therefore, the Companies have proposed two methodologies that more accurately determine the
14 cost and value of DG than the current net metering approach but without undue complexity.

15 **II. The Companies’ Value of DG Proposal.**

16 **A. Summary of Proposal.**

17 The Companies propose two options for determining the cost and value of DG: (i) a more
18 complex approach that calculates the short term avoided cost benefits provided by DG by
19 comparing a utility’s cost of service with and without DG and (ii) a more simple approach that
20 uses a market proxy for the value of DG energy. The more complex approach would likely
21 require significant resources (for the Commission, utility and interested parties) and may not be
22 feasible for smaller utilities. The proxy approach could be simply applied and the primary issue
23 would be determining the appropriate proxy rate.

25 ⁵ See Ex. TEP-1 (Tilghman Direct) at 10. See also Ex. S-2 (Solganick Direct) at 18 (“In a perfect world
26 excess energy would be priced at real time avoided costs, with capacity compensated separately based upon
effective load carrying capabilities and various peak conditions.”)

27 ⁶ Ex. TEP-1 (Tilghman Direct) at 10.

⁷ See Ex. TEP-1 (Tilghman Direct) at 20.

1 Both approaches eliminate any “banking” of excess kWh exported into the grid by a DG
2 system. However, under both approaches, there will still be a cost shift from DG customers to
3 non-DG customers, albeit reduced. DG energy consumed on-site will still be effectively
4 compensated at retail rate and allow a DG customer to avoid paying for fixed costs allocated to
5 that customer because the current rate design for residential and small commercial customers
6 recovers a majority of fixed costs through volumetric rates. This remaining cost shift would need
7 to be addressed through cost of service and rate design, which is not the subject of this docket.

8 **1. Comparative Cost of Service Approach.**

9 The more complex approach that compares a utility’s cost of service with existing DG
10 (actual cost of service (“ACOS”)) to the cost of service if that DG did not exist (counterfactual
11 cost of service (“CFCOS”)).

12 The difference in the costs of service reflects the cost or benefit provided to the utility by
13 the existing DG resources. This comparison is based on known and measurable costs currently
14 collected through rates.⁸ The Company believes this known and measurable cost difference
15 provides a suitable basis for determining a value of solar and ultimately the rate to solar DG
16 customers to pay for the costs they cause. The exported DG energy would be compensated
17 based on this value.⁹

18 The Companies believe that ratepayers should pay only for the known and measurable
19 benefits provided by DG. However, if the Commission desires to include possible future
20 benefits (or costs) in the value of solar calculation, it could identify those additional future
21 benefits (and costs). By comparing the anticipated benefits (or costs) caused by the existing DG
22 systems with those if DG did not exist, the Commission could estimate whether there is any net
23 future benefit to the utility and its customers from DG. Some of these future considerations may
24 provide negative future value – for example, the costs of addressing the increasing adverse
25 impact on the operation of the grid caused by increasing amounts of intermittent generation. The

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27 ⁸ Ex. TEP-1 (Tilghman Direct) at 6.

⁹ Ex. TEP-1 (Tilghman Direct) at 7.

1 time frame for assessing potential future benefits (or costs) also should be carefully defined. The
2 farther into the future you estimate values, the more speculative values become.¹⁰ And
3 ratepayers may be left paying far more than any net benefit that actually manifests itself.¹¹ This
4 valuation is further compromised if the future benefits are levelized over a long period of time,
5 which further increases the risk that ratepayers will be overpaying for any actual benefits that
6 arise.¹²

7 Moreover, to the extent the Commission wants to value potential future benefits, the cost
8 of those benefits should be recovered through a separate charge, similar to the REST surcharge.
9 Although the known and measurable costs (and corresponding payment to DG customers based
10 on those costs) will be passed through the PPFAC (and possibly through the REST to the extent
11 they exceed the MCCCCG), the recovery of the “future value” of DG energy should be
12 transparent.

13 Finally, the Companies believe that, to the extent that the Commission includes potential
14 future benefits in the value of DG compensation, the total compensation should be capped at the
15 rate of the most current distribution grid-tied solar PPA. Such a PPA provides all of the same
16 external, societal and future benefits of smaller DG systems. Ratepayers should not have to pay
17 higher DG energy costs than necessary to obtain those potential, yet speculative, future benefits.

