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ORIGINAL

AZ CORP COMMISSION
DOCKET CONTROL

BEFORE THE ARIZONA CORPORATION COMMISSION

7 Bob Stump, Chairman
8 Gary Pierce, Commissioner
9 Brenda Burns, Commissioner
10 Bob Burns, Commissioner
11 Susan Bitter Smith, Commissioner

Arizona Corporation Commission

DOCKETED

NOV 08 2013

DOCKETED BY

12 IN THE MATTER OF THE APPLICATION
13 OF ARIZONA PUBLIC SERVICE
14 COMPANY FOR APPROVAL OF NET
15 METERING COST SHIFT SOLUTION.

Docket No. E-01345A-13-0248

**THE ALLIANCE FOR SOLAR CHOICE RESPONSE
TO COMMISSIONER BRENDA BURNS' NOVEMBER 4, 2013 LETTER**

17 The Alliance for Solar Choice ("TASC") respectfully responds to Commissioner Brenda
18 Burns' letter to the docket, dated November 4, 2013. TASC also takes the opportunity to address
19 a legally and procedurally deficient proposal submitted to the docket by the Residential Utility
20 Consumer Office ("RUCO") on October 30, 2013, just two weeks before the Commission has a
21 final vote scheduled in this docket. RUCO's injection of its proposal into the docket with only
22 two weeks remaining imparts a fundamental unfairness on parties, leaving an unreasonably short
23 time for parties to consider the proposal and respond. By itself, this is sufficient reason to reject
24 RUCO's proposal. Given the limited time to prepare a response, TASC addresses only a handful
25 of the legal and procedural deficiencies that infect the RUCO proposal in these comments.
26
27
28

1 **A. RUCO'S PROPOSAL SHOULD BE REJECTED & A RATE CASE INITIATED.**

2 Significant disagreement exists regarding the costs and benefits of residential solar. A
3 dizzying array of conflicting studies and proposals has been submitted into this docket as a result.
4 RUCO's injection of a last minute, ill-considered proposal further confounds the record. The
5 Interstate Renewable Energy Council ("IREC") observes: "These conflicting studies, and parties'
6 varying positions in their protests and comments, have left this docket in a state of confusion
7 regarding what the benefits and costs of distributed solar are, how to value them, and whether
8 they result in [net metering] customers being subsidized or providing value to other APS
9 customers." IREC, p. 2, Oct. 10, 2013. Against this mass of conflicting information, the
10 reasonableness of Staff's suggestion that this matter requires rate case resolution becomes clear.
11
12

13 Despite the ever-expanding mass of conflicting information and proposals entered in this
14 docket, information essential to the setting of rates and a resolution of these matters is entirely
15 absent from the record. For example, data is unavailable on the fair value of APS assets.
16 Likewise, data on APS's cost of service generally and its cost of serving residential solar
17 customers specifically is entirely lacking. TASC and other parties have stressed repeatedly that
18 this information is a necessary prerequisite to setting rates, charges and classifications under
19 Arizona law. Access to this information, and the ability to cross examine APS regarding this
20 information through evidentiary hearings, is also essential to allowing TASC and other parties a
21 fair opportunity to demonstrate that residential solar customers pay their full cost of service, and
22 then some.
23

24 It is tempting to surmise this is precisely what APS intended when it waited until a few
25 months after its last case ended, in late May of 2012, to declare a net metering "emergency".
26 Staff notes in its recommended order that APS did not raise a concern about net metering in its
27
28

1 last rate case, when all of the competing priorities and issues were on the table and parties had
2 information on APS's cost of service. Only after the procedural protections and information
3 available in a rate case were no longer available did APS declare its net metering "emergency."
4 This brings into question how much of an emergency the current limited solar penetration really
5 is to APS or its ratepayers.
6

7 RUCO also participated in APS's last rate case, but like APS, RUCO failed to raise any
8 concern about net metering when the timing was legally appropriate. Instead, RUCO waited until
9 the very end of this docket, just two weeks before a final decision is to be issued, to raise a
10 proposal that audaciously, and without precedent or sworn testimony, proposes to "lock in" in a
11 fixed charge on residential customers for a period of 20 years.
12

