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6 Attorneys for Arizona Public Service Company

8 **BEFORE THE ARIZONA CORPORATION COMMISSION**

9 COMMISSIONERS

10 BOB STUMP, Chairman  
11 GARY PIERCE  
12 BRENDA BURNS  
13 ROBERT L. BURNS  
14 SUSAN BITTER SMITH

14 IN THE MATTER OF THE APPLICATION OF  
15 ARIZONA PUBLIC SERVICE COMPANY  
16 FOR APPROVAL OF NET METERING COST  
17 SHIFT SOLUTION

DOCKET NO. E-01345A-13-0248

**APS NOTICE OF FILING DATA  
REQUESTS AND RESPONSES**

17 In response to the letter from Commissioner Susan Bitter Smith requesting parties  
18 to file all data requests and responses in this docket, APS hereby files additional  
19 responses for data requests received and the Company's data requests to other parties.

21 **RESPECTFULLY SUBMITTED** this 4th day of September, 2013.

23 By:

24 Thomas A. Loquvam  
25 Deborah R. Scott  
26 Attorneys for Arizona Public  
27 Service Company

26 Arizona Corporation Commission  
27 **DOCKETED**

28 SEP - 4 2013

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1 ORIGINAL and thirteen (13) copies  
2 of the foregoing filed this 4th day of  
September 2013, with:

3 Docket Control  
4 ARIZONA CORPORATION COMMISSION  
1200 West Washington Street  
Phoenix, Arizona 85007

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Copies of the foregoing delivered  
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ARIZONA CORPORATION COMMISSION  
 STAFF'S FIRST SET OF DATA REQUESTS  
 REGARDING THE APPLICATION OF ARIZONA PUBLIC SERVICE  
 COMPANY FOR APPROVAL OF NET METERING COST SHIFT SOLUTION  
 DOCKET NO. E-01345A-13-0248  
 AUGUST 1, 2013

Staff 1.29: What would annual revenue have been from those customers had they not had solar?

Response: This information is not precisely known because it requires a calculation of what the monthly bills for solar customers would have been if they had not adopted rooftop solar. Furthermore, the calendar year 2012 billed revenue provided in Staff 1.28 does not represent a full year of revenue from solar customers because many customers adopted solar partway through the year.

APS has estimated this information with a detailed rebilling study of nearly 7,800 residential customers that had been billed under net metering for the entire 2012 calendar year. The study calculated the monthly bills with solar, the monthly bills that would have occurred without solar, and the resulting bill savings for each customer. The study was based on current base rates effective July 1, 2012 and current adjustor rates as of July 1, 2013, and does not include the annual net metering bank account cash out amounts.

The resulting annual revenue and bill savings information is provided below for the 7,789 customers included in the study. The information is also scaled up for three additional levels of solar participation: 11,000 which is the average monthly solar participation in 2012 (rounded), 15,000 which is the solar participation in December 2012 (rounded), and 18,000 which is the solar participation in July 2013 (rounded). Further information on this study was provided in response to Staff 1.41.

Note that there were approximately 3,700 residential solar customers in the 2010 test year for APS's most recent rate case. For all additional solar customers, the "Revenue Pre Solar" information shown below reflects the anticipated revenue and cost recovery associated with APS's current rates for those customers.

**Solar Customer Estimated Revenue and Bill Savings  
 All Residential Rates  
 for Various Levels of Solar Customers**

<u>Solar Customers</u>	<u>Revenue Pre Solar</u>	<u>Revenue With Solar</u>	<u>Bill Savings</u>
7,789	\$ 18,332,831	\$ 7,727,821	\$ 10,605,010
11,000	\$ 25,890,505	\$ 10,913,601	\$ 14,976,905
15,000	\$ 35,305,235	\$ 14,882,183	\$ 20,423,052
18,000	\$ 42,366,282	\$ 17,858,619	\$ 24,507,663

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Staff 1.30: Provide support and explanation for APS' estimated residential DG costs.

