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October 11, 2011  
Arizona Corporation Commission

DOCKETED

OCT 11 2011



**Hand Delivered**

Commissioner Paul Newman  
Arizona Corporation Commission  
1200 West Washington  
Phoenix, Arizona 85007

RE: Response to REST Questions  
Docket Nos. E-04204A-11-0267

Dear Commissioner Newman:

Tucson Electric Power Company ("TEP") and UNS Electric, Inc. ("UNS Electric") (collectively "Companies") are in receipt of the questions docketed on August 30, 2011, that you posed to both companies regarding their respective 2012 Renewable Energy Standard Tariff ("REST") Implementation Plans. This letter provides the Companies' responses to those questions as follows:

**TEP/UNS Electric 2012 Plan.**

**Questions about the Bright Tucson Community Solar Program.**

1. **Is the Bright Tucson Community Solar Program fully subscribed, under-subscribed or over-subscribed?**
2. **Can TEP please report to the Commission every year on the following issues with the Bright Tucson Community Solar?**

There is no prescribed limit to the Bright Tucson Community Solar Program. As subscribers sign up for the program and voluntarily pay an additional monthly fee for each "solar block", TEP tracks how many blocks have been sold. Every Megawatt ("MW") of installed DC solar capacity represents 1,000 blocks available to TEP customers. The first project to be part of TEP's Community Solar Program was the 1.6 MW single-axis tracking system built at the University of Arizona Science and Technology Park ("UASTP"). This project provides 1,600 available blocks to TEP customers. The 2 MW concentrated photovoltaic ("CPV") project that was commissioned in March 2011 (also located at the UASTP) provides another 2,000 blocks

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available to customers under the Community Solar Program. As additional blocks are needed, additional local solar facilities will be dedicated to the program.

**a. Number of Subscribers / Number of Inquiries.**

As of September 29, 2011, there were a total of 470 customers that had purchased exactly 2,000 “solar blocks”, for an average of 4.25 blocks subscribed per customer. TEP does not have a tracking mechanism in place for customer inquiries; therefore the Company cannot determine how many inquiries it has received about the program.

**b. Cost per Renewable Energy Credit (“REC”).**

There is no cost per REC for this program. Customers pay \$3.00 per month for each 150 kWh “solar block”, which represents a premium of \$0.02 per kWh. The premiums paid by the customers are credited to the annual REST budget. This reduces the amount of the budget that other ratepayers are subsidizing.

**c. RECs from out-of-state versus in-state projects.**

Because the Community Solar program consists of local solar projects, there are no issues with RECs from in-state versus out-of-state. All of the generation associated with the Bright Tucson Community Solar Program is located inside TEP’s service territory.

## **Questions about the Bright Roofs Program.**

- 1. Why would TEP count large systems such as 250 kW to 1 MW to count as customer sited distributed generation?**
- 2. Doesn’t the ownership model proposed by TEP - where the power generated would count as DG – conflict with the purpose of the 30% Distributed Generation (DG) carve out?**

Under the Renewable Energy Standard Tariff Rules (“REST Rules”) – “Distribution Generation” means electric generation sited at a customer premises, providing electric energy to the customer load on that site, *or providing wholesale capacity and energy to the local Utility Distribution Company for use by multiple customers in contiguous distribution substation service areas.*<sup>1</sup> Moreover, “Distributed Renewable Energy Resources” are applications of

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<sup>1</sup> See A.A.C R14-2-1801.E.

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defined technologies (including “Solar Electricity Resources”) that are located at a customer’s premises and that displace conventional energy resources.<sup>2</sup>

Under TEP’s rooftop solar leasing program, these systems (250 kW and greater) will be: (1) located at a TEP customer’s premise; (2) will be providing wholesale capacity and energy to the utility; (3) will be used to serve all of our customers inside TEP’s contiguous distribution substation service area; and (4) will displace conventional energy resources. Therefore, these systems are both “Distributed Generation” and “Distributed Renewable Energy Resources” under the REST Rules. Further, there is no requirement that the eligible facility be owned by the customer; only that the facility is located at a customer’s premises.