13 **B. RUCO'S PROPOSAL IS LEGALLY AND PROCEDURALLY DEFICIENT AND**
14 **SHOULD BE REJECTED.**

15 As a legal matter, TASC questions the Commission's authority to do as RUCO proposes
16 and set rates prospectively for a 20-year period. RUCO misunderstands that utility tariffs are not
17 contracts. Tariffs cannot "lock in" customers as RUCO proposes. Tariffs establish rates for
18 service rendered when service is received and cannot be applied retroactively or established in
19 advance for a 20-year period without connection to the utility cost of service. Approved rates are
20 designed to give the utility an opportunity to earn a reasonable rate of return on investments in
21 assets deployed for public service *at the time service is rendered*. RUCO's attempt to turn utility
22 rates into something they are not, and "lock in" rates prospectively for residential customers for a
23 20-year period, untethered from utility rate of return, is not legally supported. The illegality of
24 this proposal should be carefully considered to avoid unnecessary time spent considering the
25 proposal on its merits, which are entirely lacking.
26

27 Even assuming the Commission has sufficient legal authority to impose 20-year rates on
28

1 customers, which it does not, RUCO's proposal is simply bad public policy. RUCO proposes that
2 customers on ECT-2 rates should be exempt, but what about other tariffs that the Commission
3 may adopt at some point in the next 20 years? Would customers on any of those hypothetical and
4 yet-to-be implemented tariffs be exempt? What if a customer that is not on the ECT-2 rate
5 switches to the ECT-2 rate, assuming that tariff even remains available for the next 20 years:
6 Does that customer become exempt? What if the customer switches back: Does the customer
7 become subject to the former fixed charge, or a new fixed charge?
8

9 What if the Commission does what has been suggested in this docket and reforms
10 residential rates? Would customers taking service prior to reformed rates being implemented still
11 be "locked in" for the remainder of a 20-year period as RUCO has proposed? TASC suspects this
12 Commission does not have legal authority to bind future commissioners on ratemaking decisions,
13 as would be necessary to "lock in" rates for 20-year periods, so it unclear that this proposal could
14 even be implemented. In sum, RUCO's proposal is not practical and is likely beyond the
15 Commission's authority to implement. Moreover, it demonstrates a misunderstanding of basic
16 ratemaking principles. It should not be implemented in this proceeding or any other proceeding
17 because it is simply bad public policy.
18

19 RUCO also uses a methodology that lacks clarity and is not supported by sworn
20 testimony as to any of its assertions. TASC suspects this is because a RUCO analyst generated
21 significantly more robust analysis, with significantly different results regarding the costs and
22 benefits of residential solar PV. The prior analysis was done only six months ago, in early 2013,
23 in connection with a cost/benefit analysis completed for a TASC member company. The prior
24 analysis concluded that residential solar PV provided a \$.04/kWh benefit to "the grid," while the
25 new analysis for RUCO ignores many of the benefits distributed solar and claims a \$.02/kWh
26
27
28

1 cost to “the grid.” (See image below summarizing the differences, and Exhibit A for the related
 2 original analysis).

Before		After	
For Solar Industry: Cost/Benefit Inputs		For RUCO: Cost/Benefit Inputs	
<i>See RUCO proposal, pp. 5-6</i>			
Costs		Costs	
Backup & integration	\$0.0030		
Total Fixed	\$0.0848	"Initial Cost Shift Cost"	\$0.077
Total Costs	\$0.088	Total Costs	\$0.077
Benefits		Benefits	
<i>Near-Term</i>			
Fuel Hedge	\$0.0200		
Ancillary Services	\$0.0050		
Avoided Losses	\$0.0000		
Cost of SO ₂ , NO _x , PM, water	\$0.0100		
Avoided RPS wholesale purchases	\$0.0120		
GHG Credit	\$0.0000		
<i>Long-Term</i>			
Distribution Savings	\$0.0050		
Transmission	\$0.0230	Transmission	\$0.007
Generation Capacity (South - Fixed)	\$0.0435	Generation Capacity (WECC CT)	\$0.049
Reliability benefits	\$0.0000		
Capacity reserves	\$0.0090		
Market price mitigation	\$0.0000		
Benefits from southwest- or west-facing orientations	\$0.0000		
Total Benefits	\$0.128	Total Benefits	\$0.056
Net	-\$0.040	Net	\$0.021