Response: APS assessed the costs and benefits of the net metering program from a rate impact perspective, which essentially measures the impact on non-solar customers. From this perspective the benefits of rooftop solar are those impacts that reduce APS's costs or revenue requirements and ultimately rates, such as reduced fuel costs, reduced generation capacity costs, and lower line losses. Conversely, the costs of rooftop solar from this perspective are the impacts that would increase rates such as the monthly bill savings for solar customers, the costs to administer the program, upfront incentive costs, integration costs, which are the additional costs to operate the utility's system due to rooftop solar, and any other additional utility costs such as incremental metering and billing costs.

The result is that because residential rooftop solar reduces a customer's bill greater than it reduces the utility's cost of service, the net amount is shifted to other customers in the form of higher rates. Stated another way, the costs of rooftop solar are higher than the benefits which results in a net loss or net cost shift to non-solar customers.

The largest and most important cost in this analysis is the monthly bill savings for solar customers. Support for this cost along with a discussion of costs and benefits are provided in response to Staff 1.41. The other costs listed above were not explicitly included in APS's cost-benefit assessment.

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Staff 1.40: Would APS be opposed to addressing this issue temporarily now and more permanently in its next rate case?

Response: An interim solution creates uncertainty for both customers and solar providers, and allows the magnitude of the cost shift to grow. Although an interim solution is preferable to no solution at all, APS believes that adoption of one of the Company's proposed solutions is appropriate. Please also see the Company's response to Staff Questions 1.46 and 1.49.

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Staff 1.41: Did APS perform any cost-benefit analyses of the proposed net metering solutions? If so, please submit the results of these analyses.

Response: Yes. APS assessed the costs and benefits for the current residential net metering program as well as for the proposed solutions. The analysis focused on the overall impact on APS customers and rates. The results are provided in Attachment APS15252.

The assessment compared the costs of rooftop solar to customers, which are the bill savings or revenue reductions from solar customers, with the benefits, which are the reductions in utility costs resulting from the solar generation. Other costs such as program costs, incentives, and integration costs were not included in the analysis.

The results were calculated for two cases: one using current average costs from the cost of service study in our most recent rate case, and the other using current marginal costs from the SAIC study. In both cases, the solar bill savings were estimated using bill simulations from representative customers that were based on actual billing and load research information.

The solar bill savings estimations were then validated by performing a detailed rebilling simulation for thousands of residential solar customers. This simulation utilized actual monthly billing data for a 12 month period along with actual installed solar generation information for each customer. The actual monthly billing information was compared with a simulated bill that would have occurred if the customer had not installed solar. The results of this assessment validated the results of the bill simulations for representative customers, and in particular the estimated \$0.135 per kWh bill savings and the \$1,000 cost shift per year.

As shown in column 3 of the Attachment, the current residential net metering program results in an estimated bill savings (excluding taxes) for solar customers of approximately \$0.135 per kWh, APS cost savings of \$0.031 per kWh, based on current marginal costs, for a net loss or rate impact of \$0.104 per kWh. For a typical solar customer this results in a net cost shift to other customers of approximately \$1,000 per year, or approximately \$18 million per year for the current program participation. Furthermore, as shown, this adverse rate impact is expected to grow by \$6 to \$10 million per year over the next few years.

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APS also performed this assessment using the average cost of service, rather than the marginal cost, for estimating the reduced utility costs from rooftop solar. These results are provided in column 2. As shown, the solar bill savings is \$0.135 per kWh, the utility cost savings \$0.054, for a net cost shifted to other customers of \$0.081 per kWh of solar generation, or \$808 per year per solar customer.

APS also performed this assessment for the year 2025 to demonstrate that this cost shifting is expected to persist over time. This assessment was performed using projections of both marginal utility costs and average utility costs. The results shown in columns 4 and 5 demonstrate that the cost shifting from the current residential net metering program is expected to persist in the future.

APS's proposed net metering option, which requires net metering participants to be served under the existing rate schedule ECT-2, significantly reduces the cost shift per kWh to \$0.042 and \$419 per year using current marginal costs and \$0.019 per kWh and \$190 per year using current average costs (columns 6 and 7). The proposed program would not reduce the current \$18 million annual adverse rate impact from the current program because current customers are proposed to be grandfathered. However, the net metering proposal would significantly reduce, but not eliminate, the expected growth in that liability. The expected future impacts for the proposed net metering option with rate ECT-2 are provided in columns 8 and 9.