Moreover, regardless of ownership, the customer-sited facility will meet the purpose of improving system reliability – as stated in the REST Rules at A.A.C. R14-2-1805. The reliability benefits include transmission and distribution loss-savings, deferring infrastructure buildout, and peak shaving. These benefits can be achieved regardless of who owns the facility or whether the facility is connected to the customer or the utility’s side of the meter. Therefore, counting these systems toward meeting the Distributed Renewable Energy Requirement under the REST Rules does not conflict with the purpose and intent of that requirement.

While the REST Rules intended that the Distributed Renewable Energy Requirement not be met exclusively through the use of utility-scale applications within the distribution system (limited to 10% of the distributed generation requirement), there is no restriction on the utility ownership of customer-sited renewable generation. There is also no restriction within the REST Rules that prevents the utility from owning residential systems, although at present, TEP does not view residential system ownership as a viable business option for the utility.

Further, TEP did not count these systems towards meeting its Distributed Renewable Energy Requirement for 2012; nor was any portion of the distributed generation budget reduced due to the addition of these TEP-owned distributed systems.

**On Table 1 on page 4, please add a column for location (county, state) so that readers will understand where each generation asset is located.**

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<sup>2</sup> See A.A.C. R14-2-1802.A.10 and B.

See the table below. A column has been added to indicate the location of the facilities:

Existing Renewable Generation						
Project	Capacity MW (AC)	Annual MWh	Technology	Expected In-Service Date	TEP Owned	Location
Biogas - Sundt	4	19,375	Biogas	Operational	Yes	Tucson, AZ
SGS Solar	4.6	8,500	Fixed PV	Operational	Yes	Springerville, AZ
SGS Solar Expansion	1.8	3,300	Fixed PV	Operational	Yes	Springerville, AZ
SOLON Community Solar	1.6	3,500	SAT PV	Operational	Yes	Tucson, AZ
Amonix Solar	1.6	3,500	CPV	Operational	No	Tucson, AZ
<b>Total Existing</b>	<b>13.6</b>	<b>38,175</b>				
Bright Tucson Solar Buildout Plan						
Solon Solar	8	17,520	SAT PV	2011 - 2012	Yes	Tucson, AZ
TBD	8	17,520	TBD	2013 - 2014	Yes	Tucson, AZ
<b>Total Future - BTSBP</b>	<b>16</b>	<b>35,040</b>				
Future Renewable Generation						
Torch Renewable Energy, LLC	50	133,300	Wind	2011	No	Deming, NM
Amonix Solar	9.6	21,020	CPV	2011	No	Tucson, AZ
CTC (First Light, LLC)	4	7,010	Fixed PV	2011	No	Tucson, AZ
NRG Solar	20	43,800	Fixed PV	2011	No	Marana, AZ
Fotowatio Renewable Ventures	20	43,800	SAT PV	2012	No	Marana, AZ
ANS/EMCORE Solar	1.6	3,500	CPV	2012	No	Tucson, AZ
Foresight Solar	3.2	7,010	SAT PV	2012	No	Tucson, AZ
Foresight Solar	9.6	21,020	SAT PV	2012	No	Tucson, AZ
Renewable Fuel LLC (Bell IPC)	5.5	17,600	Solar Thermal	2013	No	Tucson, AZ
Sexton Energy	2.2	15,400	Bio-Mass	2013	No	Tucson, AZ
Avalon Solar	28	61,320	Fixed PV	2013	No	Tucson, AZ
<b>Total Future - Pending</b>	<b>168.6</b>	<b>280,460</b>				
Total Expected Generation - Planned	<b>198.2</b>	<b>353,675</b>				
Total Expected Generation thru 2012	<b>139.6</b>	<b>260,825</b>				

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**Please provide more information about the coal-concentrating solar hybrid project at the Sundt plant. For example:**

- **How large is the coal unit that will be accepting steam from the 5 MW of Concentrating Solar Power (CSP)?**

The 5-MW solar thermal facility will be connected to the Sundt Generating facility, which has maximum coal output of approximately 125 MW.