17
 18 If RUCO’s proposal is subject to evidentiary hearings, which it should be because it
 19 proposes new charges, parties will have an opportunity to impeach RUCO’s analyst due to this
 20 inconsistency. This highlights the importance of ensuring that ratemaking proposals are
 21 conducted in a general rate case and are subject to the rigors of evidentiary hearings before being
 22 relied upon by the Commission.

23
 24 Recent statements from RUCO’s Lon Huber to Greentech Media confirm RUCO’s
 25 knowledge that its proposal seeks to adjust rate design outside a general rate case, which is
 26 unlawful under Arizona’s constitution:

27 “The RUCO plan just filed with the Arizona Corporation Commission is about the proper
 28 compensation for customer-sited generation,” explained RUCO consultant Lon Huber. “It

1 was designed to balance the near-term cost shift that is utilities' chief concern and the
2 long-term benefits that advocates say that rooftop solar provides. *It keeps net metering
3 100 percent intact by putting a patch on the rate design specific to solar owners.*"¹

4 Single-issue ratemaking outside a rate case violates Arizona law. RUCO and other parties
5 cannot evade that result by packing a new charge into the LFCR in an effort to achieve revenue
6 neutrality for the utility. TASC's November 4, 2013, comments on Staff's recommended order
7 address Arizona legal requirements for setting new rates extensively and will not be repeated.

8 The myriad legal, procedural and factual defects infecting RUCO's proposal require it to
9 be dismissed out of hand. Moreover, RUCO's attempt to inject this proposal into the docket two
10 weeks before the Commission has a final vote scheduled imparts a fundamental unfairness on
11 parties to this docket. For these reasons, TASC urges the Commission to reject this proposal.

12
13 **C. THE APS APPLICATION RAISES ISSUES THAT REQUIRE CAREFUL
14 CONTEMPLATION AND RESOLUTION IN A RATE CASE.**

15 Solar PV is presently Arizona's only competitive alternative to purchasing full electricity
16 requirements from monopolistic service providers. Without this alternative, APS has no pressure
17 to innovate, find efficiencies or lower its cost of service. If the Commission shields APS from
18 competitive pressure by limiting consumer alternatives, a result that APS inappropriately
19 attempts to achieve in this docket, there will be no pressure on APS to modify its investments to
20 keep pace with the changing world around it. The Arizona Competitive Power Alliance states in
21 its November 04, 2013, comments:

22
23 "While the issue has first become manifest in the contest of rooftop solar systems and net
24 metering, the fundamental issue is rate design and the current faulty price signals will
25 result in customers switching to a broader form of retail electric alternatives such as
26 natural gas appliances or alternative forms of generation that appear to be just over the
27 horizon."

28 ¹ <http://www.greentechmedia.com/articles/read/A-New-Proposal-From-Arizonas-Ratepayer-Advocate-Looks-to-Fix-Net-Metering> (italics added).

1 Although APS has chosen to focus on net metering in this docket, the issues here are
2 clearly much larger. These larger issues involve the changing role of the utility and the need to
3 modernize rates to keep pace with technology innovation and changes in consumer preferences.
4 The fact that consumers are embracing solar in large numbers is a demonstration of the public
5 interest in maintaining access to solar. By modernizing rates, the Commission can ensure that the
6 public interest is served while sending appropriate signals to utilities to innovate as the consumer
7 need for utility service change. These are issues that can only be addressed in a rate case.
8

9 Although parties may disagree on methodologies and data inputs, a clear majority of
10 parties recognize, likely given the wide range of possible methodologies and inputs, that
11 resolution of the issues raised by APS can only be found in a rate case. The following are
12 examples of that consensus from the range of parties:
13

14 (1) The Arizona Competitive Power Alliance: “The long term solution will be for the
15 ACC to establish retail electric rates that reflect the true portion of fixed and variable costs
16 associated with serving each customer. Unfortunately, this type of rate design change can only be
17 accomplished in the context of a full rate case.” (p. 1, ll. 23-25, Nov. 4, 2013).
18

19 (2) SouthWestern Power Group II, LLC: “We appreciate that it is procedurally
20 difficult to fix rate design outside of a rate case.” (p.3, Nov. 4, 2013).