APS is also proposing a bill credit option where the entire solar kWh generation would be credited on the customer's monthly bill at a specified rate of \$0.0402 per kWh. Because this credit rate is based on the expected cost that APS would incur for purchasing electricity in the bulk commodity markets, with some adjustments specific to rooftop solar, the adverse rate impact or cost shifting from rooftop solar would be eliminated under this option (column 9). Again, to be specific, because of the proposed grandfathering provision, the current \$18 million annual rate impact would not be reduced. However, the expected growth in this impact would be eliminated.

Supplemental Response:	As explained in APS's original response to Staff Data Request 1.41, APS validated its solar bill savings estimations by performing a detailed rebilling simulation for thousands of residential solar customers. With this Supplemental Response, APS provides its
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	workpapers behind the rebilling simulation in the form of an Excel spreadsheet. Because of the size of the file, APS must physically provide the spreadsheet on a CD labeled APS15256 and APS15257.
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Staff 1.46: Are the solutions proffered in the instant application intended to be permanent solutions to the net metering cost shift issue, or a bridge solution until the next general rate case? If not, please describe your intended permanent solution(s).

Response: The Company's proposal was not intended to be a bridge to the next rate case. As with all regulatory issues, it is possible that any solution might need to be addressed in the future. The solutions proposed by APS are designed to develop a sustainable means for solar to continue growing in Arizona. In order to achieve sustainability, costs paid by solar customers must be tied to the services they receive. APS's proposed solutions would achieve sustainability on an ongoing basis.

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AUGUST 1, 2013

Staff 1.47: Please provide an electronic copy of the instant application, including all tables, charts and spreadsheets. Files shall be in native format with all formulae intact and visible.

Response: Based upon subsequent clarifications, please see native format Excel file APS15253 for the attachments to Mr. Miessner's testimony.

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SEPTEMBER 3, 2013

Staff 2.1: APS' instant application requests expedited ACC review of the referenced filing, implying a certain level of urgency in the subject matter of the filing. APS' application also references that the net metering cost-shift issue was discussed in APS' 2005 general rate case proceedings. Please explain why the Net Metering ("NM") cost shift issue was not addressed or discussed in APS' most recent (2011) general rate case proceedings, yet now requires the expedited attention of the Commission.

Response: In the Company's general rate case initially filed in 2005, APS requested that the Commission approve a three-year pilot net metering program. The program was intended to promote customer owned renewable resources in light of the expanded Renewable Energy Standard (RES) that was the subject of a rulemaking at the time the Commission was deliberating the rate case, and was designed to be a limited offering to provide an incentive for small commercial and residential customers to adopt renewable resources. APS noted that customers on the program would not pay their full costs for transmission, distribution, or other fixed costs, and for that reason proposed both a cap on the size of individual installations and an aggregate cap on participation in the program. The program attempted to strike a balance between providing incentives to promote distributed energy and the amount being paid by others who are not participants in the program. The Commission approved the program in July of 2007, adopting both a 100 kW cap on the size of program installations and a participation cap of 15 MW.

By the time the Company filed its 2011 general rate case using a 2010 test year, several realities influenced the discussion concerning DE: (i) the new RES rules containing a distributed energy carve-out had been approved; (ii) the Commission's Net Metering rules had been in place for only a short time (since mid-2009); (iii) the original pilot program had been discontinued; and (iv) participation in the Company's distributed energy program had not increased substantially. With such a limited history of net metering impacts, and based on data gathered during the 2010 test year, APS was not certain how it was going to achieve compliance with the distributed energy carve out. As a result, APS did not restart the discussion regarding the cost shift it began with the initial pilot program. APS had no way to forecast the tremendous growth seen in the solar rooftop market in 2012 and 2013—growth spurred by greater industry promotion of the lease model, the availability of financial backing for solar companies, and the significant drop in the cost of solar panels.