18 **2. PPA Proxy Approach.**

19 The Companies’ simpler PPA proxy approach would base compensation of exported DG
20 energy on the most recent PPA for a larger DG system that is connected to the utility’s
21 distribution grid. Although there are a few differences between the rooftop DG and wholesale
22 PPAs tied to the distribution grid (such as differing distribution losses and interconnection value
23 of three-phase over single-phase systems), the wholesale price from a PPA is a viable – and
24 easily understandable and calculated -- proxy for the value of DG.¹³ Depending on the location

25 ¹⁰ See Tr. (Solganick) at 1344.

26 ¹¹ See Tr. (Solganick) at 1345.

27 ¹² See Tr. (Solganick) at 1349-50.

¹³ Ex. TEP-2 (Tilghman Rebuttal) at 2-3.

1 of interconnection to the distribution grid, a small adder could be applied to the PPA rate to
2 reflect distribution losses. That adder would be determined in a rate case based on industry
3 accepted standards.

4 The solar PPA proxy also effectively incorporates a “future” value of solar. As noted
5 above, solar PPA provides all of the same external, societal and future benefits of smaller DG
6 systems.

7 Finally, the costs associated with the purchase of DG at the proxy PPA price could be
8 easily recovered through the existing REST mechanisms concerning the calculation of the
9 Market Cost of Comparable Conventional Generation (MCCCG) and the above market cost
10 (AMCCCG).¹⁴

11 **B. Value of DG Considerations.**

12 There are other considerations that provide context for determining the most equitable
13 methodology to valuing DG at this time.

14 **1. No Appropriate Long-Term Value.**

15 The Companies have not identified any appropriate elements that would justify requiring
16 ratepayers to pay for potential long-term benefits of DG. Currently, under traditional cost of
17 service ratemaking based on an historic test year, ratepayers pay for expenses that are known and
18 measurable and for plant that was prudent at the time of acquisition and that is currently used and
19 useful. Any modification to such ratemaking principles still requires known and measurable costs,
20 such as post-test year plant or updated tax rates.

21 **a. Speculative future benefits.**

22 The potential future benefits identified by other parties such as avoided generation
23 capacity, avoided transmission capacity, avoided environmental costs and other societal benefits
24 are purely speculative. They depend on forecasts.¹⁵ However, the farther into the future the
25 benefits are forecasted, the less accurate they are and the more risk is placed on non-DG

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27 ¹⁴ See Tr. (Tilghman) at 2245.

¹⁵ See, e.g., Tr. (Solganick) at 1344.

1 customers.¹⁶ Some parties suggest that the value of DG should reflect potential benefits far into
2 the future, such as the estimated 25-30 year anticipated lives of PV panels, and should reflect
3 levelized values to accelerate recovery of those future benefits. Indeed, the potential adverse
4 impact on the non-DG customers is exacerbated if the future benefits are levelized so that non-DG
5 customers pay more in the near term.¹⁷

6 Requiring ratepayers to pay for these unknown and uncertain future benefits is inequitable
7 and risky – the only ones that receive any certain benefit are those DG customers receiving
8 payment for the speculative future benefits. If the forecasted future benefits do not come to pass,
9 non-DG customers will have paid for nothing. It is also unlikely that overpayment for future
10 benefits that did not come to pass can be clawed back from those who received the payments.

11 **b. No current operational benefits.**

12 A key limitation on rooftop DG value is that it does not provide any benefits to grid
13 operations. For example, the Companies do not have control over the output from rooftop DG. In
14 fact, it is likely that rooftop DG increases the cost of grid operations due to adverse impacts on
15 grid voltage and frequency.¹⁸ The Company also notes that the demand on delivery capacity by
16 solar DG customers is higher than the load demand thus increasing the cost responsibility for
17 distribution for DG customers.¹⁹ As a result, the only current value of the exported DG energy is
18 the short-term avoided cost of energy that it displaces.

19 **2. DG customers are subsidized under current rate design.**

20 The combination of two-part rate design and the current Net Metering Rules results in a
21 significant subsidy to DG customers.²⁰ That subsidy is ultimately shifted to and paid by non-DG
22 customers. Moreover, as discussed above, even with the elimination of excess DG energy
23 banking, DG customers will continue to avoid payment of a significant portion of the fixed costs

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25 ¹⁶ See Tr. (Solganick) at 1344-45.

26 ¹⁷ See Tr. (Solganick) at 1349.

27 ¹⁸ See, e.g., Ex. TEP-1 (Tilghman Direct) at 13, 16.