21 (3) Arizona Solar Energy Industries Assoc.: “AriSEIA is in agreement with
22 Commission Staff that a true examination of this issue can only fairly and comprehensively be
23 undertaken in a general rate case...” (p. 1, ll. 25-27, No. 4, 2013)
24

25 (4) IREC: “IREC agrees with Staff that the Commission should hold workshops to
26 develop an agreed-upon methodology for the valuation of DG in advance of APS’s next rate
27 case.” (p. 2, Oct. 10, 2013).
28

1 (5) SEIA: "SEIA agrees with Staff that deferral of a final determination of these
2 issues to APS's next general rate case is the appropriate (and, SEIA has argued, legally required)
3 outcome of this proceeding." (p. 2, ll. 5-8, Nov. 4, 2013).

4 (6) RUCO: "The Residential Utility Consumer Office (RUCO) agrees with Arizona
5 Corporation Commission (ACC) Staff that this issue should be part of a broader discussion such
6 as a rate case." (p.1, Oct. 30, 2013).

7 (7) Western Resource Advocates: "We conclude that... any changes in rate design
8 should be considered only in a rate case where better data would be available." (p. 2, Nov. 6,
9 2013).

10 (8) Arizona Solar Deployment Alliance: "For these reasons, ASDA supports Staff's
11 initial recommendation of waiting to decide the NEM issue in the next APS rate case." (p. 3, ll.
12 8-9, Nov. 4, 2013).

13 Based on the above, TASC respectfully requests that the Commission reject the APS
14 Application and RUCO's proposal submitted in connection with it and instead schedule a general
15 rate case at its earliest opportunity as the best means to address all of the issues raised in this
16 docket.
17
18
19

20 RESPECTFULLY SUBMITTED this 8th day of November, 2013.

21
22 By



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CERTIFICATE OF SERVICE

I hereby certify I have this day sent via hand delivery an original and thirteen copies of the foregoing **THE ALLIANCE FOR SOLAR CHOICE RESPONSE TO COMMISSIONER BRENDA BURNS' NOVEMBER 4, 2013 LETTER** on this 8th day of November, 2013 with:

Docket Control
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, Arizona 85007

I hereby certify that I have this day served the foregoing documents via regular mail on all parties of record and all persons listed on the official service list for Docket No. E-01345A-13-0248 on the Arizona Corporation Commission's website:

Arizona Corporation Commission	Janice Alward	1200 W. Washington St. Phoenix, Arizona 85007
Arizona Corporation Commission	Steve Olea	1200 W. Washington St. Phoenix, Arizona 85007
Arizona Corporation Commission	Lyn Farmer	1200 W. Washington St. Phoenix, Arizona 85007
Pinnacle West Capital Corporation	Thomas Loquvam	400 N. 5th St, MS 8695 Phoenix, Arizona 85004
	Lewis Levenson	1308 E. Cedar Lane Payson, Arizona 85541
	Patty Ihle	304 E. Cedar Mill Rd. Star Valley, Arizona 85541
TEP, Co. and UNS Electric, Inc.	Michael Patten Jason Gellman	Roshka, DeWulf & Patten, PLC 400 E. Van Buren St., Ste. 800 Phoenix, Arizona 85004
Arizona Competitive Power Alliance; Water Utility Association of Arizona	Greg Patterson	Munger Chadwick 916 W. Adams St. Ste. 3 Phoenix, Arizona 85007
RUCO	Daniel Pozefsky	1110 West Washington Street Suite 220 Phoenix, Arizona 85007
TEP Co.	Bradley Carroll Kimberly A. Ruht	88 E. Broadway Blvd. MS HQE910 P.O. Box 711 Tucson, Arizona 85702
Arizona Solar Deployment Alliance	Garry Hays	1702 E. Highland Ave., Suite 204 Phoenix, Arizona 85016