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In addition, the claims of the solar industry throughout that period added credence to the notion that significant growth in adoption of rooftop solar was not imminent. Industry representatives were adamant that reductions in incentives the Commission was considering throughout this period would cripple the solar industry. For example, in 2010 representatives of the solar industry had this to say:

"Allowing APS to reduce their incentive rates will have a disastrous affect [sic] on the solar industry....Allowing APS to reduce their incentive program will place a financial burden that will hurt the most successful solar companies in Arizona." Salt River Solar & Wind, April 12, 2010, Docket No. E-01345A-09-0338, in response to a proposal to reduce incentive levels to \$2.15/watt.

"A drop of another \$0.20 would cause great difficulty and confusion within the industry." SolarCity, September 17, 2010, Docket No. E-01345A-09-0338, again in response to the proposed incentive level reduction to \$1.75/watt.

"We are concerned that [the incentive level reduction] will disrupt market stability and impede installer productivity." The Solar Alliance, September 20, 2010, Docket No. E-01345A-09-0338, in response to a proposed incentive level reduction to \$1.75/watt.

Again, in 2011 industry representatives delivered the same messages:

"SolarCity is concerned that this rapid drop in incentive levels has the potential to artificially distort the market. Because the market has had to bear such steep reductions so quickly, further rebate drops might lead to a downturn in the solar market as installations are halted or decreased and companies lay off workers." SolarCity, November 3, 2010, Docket No. E-01345A-10-0166 et.al., comments in response to APS's proposed incentive levels for 2011.

And again in 2012:

"...such a change will result in the loss of numerous jobs and the stranding of investment backed expectations across the market." Global Solaris Group, November 1, 2011, Docket No. E-01345A-11-0264, comments in response to APS's proposed incentive levels for 2012.

"Under current plans, the solar market will see a significant drop in the number of distributed generation systems placed into service in 2012..." Progressive Solar Inc., November 3, 2011, Docket No. E-

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01345A-11-0264, comments in response to APS's proposed incentive levels for 2012.

Even today, the Commission is hearing the same arguments from rooftop solar industry representatives – only this time the argument is applied to the net metering incentive - at a time when the growth in installations is higher than it has ever been.

Regardless of the history of the net metering program and the inherent cost shift, APS continues to believe this inequity should be addressed on an expedited basis as the growing magnitude of the cost shift is reaching an unsustainable level as solar rooftop installations continue to grow.

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AUGUST 23, 2013

Staff 2.2: Did APS consider the use of a Standby Charge as a potential bridge solution to the NM cost-shift issue? Please explain why a Standby Charge was not proposed as a possible bridge solution.

Response: Yes, APS did evaluate the use of a Standby Charge as a potential solution to the net metering cost shift issue. APS believes the two options included in APS's filing are superior to a Standby Charge approach. Unlike a Standby Charge, both proposals would have a similar result across a broad spectrum of customers with different sized solar systems, energy characteristics and rate schedules.

APS believes the Standby Charge approach would be more difficult for customers to understand and would be more complex to implement and administer. A Standby Charge developed from average customer data is more difficult to accurately scale to different sized solar customers, potentially resulting in a solution with significantly different results for either large or small customers. For example, a flat Standby Charge would advantage large customers and disadvantage small customers. Although a per kW Standby Charge would provide a more scalable solution for customers with different sized solar systems and different energy characteristics, the relationship may not be perfectly linear.

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Staff 2.3: Did APS analyze whether the NM cost-shift issue could satisfactorily be addressed on a long-term basis through revision to the state's Net Metering Rules? What specific changes to the NM Rules would address the cost-shift issue?

Response: Yes. There are changes to Arizona's Net Metering Rules that would satisfactorily address the cost-shift issue. The most significant revision would be to limit the bill components that a customer can avoid, through self-supply, crediting excess production, or otherwise, to the components of the customer's unbundled bill that were actually saved as a result of the customer installing a solar system, such as fuel cost and a portion of generation related fixed cost.<sup>1</sup> This revision would significantly address the cost-shift issue.

Other revisions would also help to address the cost-shift, but on a more limited basis. For example, eliminating the month-to-month carry forward of excess kWhs and instead, monetizing excess energy every month at avoided cost would be a further refinement, but taken as a single adjustment, would not address the cost-shift issue.

Additionally, limiting the overall program size that is eligible for net metering or further limiting the individual system size would, in a small way, help address the cost-shift issue.