¹⁹ See Ex. TEP-3 (Overcast Direct) at 37; Tr. (Overcast) at 834-35.

²⁰ See Tr. (Solganick) at 1338-40; Ex. TEP-3 (Overcast Direct) at 33, 41-44.

1 allocated to them. As long as the rate design recovers fixed costs (particularly capacity costs)
2 through volumetric rates, non-DG customers will be subsidizing non-DG customers.²¹

3 **3. DG customers cost at least as much to serve as non-DG customers.**

4 This docket contemplates determining both the value and cost of DG. The Companies
5 have presented cost studies that reflect the cost of service for DG customers.²² The cost studies
6 reveal that, under traditional cost of service studies, the embedded cost of service for DG
7 customers is actually higher than it is for non-DG customers.²³ Until DG customers are treated as
8 a separate customer class, the determination of the value of solar must err on the side of caution.
9 Otherwise, non-DG customers will be paying: (i) more than their actual cost of service (relative to
10 the DG customers); (ii) a subsidy to DG customers who are also avoiding paying fixed costs; and
11 (iii) an inflated value of solar that may include speculative future benefits that may never manifest
12 themselves.

13 **4. PURPA Guidance.**

14 PURPA and the related FERC regulations provide guidance (and arguably controlling
15 authority) regarding the appropriate value to pay for exported DG energy. As acknowledged by
16 TASC witness Beach, most DG facilities are “qualifying facilities” under PURPA.²⁴ PURPA
17 specifically requires utilities to purchase excess power exported from such systems at a state-
18 regulated price that is based on the utility’s avoided costs at the time of delivery.

19 The related FERC regulations limit how much a utility can pay for exported energy from a
20 rooftop DG system. Due to the nature of rooftop DG systems, any exported DG energy from
21 those systems would be considered “as available” energy.²⁵ Rooftop solar DG is a perfect
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23 ²¹ Unlike customers that adopt energy efficiency measures that permanently reduce demand, DG customers
24 do not necessarily reduce their demand on the system and, in fact, often have a higher demand on the
25 system. This is because they can require more system capacity to handle excess energy pushed into the
grid by an oversized DG system at a time when the DG customer has minimal load. See Ex. TEP-3
(Overcast Direct) at 17-18.

26 ²² See Ex. TEP-3 (Overcast Direct) at 21-48.

27 ²³ Ex. TEP-3 (Overcast Direct) at 21-48.

²⁴ Ex. TASC-26 (Beach Direct) at page 13, lines 2-14.

²⁵ Ex. TEP-4 (Overcast Rebuttal) at 5-6.

1 example of an “as available” resource because the amount of DG energy delivered to the utility is
2 completely at the discretion of the solar DG customer.²⁶ FERC rules require that “as available
3 purchases” be compensated for energy at the time of purchase at the avoided cost rate.²⁷ “As
4 available” energy has no capacity value simply because no energy is delivered to the system in the
5 peak hour.

6 Further, solar DG cannot meet the requirements spelled out for different treatment related
7 to a legally enforceable obligation, such as a contract that provides for the committed capacity and
8 energy pursuant to a schedule, a termination notice requirement and sanctions for non-
9 performance.²⁸ Because there is no contract between the solar DG customer and the utility that
10 satisfies the requirements under PURPA, there is no basis to include avoided capacity costs in the
11 compensation for excess DG energy.²⁹

12 Staff appears to acknowledge that “as available” energy from DG systems may not provide
13 any capacity value and, therefore, has proposed considering the “effective load carrying
14 capability” at the time of the utility’s system peak.³⁰ As a result, Staff suggests that the utility’s
15 avoided cost could be considered a “floor” on the value of DG.³¹ However, without any legal
16 obligation to provide energy or capacity, short-term avoided cost is a reasonable valuation
17 consistent with PURPA.

18 **C. Public Interest Considerations.**

19 Ultimately, the “value” of DG determination implicates several public interest
20 considerations that must be balanced against each other. The desire to prop up a particular
21 business model must be balanced against the impacts on the public as a whole, particularly the
22 ratepayers who will ultimately foot the bill. Although the overall financial impact on non-DG
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24 ²⁶ Ex. TEP-4 (Overcast Rebuttal) at 5.

25 ²⁷ See 18 CFR §292.304(d).

26 ²⁸ 18 CFR §292.304(d)(2), (e)(2)(iii).