1	Grand Canyon State Electric Cooperative Assoc., Inc.	John Wallace	2210 South Priest Dr. Tempe, Arizona 85282
2		Tim Lindl	Keyes, Fox & Wiedman LLP 436 14 th St., Suite 1305 Oakland, CA 94612
3	The Alliance for Solar Choice	Kevin T. Fox	Keyes, Fox & Wiedman LLP 436 14 th St., Suite 1305 Oakland, CA 94612
4	The Alliance for Solar Choice	Anne Smart	45 Fremont Street, 32 nd Floor San Francisco, California 94105
5	Solar Energy Industries Association	Todd Glass	Wilson Sonsini Goodrich & Rosati, PC 701 Fifth Ave., Suite 5100 Seattle, Washington 98104
6	Solar Energy Industries Association	Court S. Rich	Rose Law Group 6613 N. Scottsdale Rd., Ste. 200 Scottsdale, Arizona 85250
7	Interstate Renewable Energy Council, Inc.	Giancarlo Estrada Estrada Legal, P.C.	1 E. Camelback Rd., Suite 550 Phoenix, AZ 85012
8	Interstate Renewable Energy Council, Inc.	Erica M. Schroeder	Keyes, Fox & Wiedman LLP 436 14 th St., Suite 1305 Oakland, CA 94612
9	Western Resources Advocates; Vote for Solar Initiative	Timothy M. Hogan	202 E. McDowell Rd., Suite 153 Phoenix, AZ 85004
10	Western Resource Advocates	David Berry	P.O. Box 1064 Scottsdale, AZ 85252-1064
11	Arizona Solar Energy Industries Association	Mark Holohan	2221 W. Lone Cactus Dr., Suite 2 Phoenix, Arizona 85007
12	Sun City West Property Owners and Residents Assc.	W.R. Hansen	13815 W. Camino del Sol Sun City West, Arizona 85375

13 Dated this 8th day of November, 2013.

17 By



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EXHIBIT A

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From: Lon Huber [mailto:lhuber@next-phase.us]

Sent: Wednesday, March 06, 2013 3:51 PM

Subject: Cost & Benefit Model V2

Please see attached. I made modifications and added some notes. Please let me know if you have any questions or see something I should modify in preparation for tomorrow.

Lon Huber

[928-380-5540](tel:928-380-5540)

lhuber@next-phase.us



2 attachments — [Download all attachments](#)

 **Cost & Benefit V2.xlsx**
957K [View](#) [Open as a Google spreadsheet](#) [Download](#)

Lon Before

For Solar Industry: Cost/Benefit Inputs

Costs	
Backup & integration	\$0.0030
Total Fixed	\$0.0848
Total Costs	\$0.088

Benefits	
	<i>Near-Term</i>
Fuel Hedge	\$0.0200
Ancillary Services	\$0.0050
Avoided Losses	\$0.0000
Cost of SO2, NOx, PM, water	\$0.0100
Avoided RPS wholesale purchases	\$0.0120
GHG Credit	\$0.0000
	<i>Long-Term</i>
Distribution Savings	\$0.0050
Transmission	\$0.0230
Generation Capacity (South - Fixed)	\$0.0435
Reliability benefits	\$0.0000
Capacity reserves	\$0.0090
Market price mitigation	\$0.0000
Benefits from southwest- or west-facing orientations	\$0.0000
Total Benefits	\$0.128
Net	-\$0.040

Lon After

For RUCO: Cost/Benefit Inputs

See RUCO proposal, pp. 5-6

Costs	
"Initial Cost Shift Cost"	\$0.077
Total Costs	\$0.077

Benefits	
Transmission	\$0.007
Generation Capacity (WECC CT)	\$0.049
Total Benefits	\$0.056
Net	\$0.021