- **What kinds of efficiency gains is TEP expecting?**

The Rankine cycle efficiency gains (essentially measuring gains from the process where steam-operated heat engines generate power) are difficult to quantify with the varying load levels on the Sundt facility along with the intermittency of solar; however, the CSP augmentation is designed to produce up to 5 Megawatt electrical (MWe) during peak periods, while the typical output of the Sundt facility is approximately 125 MW at peak.

More importantly, TEP expects to burn approximately 3,750 fewer tons of coal, which is equal to reducing approximately 7,000 tons of CO<sub>2</sub> emissions annually.

- **Does TEP expect results similar to the coal-CSP hybrid project operated by Xcel Energy at the Cameo coal plant in Grand Junction, Colorado?**

The Xcel-owned Cameo Plant has a 4.4-MW CSP facility integrated into a 44-MW coal plant. However, the Xcel facility is a different type of CSP integration than the integration proposed by TEP. As with all steam-generating facilities, a coal plant simply burns coal to heat water, which in turn makes steam to drive a turbine. Xcel's Cameo facility has integrated solar thermal panels which heat up mineral oil, which in turn assists with heating up the water. Consequently, this reduces the amount of coal burned to achieve the same effect. By contrast, the proposed TEP project does not use a medium to transfer heat to the water. TEP's facility will be a direct steam production facility and will feed directly into the low/intermediate steam pressure system.

Xcel expects to burn approximately 900 fewer tons of coal each year, an equivalent CO<sub>2</sub> reduction of approximately 2,000 tons. The National Renewable Energy Laboratory ("NREL") has calculated this to be about a 5% increase in the plant's overall efficiency. TEP expects to achieve greater efficiency results with the Sundt solar hybrid project through the use of direct steam injection solution, which results in higher steam temperatures and pressures.

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## Renewable Energy Credit Purchase Program.

1. **Table 5 on page 9 of TEP's 2012 REST plan includes the customer segment, 2012 budget, Annual MWh and Annual MW. Please include 2 more columns with the information as follows:**

Those columns have been added to the following table:

Customer Segment	2010	2010	2011	2011	2012	2012	% Difference between 2011 and 2012 budgets
	\$ Budget	MW	\$ Budget	MW	\$ Budget	MW	
Residential UFI	16,988,706	5.7	14,358,111	7.2	14,358,111	8.2	0
Small Commercial UFI	5,000,000	2.0	3,769,230	2.5	1,114,510	0.8	30%
Large Commercial PBI	1,640,974	6.0	384,375	1.6	219,540	1.1	57%

2. **For example, wasn't the Small Commercial UFI Annual MW 3.2 MW in 2010, so that the 2012 Small Commercial UFI budget of 0.8 MW is a reduction of at least 60%?**

The budget for small commercial in 2012 has been reduced by more than 60%, which is the required amount to meet the requirements within the REST Rules given current reservations and expected sales in 2012.

3. **In the Large Commercial PBI segment, was the 2011 plan for 3.8 MW, while the 2012 plan for the same segment has been reduced to 1.8?**

The approved incremental increase to the budget in 2011 was \$384,375 or approximately 1.6 MW. The proposed incremental increase to large commercial PBI in 2012 is \$219,540 or 1.1 MW.