26 ²⁹ 18 CFR §292.304(e)(2).

27 ³⁰ See Tr. (Solganick) at 1308-09.

27 ³¹ See Tr. (Solganick) at 1309.

1 customers is not unduly substantial at this time due to current DG penetration levels, the
2 Commission decision in this docket has the potential to lock in financial impacts that could rapidly
3 increase as DG penetration increases. The balancing of interests is challenging because the record
4 is basically devoid of any specific information on the rooftop solar business models. As a result,
5 the Commission should be conservative in valuing exported DG energy.

6 **1. Non-DG Customers should not overpay for DG Energy.**

7 The value of DG will ultimately be paid by the ratepayers. Should it become apparent in
8 the future that the methodologies to value DG are overcompensating DG owners for exported DG,
9 it will be difficult to both roll back the value of DG for existing DG owners who made an
10 economic decision based on a value for exported DG and recoup overpayment. Non-DG
11 customers would be left bearing the burden of over-valued exported DG energy. In allocating
12 risk, the Commission should err on the side of caution in valuing DG and limit the potential risk
13 that could be imposed on the non-DG customers. The Commission should also not set an
14 artificially elevated value to create or sustain a particular DG model or market.

15 **2. The Commission should encourage cost-effective DG.**

16 Because ratepayers will ultimately pay the value of DG, the Commission should incent
17 cost-effective deployment of DG. Under the utility obligation to meet its requirements for serving
18 customers, both the utility and the Commission have sought to meet that obligation in a cost
19 effective manner using least cost planning. This means that preference should be given to the least
20 cost resources in developing the DG portion of the plan. Again, the Commission should also not
21 set an artificially elevated value to create or sustain a particular DG business model or market.
22 The value should reflect the actual benefits to the grid and the ratepayers. By sending correct
23 price signals, the Commission will encourage the most cost-effective DG resources.

24 **3. The Commission should create a level playing field for different**
25 **technologies.**

26 The electric service landscape is rapidly evolving. New technologies are emerging that
27 can, for example, improve grid management, reduce customer energy demand and help shave

1 utility system load peaks. The current compensation for DG energy creates a significant subsidy
2 with inaccurate price signals. This can act as a barrier to the development and deployment of
3 technologies other than DG. The value of DG should not perpetuate subsidies or inaccurate price
4 signals. Again, the value should reflect the actual benefits to the grid and the ratepayers. By
5 sending correct price signals, the Commission will allow all technologies to compete and provide
6 the most cost-effective solutions that meet the needs of the utility and its customers. This includes
7 solar DG with active smart inverters providing VAR support and west facing solar DG to increase
8 contribution at the system peak hour. Neither of these options are incented by the current policies.

9 **III. Other Proposals.**

10 At the close of the evidentiary hearing, the Administrative Law Judge requested that the
11 parties provide comment on the various proposals of the other parties. The Companies submit the
12 following general comments on certain party proposals as currently understood by the Companies.
13 However, several parties have not clearly delineated their proposals or may clarify or modify their
14 positions. Therefore, the Companies will provide further comment in their Reply Brief once the
15 party positions are crystalized in the Opening Briefs.

16 **A. Commission Staff.**

17 Based on the testimony of Utilities Director Broderick on the final day of hearing, Staff
18 presented two methodologies for determining the value of solar. The Companies will comment on
19 these methodologies based on its current understanding of Staff's proposals.

20 **1. Avoided Cost Methodology.**

21 First, Staff has proposed an avoided cost approach.³² Staff has set forth a matrix of
22 elements that could be reviewed and quantified in determining a value of DG based on avoided
23 cost.³³ Many of the elements are similar to the elements that the Companies believe should be
24 considered in determining avoided cost. The Companies also agree with the concept of using an
25 "effective load carrying capability" to identify any actual long-term generation, transmission or
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27 ³² Tr. (Broderick) at 2324.

³³ See Ex. S-2 (Solganick Direct), Exhibit HS-3.

1 distribution capacity savings. Given the current nature of rooftop DG, it is unlikely that it
2 provides any “effective load carrying capability” that should be compensated through a value of
3 DG.