Key Inputs

Output per kW	1650
Fixed Cost Escalation per Year	2.5%
Percentage of Commercial Customers on NEM	75%
Export Rate	50%
Capacity Value in 2017 -2025	50%
LCOE of Natural Gas Peaker in 2017 -2025	\$0.09
MWs per Class (As of Oct 2012)	
Residential NEM customers	90,450
Medium Commercial customers	55000
Medium Commercial NEM customers	41250
Large Commercial customers	76000
Large Commercial NEM customers	57000
Total	188,700

Cost/Benefit Inputs

Costs	
Backup & integration	\$0.0030
Total Fixed	\$0.0848
Total Costs	\$0.0878
Benefits	
	<i>Near-Term</i>
Fuel Hedge	\$0.0200
Ancillary Services	\$0.0050
Avoided Losses	\$0.0000
Cost of SO ₂ , NO _x , PM, water	\$0.0100
Avoided RPS wholesale purchases	\$0.0120
GHG Credit	\$0.0000
	<i>Long-Term</i>
Distribution Savings	\$0.0050
Transmission	\$0.0230
Generation Capacity (South - Fixed)	\$0.0435
Reliability benefits	\$0.0000
Capacity reserves	\$0.0090
Market price mitigation	\$0.0000
Benefits from southwest- or west-facing orientations	\$0.0000
Total Benefits	\$0.1275
Net	-\$0.0397

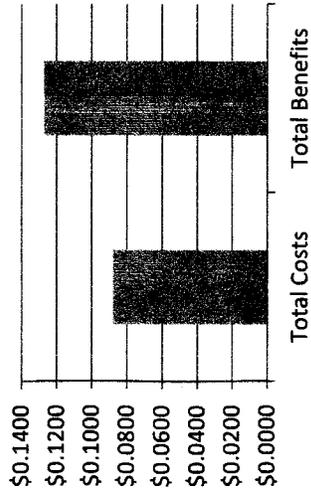
Non-participating Ratepayer Impacts

Total kW	188,700
kWh Generated	311,355,000
kWh Exported	50%
kWh Net metered	155,677,500
Aggregate Cost or (Benefit)	\$(6,177,087)

Total Ratepayers (Accounts)
Impact on Each Account 1,100,000

A year \$(5.62)
A month \$(0.47)

Cents per Residential Household/Month \$(25.70)



Fixed Cost Overview

Percentage of Installed Capacity	Fixed Costs	Fixed Costs
48%	Fixed Costs Residential	0.1118
22%	Fixed Costs Medium Commercial	0.034
30%	Fixed Costs Large Commercial	0.008
	Present Fixed Cost Avoided	0.0664
	20 Year Average	0.0848

- 0.0770
- 0.0789
- 0.0809
- 0.0829
- 0.0850
- 0.0871
- 0.0893
- 0.0915
- 0.0938
- 0.0962
- 0.0986
- 0.1011
- 0.1036
- 0.1062

Notes

This analysis looks at NEM cost/benefit shifts not DG in general - this has implications on overall benefits and costs as well as the way I look at fuel savings

As long as benefits add up past 11.8 cents there is no cost shift

Every \$1 million dollars of cost shift equals roughly 4 cents added to a residential household's bill

Regarding Benefit and Cost Inputs:

I try to strip out everything in retail rates except fixed costs

Nearly every input is levelized over 20 years

Avoided savings from T&D are lumpy and require a mix of EE and DR.

A study should be done on effects of coupling DE with EE and DR.

There can certainly be savings on the sub transmission costs though

I don't include the \$.10/Watt incentive because it is not a part of NEM

I offset PPA's not UOG for generation capacity

There could also be locational benefits and benefits from different orientations

Supporting Documents

APS had previously estimated this amount to be \$0.121 per kWh for typical residential customers in its comments to the Staff Report in the annual RES implementation plan matter. The \$0.118 revised estimate for residential customers represents additional generation capacity value attributable to distributed solar generation.

SEIA 3.3: What is the current amount of net metered solar PV capacity for residential customers and, separately, for commercial customers?