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<sup>1</sup> APS has indicated the capacity value today is approximately 50% and will decrease over time.

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Staff 2.4: APS states in the instant application that new NM customers are entering APS' system at the rate of approximately 500 per month, or 6,000 per year. What does APS forecast for the rate of NM adoption in the future, if (a) APS' Net Metering ECT-2 option; or (b) APS' Bill Credit option was approved by the Commission?

Response: In APS's initial filing, Gregory Bernosky provides testimony that since the adoption of either option may impact customer participation in DE, APS supports adding upfront cash incentives to encourage additional DE penetration at a level deemed appropriate to meet ACC policy objectives. Under either option, the size of incentive and total incentive budget selected by the ACC will influence the rate of DE adoption.

Approximately 500 installations per month are being added with current customer savings at 13 to 16 cents/kWh of bill savings plus a \$0.10/watt upfront cash incentive. Prior to considering incentives, the Net Metering ECT-2 option provides 6 to 10 cents/kWh bill savings from rates and the Bill Credit option provides approximately 4 cents/kWh bill savings from rates. Higher amounts of incentives added to either option will likely result in higher levels of customer adoption.

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Staff 2.5 Amended: Please provide a table showing the number of solar applications by month that APS has received from January 2011 through July 2013, disaggregated by customer class (i.e. residential and commercial). Provide similar information for the number of actual installations added during the stated timeframe. Add notations to the time scale indicating each time UFI's changed and what the UFI was at each change point. In addition, please supply the number of applications and actual installations by week for the months of June, July, and August 2013.

Response: Attached as APS15255 is the requested table.

Residential Weekly PV Breakdown		
Week	Applications	Installations (Grid Tied)
June 2 - 8	153	115
June 9 - 15	197	86
June 16 - 22	248	67
June 23 - 29	169	109
June 30 - July 6	105	116
July 7 - 13	193	90
July 14 - 20	200	169
July 21 - 27	218	155
July 28 - Aug 3	247	84
Aug 4 - 10	195	116
Aug 11 - 17	247	94
Aug 18 - 24	172	112
Aug 25 - 28	6	109

Date	Residential PV				Notes	Incentive <sup>2</sup> \$/Watt	Non-Residential PV <sup>1</sup>			PBI Installations
	Applications	Installations (Grid Tied)	Installations (Off Grid)	UFI Reservations <sup>3</sup>			UFI Installations	PBI Reservations <sup>3</sup>	UFI Installations	
Jan-11	212	224	1	26		\$ 1.75	4	0	6	
Feb-11	226	190	0	0	Change effective 3/17/11	\$ 1.60	8	0	5	
Mar-11	375	271	3	20		\$ 1.60	1	63	5	
Apr-11	276	231	6	6	Change effective 3/25/11	\$ 1.45	3	0	9	
May-11	458	230	2	17		\$ 1.45	6	18	12	
Jun-11	308	296	2	0	Change effective 6/11/11	\$ 1.00	6	0	2	
Jul-11	283	337	3	25		\$ 1.00	6	19	7	
Aug-11	337	312	2	2		\$ 1.00	17	5	6	
Sep-11	459	305	4	27		\$ 1.00	8	49	11	
Oct-11	668	332	6	1		\$ 1.00	4	30	15	
Nov-11	639	376	2	28		\$ 1.00	10	25	8	
Dec-11 <sup>5</sup>	N/A	428	4	0	Change effective 11/16/11	\$ 0.75	6	3	44	
Jan-12	787	362	1	16		\$ 0.75	9	26	5	
Feb-12	626	435	0	0	Change effective 1/17/12	\$ 0.60	9	0	2	
Mar-12	768	473	1	37		\$ 0.60	11	52	7	
Apr-12	579	376	1	0		\$ 0.55	9	2	9	
May-12	853	389	2	35		\$ 0.55	8	9	4	
Jun-12	936	487	2	0	Change effective 6/13/12	\$ 0.50	14	16	6	
Jul-12	896	501	1	21		\$ 0.50	6	22	2	
Aug-12	791	595	5	0	Change effective 7/24/12	\$ 0.20	6	14	6	
Sep-12	844	515	2	5		\$ 0.20	9	128	10	
Oct-12	768	678	4	0		\$ 0.20	7	18	7	
Nov-12	539	620	4	12	Change effective 11/14/12	\$ 0.10	3	21	21	
Dec-12	386	667	0	0		\$ 0.10	5	19	45	
Jan-13	571	583	0	28		\$ 0.10	3	35	4	
Feb-13	335	450	0	0		\$ 0.10	5	0	5	
Mar-13	904	596	1	0		\$ 0.10	5	4	10	
Apr-13	676	546	2	5		\$ 0.10	3	10	12	
May-13	577	460	1	0		\$ 0.10	5	7	9	
Jun-13	762	377	1	0		\$ 0.10	4	0	4	
Jul-13	845	587	0	0		\$ 0.10	0	11	17	