4 Staff’s avoided cost methodology approach is somewhat complex. As Staff
5 acknowledged, each value or cost element in the matrix could be litigated, resulting in a fairly
6 lengthy proceeding on those issues.³⁴ Director Broderick expressed some reservations about how
7 Staff’s avoided cost methodology would actually be implemented.³⁵

8 The Companies have similar reservations about the implementation of Staff’s avoided cost
9 methodology. The complexity may also provide a challenge to smaller utility’s with limited
10 resources. To the extent such a methodology took place in a rate case, it could overwhelm the
11 other important issues in that rate case.

12 **2. Resource Comparison Methodology.**

13 Staff also has suggested a methodology that would use comparable resources – either PPAs
14 or utility-owned solar PV facilities -- to determine the value to be paid for exported DG energy.
15 One unknown about Staff’s proposal is the vintage of the PPAs or utility facilities that would be
16 used as a proxy. It was also uncertain what Staff would use for utilities that did not have either a
17 PPA or utility-owned solar PV resources. It appears that Staff would consider determining an
18 appropriate resource comparison proxy in a rate case and that the proxy would be in place until the
19 next rate case.³⁶

20 **a. PPA Proxy**

21 As discussed above, the Companies believe a recent grid-tied PPA is an appropriate proxy
22 for the value of exported DG energy. However, the Companies are concerned about using older
23 PPAs that reflect outdated PV costs. Reaching back in time for PPA proxy values will result in
24 non-DG customers in overpaying for excess DG energy. It would also allow a customer who is
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26 ³⁴ Tr. (Solganick) at 1399-1400.

27 ³⁵ Tr. (Broderick) at 2324, 2327-28.

³⁶ Tr. (Broderick) at 2327.

1 installing rooftop solar now to benefit from PV pricing from years ago. Moreover, if Staff intends
2 to update the value of solar over time to reflect the evolving PPA pricing, this creates economic
3 uncertainty for DG customers and grandfathering issues

4 The Companies believe that using a current PPA price that is locked in for a period of time
5 is a more sustainable approach. In its pending rate case, UNS Electric has proposed to lock in the
6 PPA proxy price at the time of interconnection as the value for exported DG energy for a period of
7 time to provide some economic certainty for DG customers.

8 **b. Utility-owned PV Proxy.**

9 The Staff has also proposed using a weighted average of the per-kWh cost of utility owned
10 solar PV facilities to set a proxy rate for exported DG. However, the Companies have concern
11 about using this type of proxy. First, as the Companies' witness Mr. Tilghman explained, utility-
12 owned solar facilities are operated much differently than rooftop DG facilities.³⁷ For example, the
13 Companies control the output of the system to provide voltage stabilization or other system
14 benefits. That may reduce the actual kWh produced by the system and skew the per-kWh cost –
15 however, the Companies would be gaining system benefits from the curtailment. Second, the
16 vintage of utility-owned facilities creates a time lag issue similar to PPAs. Current PV pricing is
17 significantly lower than virtually all of the Companies' facilities. Again, new DG customers
18 should benefit from out-of-date PV pricing.

19 **B. APS.**

20 APS's proposals are similar to the Companies' proposals because the value of exported
21 DG energy would be based on either short-term avoided cost or on a recent market rate proxy for
22 similar renewable resources. The Companies would be able to support APS's proposals.

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³⁷ See Tr. (Tilghman) at 2226, 2247-48.

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C. RUCO.

The Companies have reviewed RUCO's June 22, 2016 filing. It is not clear whether RUCO has supplemented or replaced its initial proposals. The Companies will reserve its comments on RUCO's proposals until they are clarified in the opening brief.

D. Solar Advocates.

At a minimum, the Solar Advocates are proposing to include a levelized value of potential, yet speculative, future benefits in the value of solar. The Companies have addressed their general concerns with such an approach above. The Companies further reserve comment on the Solar Advocates' value of DG proposals until they are clarified in the opening briefs.

IV. Conclusion.

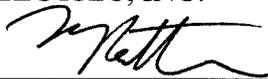
The Commission should adopt one of the Companies' proposed methodologies to value DG. For efficiency sake, the Companies believe that the current PPA Proxy methodology is the most feasible approach and will be the least controversial to apply.

The Companies also request that, to the extent the Commission includes societal and forward-looking benefits, those benefits be separately identified from the utility's cost of service, be paid outside of the avoided cost payments and be recovered through a separate charge.

Finally, the Companies believe that the Commission should commence a rulemaking to review and amend the current Net Metering Rules to track the outcome of this docket.

RESPECTFULLY SUBMITTED this 20th day of July, 2016.

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