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**4. What would the effect be on the REST adjustor if the Small and Large Commercial UFI and PBI budgets were the same as last year - with no increase and no decrease?**

If TEP used numbers budgeted for residential up-front incentives ("UFIs") and Commercial UFIs and performance-based incentive ("PBI") programs, along with the other proposed 2012 budget numbers, then the total 2012 REST budget would be \$46,418,506. Of that amount, only \$41,543,506 would need to be recovered due to carryover funds from 2010. This represents a \$2,435,180 increase to maintain the same funding levels. Assuming equal distribution of the surcharge caps and using the proposed 2012 per kWh charge, the new caps would increase by 25%:

<b>Rates</b>	<b>Current Adjustor Rate and Caps</b>	<b>Proposed Adjustor Rate and Caps</b>
Per-kWh rate to all Classes	\$0.007121	\$0.007700
Residential	\$4.50	\$5.63
Small Commercial	\$160.00	\$200.00
Large Commercial	\$1,000.00	\$1,250.00
Industrial & Mining	\$5,500.00	\$6,875.00
Public Authority	\$180.00	\$225.00
Lighting (PSHL)	\$160.00	\$200.00

Keeping the Commercial budgets the same as last year as requested will result in *no* additional commercial PBI projects. To keep the caps at current 2011 levels, the per-kWh rate would change from \$0.007121 to \$0.01068.

**On page 11 of TEP's 2012 REST Plan, please add the following columns to Table 10 Plan Budget by Category:**

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Those columns have been added to the following table:

	2008	2009	2010	2011	2012
	Budget	Budget	Budget	Budget	Budget
Utility Scale	\$3,437,734	\$6,789,977	\$12,131,633	\$6,501,973	\$17,651,418
Residential UFI	\$3,057,111	\$15,059,712	\$16,988,706	\$14,358,111	\$14,358,111
Small Commercial UFI	N/A	N/A	\$5,000,000	\$3,769,230	\$1,114,510
Large Commercial PBI	\$408,820	\$3,728,026	\$5,369,000	\$5,753,375	\$5,972,915

5. On Table 11 on page 12, 201 1/2012 REST Budget by Rate Class, please include the past 4 years, and include the percentage change in budget for the most recent two years. In other words, include the percentage change in budget for the 201 1 and 2012 plans.

That information has been included in the following table:

Rate Class	2008	2009	2010	2011	2012
Residential	\$8,767,646	\$16,677,567	\$12,499,164	\$15,905,197	\$17,393,069
Small Commercial	\$4,693,708	\$8,928,238	\$12,020,670	\$10,441,814	\$11,451,735
Large Commercial	\$1,357,527	\$2,582,250	\$5,014,431	\$6,781,882	\$6,083,266
Industrial & Mining	\$374,721	\$712,783	\$1,211,862	\$1,793,166	\$3,103,622
Public Authority	\$249,409	\$474,418	\$770,320	\$729,519	\$815,757
Lighting (PSHL)	\$141,055	\$268,312	\$292,138	\$232,786	\$262,759
<b>Total</b>	<b>\$15,584,066</b>	<b>\$29,643,567</b>	<b>\$31,808,586</b>	<b>\$35,884,364</b>	<b>\$39,110,208</b>
<b>% Increase</b>				<b>12.8%</b>	<b>9.0%</b>

## Rates

Residential	\$2.00	\$4.50	\$3.20	\$4.50	\$5.00
Small Commercial	\$39.00	\$75.00	\$160.00	\$160.00	\$178.00
Large Commercial	\$39.00	\$350.00	\$760.00	\$1,000.00	\$1,110.00
Industrial & Mining	\$500.00	\$1,600.00	\$3,600.00	\$5,500.00	\$6,130.00
Public Authority	\$39.00	\$75.00	\$160.00	\$180.00	\$200.00
Lighting (PSHL)	\$39.00	\$75.00	\$160.00	\$160.00	\$178.00
Per kWh to all Classes	\$0.004988	\$0.008000	\$0.008636	\$0.007121	\$0.007700

**6. Please include the following information in describing REST rate caps and funds by rate classification:**

The following table includes the information requested:

<b>Customer Class</b>	<b>Current Rate Caps by Class</b>	<b>Proposed Rate Caps by Class</b>	<b>Percent of Customers at Cap</b>	<b>Number of Customers in Each Rate Class</b>	<b>Total Percent of MWh Sales by Rate Class</b>	<b>Total Percent of REST Revenue by Rate Class</b>
Residential	\$4.50	\$5.00	41.6%	370,144	40.65%	44.5%
Small Commercial	\$160.00	\$178.00	4.7%	36,186	21.64%	29.3%
Large Commercial	\$1,000.00	\$1,110.00	43.0%	622	13.13%	15.5%
Industrial & Mining	\$5,500.00	\$6,130.00	97.3%	43	22.01%	7.9%
Public Authority	\$180.00	\$200.00	15.6%	1,109	2.21%	2.1%
Lighting (PSHL)	\$160.00	\$178.00	0.1%	1,776	0.36%	0.7%
				409,880	100.00%	100.00%

**General Discussion Questions:**

**Should the Commission require a Third Party Administrator so that the Commission and staff do not need to constantly intervene?**

The Companies believe this question relates to current debate regarding a third-party administrator in Colorado regarding energy efficiency. It should be noted that the case referenced in Colorado was a proposal by the Colorado Governor's Office (GEO) in an attempt to eliminate the conflict between meeting energy efficiency goals and the subsequent loss of retail sales associated with those goals. No party in the referenced Colorado case requested or argued that a third-party administrator would reduce the need for the Commission or Staff to intervene.

As to whether a third party administrator should be used (either for renewable energy or energy efficiency programs), both TEP and UNS Electric agree with Public Service of Colorado in its argument that the utility is best suited to administer the programs, as well as arguments by the Southwest Energy Efficiency Project ("SWEET") that a third-party administrator would introduce additional levels of complexity into the process. The Companies believe this would also add additional cost to the budget. The Colorado Public Utilities Commission, in its findings, supported these arguments in denying use of a third party administrator.

Further, the Companies believe it is important for the Commission and Utilities Division Staff to review their respective REST plans and provide input regarding any Commission-mandated and/or regulated program that results in a surcharge to utility customers. Utilizing such a third party for such a purpose would not be in the best interest of the stakeholders.

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Finally, the Companies do not believe there have been enough disputes regarding the implementation and application of Commission-approved REST plans to justify the need for a third-party administrator.

**Should the Commission require the utilities to file REST plans in a template form to facilitate apples-to-apples comparisons and easy-to-understand REST plans?**

TEP and UNS Electric appreciate the need to effectively compare each affect utilities implementation plan, and that those plans are easy to understand. However, the Companies would caution against the development of a "REST plan template". A template may inadvertently limit the Company's ability to customize and tailor their REST Plans to meet not only their required targets, but allow each company to emphasize components of the REST Plan and programs that are consistent with the Company's corporate goals, as well as the meeting the individual communities needs and expectations, which vary among the utilities. Templates may also interfere with the most cost-effective use of the REST adjustor revenues to meet compliance requirements.

**Should the Commission increase funding for the REST? If so, how?**

Simply increasing funding the REST above currently proposed levels, which are designed specifically to show compliance with the requirements contained within the REST Rules would result in over-compliance. Given the current state of the economy, unemployment rates in the Companies' service territories, and overall rising costs for all consumers, the Companies cannot support simply "increasing funding" without a clear direction from the Commission that allows the Companies to pursue the most cost-effective integration of renewables.

Should the Commission decide to alter the requirements within the REST Rules, TEP and UNS Electric would continue to support cost-effective renewable energy solutions that have the least impact on our ratepayers.

Please do not hesitate to contact me if you have questions or would like any additional information.

Sincerely,



Jason D. Gellman

JDG:mi

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cc: Docket Control (13 copies)  
Chairman Pierce  
Commissioner Stump  
Commissioner Kennedy  
Commission Burns  
Steve Olea, Utilities Division Director  
Janice Alward, Chief Counsel  
Teena Jibilian, Administrative Law Judge  
Bob Gray

Service List for Docket No. E-04204A-11-0267 (via U.S. Mail)