<sup>1</sup> The non-residential segment covers multiple programs with project nomination cycles ranging from bimonthly to semi-annually. No utility owned projects included.

<sup>2</sup> Refers to Grid Tied PV incentive.

<sup>3</sup> Reservations are reported instead of applications to avoid double counting of projects (incentives in the standard program are awarded on a competitive basis in bi-monthly cycles and unawarded applications may be resubmitted in later cycles). Standard program incentives are awarded every other month.

<sup>5</sup> No applications were accepted since 2011 incentive funds had been exhausted.

<sup>6</sup> Reservations and applications reported do not reflect a full week



**Thomas A. Loquvam**  
Associate General Counsel  
Pinnacle West Capital Corp., Law  
Department

Mail Station 8695  
PO Box 53999  
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Tel 602-250-3616  
Thomas.Loquvam@pinnaclewest.com

August 27, 2013

*VIA ELECTRONIC MAIL*  
Maureen A. Scott, Senior Staff Counsel  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, Arizona 85007-2927  
[mScott@azcc.gov](mailto:mScott@azcc.gov)

Re: APS's First Set of Data Requests to Arizona Corporation Commission,  
Docket No. E-01345A-13-0248

Dear Ms. Scott:

This letter encloses APS's First Set of Data Requests to the Arizona Corporation Commission (ACC) in the above-referenced matter.

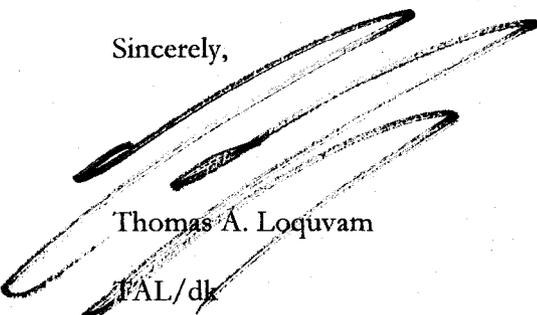
For purposes of this data request set, the words "you" and "your" refer to ACC, and any representative of ACC, as well as every person and/or entity acting with, under the control of, or on behalf of ACC. For each answer, please identify, by name, title and address each person providing the information that forms the basis for the response provided.

These data requests are continuing. Please supplement the answers, and any documents supplied in response to these data requests, with any additional information or documents that come to your attention after you have provided your initial responses. Please respond within ten (10) business days. Should you require additional time, please contact me immediately.

Please send electronic and regular delivery service of your responses to the contact information above.

Should you have any questions or comments, please feel free to contact me directly.

Sincerely,



Thomas A. Loquvam

TAL/dk

**APS'S FIRST SET OF DATA REQUESTS  
TO ACC  
Docket No. E-01345A-13-0248**

APS 1.1 For all Data Requests served upon ACC from any other party, including Commission Staff, in the above-referenced docket, provide:

- a) the Data Requests; and
- b) ACC's complete responses.

APS 1.2 For all Data Requests served by ACC upon any other Party (other than APS), including Commission Staff, in the above-referenced docket, provide:

- a) the Data Requests; and
- b) the Party's complete responses.