Response:

The total distributed solar PV capacity as of October 2012 is 90.45 MW for residential customers. Of this, an estimated 99% or 90 MW is participating in net metering through subscription to Rate Schedule EPR-6. The total distributed solar PV capacity for business customers is 131 MW. Of this, an estimated 75% or 98 MW is participating in net metering, also through Rate Schedule EPR-6.

Based on production of 1,650 kWh/kW, APS calculates that the levelized direct cash incentive for a system receiving a \$0.10/watt UFI over 20 years is \$0.0059. APS does not provide incentives over a 30-year period.

This calculation does not include any retail rate offsets, avoided costs, or net metering subsidies.

The total distributed solar PV capacity as of October 2012 is 90.45 MW for residential customers. Of this, an estimated 99% or 90 MW is participating in net metering through subscription to Rate Schedule EPR-6. The total distributed solar PV capacity for business customers is 131 MW. Of this, an estimated 75% or 98 MW is participating in net metering, also through Rate Schedule EPR-6.

maintains compliance with the Arizona EE Standard (2012 IRP page 23). However, the issue of concern is that the IRP shows energy efficiency as the lowest cost resource, at a levelized cost of \$60 per MWH (2012 IRP page 89), but the Company compares all of the upgrades at its coal plants against a new gas-fired combined cycle plant with a levelized cost of \$88 per MWH (2012 IRP at page 322). The cost of environmental upgrades at Four Corners Station (levelized cost of \$64 per MWH 2012 IRP at page 322) and the San Juan Generating Station (levelized cost of \$79 per MWH -2012 IRP at page 329) are both more costly than doing energy efficiency. While it is recognized that there may not be enough energy efficiency potential to replace all of the capacity of these generating stations, TEP did not review the potential in enough detail to make that determination, even though energy efficiency is the Company's least-cost resource.

This rate subsidy amount has been estimated to be \$0.118 per kWh for a typical residential customer with solar generation and \$0.034 per kWh for a medium size business customer with solar generation, as provided in the Navigant study on cross-subsidy impacts from distributed generation, which was filed with the Arizona Corporation Commission on December 6, 2012. The method, assumptions and definitions of customer groups are the same as those used in the response to SEIA 3.2.

	Developer/Investor	Utility/Ratepayer	Society/Taxpayer
Distributed solar* system Cost	20-30 c/kWh		
Transmission Energy Value		6 to 11 c/kWh	
Transmission Capacity Value		0 to 5 c/kWh	
Distribution Energy Value		0 to 1 c/kWh	
Distribution Capacity Value		0 to 3 c/kWh	
Fuel Price Mitigation		3 to 5 c/kWh	
Solar Penetration Cost		0 to 5 c/kWh	
Grid Security Enhancement Value			2 to 3 c/kWh
Environment/health Value			3 to 6 c/kWh
Long-term Societal Value			3 to 4 c/kWh
Economic Growth Value			3+ c/kWh
TOTAL COST / VALUE	20-30 c/kWh	15 to 41 c/kWh	
<i>* Centralized solar has achieved a cost of 15-20 cents per kWh today. However less of the above value items would apply. The distribution value items would not apply. Transmission capacity, and grid security items would generally be towards the bottom of the above ranges, while penetration cost would be towards the top of the ranges because of the burden placed on transmission and the possible need for new transmission lines -- nevertheless, a value of 14-30 cents per kWh could be claimed.</i>			

APS does not pay a rate for net metering per se. Rather, solar generation and net metering allow the customer to avoid paying for electric service from APS. Therefore, APS interprets this question as seeking the average retail rate that a customer avoids paying APS through solar generation and net metering.

An estimate of the overall average amount for all customers with solar generation has not been performed. However, APS has estimated this rate to be \$0.155 per kWh for a typical residential customer with solar generation and \$0.071 per kWh for a typical medium-size business customer, under current rates. Under previous rates these estimates are \$0.153 and \$0.064 per kWh respectively. These rates represent the annual reduction in APS bills divided by the annual reduction in metered kWh from typical net metering customers in these groups subscribing to Rate Schedule EPR-6.