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August 27, 2013

*VIA ELECTRONIC MAIL*

Court S. Rich  
Rose Law Group PC  
6613 N. Scottsdale Road, Suite 200  
Scottsdale, Arizona 852510  
[CRich@RoseLawGroup.com](mailto:CRich@RoseLawGroup.com)

Re: APS's First Set of Data Requests to Solar Energy Industries Association,  
Docket No. E-01345A-13-0248

Dear Mr. Rich:

This letter encloses APS's First Set of Data Requests to the Solar Energy Industries Association (SEIA) in the above-referenced matter.

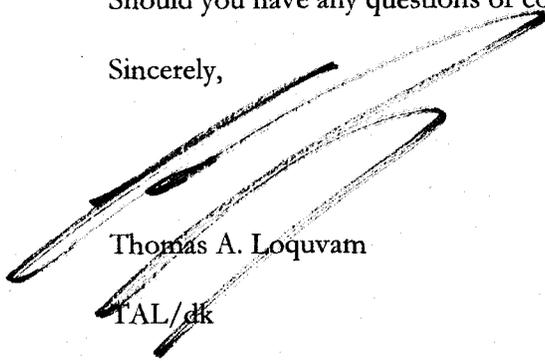
For purposes of this data request set, the words "you" and "your" refer to SEIA, and any representative of SEIA, as well as every person and/or entity acting with, under the control of, or on behalf of SEIA. For each answer, please identify, by name, title and address each person providing the information that forms the basis for the response provided.

These data requests are continuing. Please supplement the answers, and any documents supplied in response to these data requests, with any additional information or documents that come to your attention after you have provided your initial responses. Please respond within ten (10) business days. Should you require additional time, please contact me immediately.

Please send electronic and regular delivery service of your responses to the contact information above.

Should you have any questions or comments, please feel free to contact me directly.

Sincerely,



Thomas A. Loquvam

TAL/dk

**APS'S FIRST SET OF DATA REQUESTS  
TO SEIA  
Docket No. E-01345A-13-0248**

APS 1.1 For all Data Requests served upon SEIA from any other party, including Commission Staff, in the above-referenced docket, provide:

- a) the Data Requests; and
- b) SEIA's complete responses.

APS 1.2 For all Data Requests served by SEIA upon any other Party (other than APS), including Commission Staff, in the above-referenced docket, provide:

- a) the Data Requests; and
- b) the Party's complete responses.

**SOLAR ENERGY INDUSTRIES ASSOCIATION  
SEIA'S FIRST SET OF DATA REQUESTS  
REGARDING THE APPLICATION OF ARIZONA PUBLIC SERVICE  
COMPANY FOR APPROVAL OF NET METERING COST SHIFT SOLUTION  
DOCKET NO. E-01345A-13-0248  
AUGUST 15, 2013**

**SEIA 1.1:** Provide copies of any and all Data Requests served upon APS from any other Party, including Commission Staff, in the above referenced docket and provide the complete responses provided to any such Data Requests.

**Supplemental Response:** As Commissioner Susan Bitter Smith has requested all responses to data requests in this proceeding be docketed, copies of all data requests APS has received and the Company's responses can be found in Docket Control.

SOLAR ENERGY INDUSTRIES ASSOCIATION  
SEIA'S FIRST SET OF DATA REQUESTS  
REGARDING THE APPLICATION OF ARIZONA PUBLIC SERVICE  
COMPANY FOR APPROVAL OF NET METERING COST SHIFT SOLUTION  
DOCKET NO. E-01345A-13-0248  
AUGUST 15, 2013

SEIA 1.1: Provide copies of any and all Data Requests served upon APS from any other Party, including Commission Staff, in the above referenced docket and provide the complete responses provided to any such Data Requests.

Response: Attached please find a copy of Staff's First Set of Data Requests. In addition, although APS has not yet completed responses to all of the questions in Staff's First Set, those the Company has completed through August 21, 2013 are attached. The remaining responses will be provided at a later date.

APS will continue to provide data requests and their responses when available throughout this proceeding.

**SOLAR ENERGY INDUSTRIES ASSOCIATION  
SEIA'S FIRST SET OF DATA REQUESTS  
REGARDING THE APPLICATION OF ARIZONA PUBLIC SERVICE  
COMPANY FOR APPROVAL OF NET METERING COST SHIFT SOLUTION  
DOCKET NO. E-01345A-13-0248  
AUGUST 15, 2013**

**SEIA 1.2:** Provide copies of any and all Data Requests served by APS upon any other Party, including Commission Staff, in the above referenced docket and provide the complete responses provided to any such Data Requests.

**Supplemental Response:** As of August 29, 2013, the Company has not served data requests on any other party in this matter.

Any subsequent data requests served by APS can be found in Docket Control pursuant to the request of Commissioner Susan Bitter Smith.

SOLAR ENERGY INDUSTRIES ASSOCIATION  
SEIA'S FIRST SET OF DATA REQUESTS  
REGARDING THE APPLICATION OF ARIZONA PUBLIC SERVICE  
COMPANY FOR APPROVAL OF NET METERING COST SHIFT SOLUTION  
DOCKET NO. E-01345A-13-0248  
AUGUST 15, 2013

SEIA 1.2: Provide copies of any and all Data Requests served by APS upon any other Party, including Commission Staff, in the above referenced docket and provide the complete responses provided to any such Data Requests.

Response: As of August 22, 2013, the Company has not served data requests on any other party in this matter.

APS will provide data requests and their responses when available throughout this proceeding.

SOLAR ENERGY INDUSTRIES ASSOCIATION  
SEIA'S SECOND SET OF DATA REQUESTS  
REGARDING THE APPLICATION OF ARIZONA PUBLIC SERVICE  
COMPANY FOR APPROVAL OF NET METERING COST SHIFT SOLUTION  
DOCKET NO. E-01345A-13-0248  
AUGUST 16, 2013

SEIA 2.1: Fully explain and support your assertion that each installed residential solar system shifts approximately \$1,000 annually onto non-solar ratepayers. In answering this question please include each and every component of the alleged cost shift, the amount thereof, and the rate mechanism(s) whereby the alleged costs are shifted to the non-solar ratepayer. Include all work papers, supporting data where appropriate, and show all calculations and assumptions.

Response: Please refer to the responses to Staff 1.41 and 1.42. Workpapers showing the derivation of the approximately \$1,000 of net cost shift have been provided on CD APS15256 and APS15257. This file is too large to e-mail and has been transmitted through the U.S. mail.

Supplemental  
Response:

The rate mechanism(s) whereby the costs are shifted to (and increase the rates of) non-solar customers are several. The cost shift caused by rooftop solar systems that were interconnected and in-service as of December 31, 2010 occurred in the 2010 Test-Year rate case. Since that time, an additional shifting of costs to non-solar customers has occurred (and continues to occur) through various rate adjustor mechanisms that are partially or totally avoided by customers with solar. The Lost Fixed Cost Recovery ("LFCR") mechanism shifts fixed costs related to distribution and the portion of transmission fixed costs recovered in base rates; the Transmission Cost Adjustor ("TCA") shifts some of the remaining fixed transmission costs; the Demand Side Management Adjustment Clause ("DSMAC") shifts costs related to energy efficiency and demand-response programs; and the Power Supply Adjustor ("PSA") shifts responsibility for any unrecovered historical PSA fuel balances. And if Net Metering is not addressed now, the fixed costs related to generation will be shifted to non-solar customers when new billing determinants are established in APS's next rate case.

**SOLAR ENERGY INDUSTRIES ASSOCIATION  
SEIA'S SECOND SET OF DATA REQUESTS  
REGARDING THE APPLICATION OF ARIZONA PUBLIC SERVICE  
COMPANY FOR APPROVAL OF NET METERING COST SHIFT SOLUTION  
DOCKET NO. E-01345A-13-0248  
AUGUST 16, 2013**

**SEIA 2.1:** Fully explain and support your assertion that each installed residential solar system shifts approximately \$1,000 annually onto non-solar ratepayers. In answering this question please include each and every component of the alleged cost shift, the amount thereof, and the rate mechanism(s) whereby the alleged costs are shifted to the non-solar ratepayer. Include all work papers, supporting data where appropriate, and show all calculations and assumptions.

**Response:** Please refer to the responses to Staff 1.41 and 1.42. Workpapers showing the derivation of the approximately \$1,000 of net cost shift have been provided on CD APS15256 and APS15257. This file is too large to e-mail and has been transmitted through the U.S. mail.