

ORIGINAL



0000116056



RECEIVED

2010 SEP -1 A 11:05

COUNTY ADMINISTRATOR'S OFFICE

AC CORP COMMISSION  
DOCKET CONTROL

PIMA COUNTY GOVERNMENTAL CENTER  
130 W. CONGRESS, TUCSON, AZ 85701-1317  
(520) 740-8661 FAX (520) 740-8171

C.H. HUCKELBERRY  
County Administrator

August 26, 2010

Mr. Steven M. Olea  
Director, Utilities Division  
Arizona Corporation Commission  
1200 West Washington  
Phoenix, Arizona 85007

Arizona Corporation Commission  
DOCKETED

SEP 1 2010

DOCKETED BY	ROSS
-------------	------

Re: Docket No. E-00000J-10-0202

Dear Mr. Olea:

I appreciate this opportunity to respond to items contained in the August 2, 2010 letter of Mr. David Hutchens of Tucson Electric Power (TEP), which is part of the above referenced docket.

- **Renewable Energy Credit (REC) cost discrepancies.** TEP's 2010 Renewable Energy Standard & Tariff (REST) documents filed with the Arizona Corporation Commission (ACC) presented two different MWh amounts on two different exhibits. When the Pima County Procurement Department calculated the TEP REC cost at \$0.0960, it was using TEP's Exhibit 1 (Page 23), which shows a 2010 "Total MWH" of 118,318 and a 2010 "TEP Utility-Scale Budget" of \$11,331,633. The budget amount divided by the MWh resulted in a cost of \$0.0960 per kWh. By contrast, TEP Exhibit 2 (Page 27) contains footnote "aa," which bases TEP's REC cost on a different MWh amount (190,567) and states the REC cost is \$0.595 per kWh. We understand from Mr. Hutchens' letter that TEP's utility-scale REC is the amount noted on Exhibit 2 (\$0.595/kWh).
- **Aggregated Net Metering's (ANM) ability to optimize economic efficiency.** Pima County does not question the utility-scale REC price of \$0.062/kWh presented in TEP's letter docketed on June 10, 2010. To the contrary, this REC price demonstrates that ANM can achieve greater economic efficiencies for Pima County residents and ratepayers. If ANM is approved, an ANM customer can generate much more power per ratepayer-funded RES dollar than a utility. Based on quotations from reputable PV solar system providers, we believe we can establish Distributed Renewable Energy (DRE) solar systems via solar service agreements for photovoltaic DRE with only a \$0.03 to \$0.04/kWh REC (PBI), depending on the system scale and site.

Mr. Steven M. Olea  
Re: Docket No. E-00000J-10-0202  
August 26, 2010  
Page 2

In his letter, Mr. Hutchens questions the above numbers, but his skepticism appears to be based on outdated and incomparable information. He is correct that Pima County's prior solar proposals have required more costly RECs, but that was when solar system costs and REC prices were much higher, and the County's proposals were for smaller, 1 to 2 MW projects because we have been substantially constrained by current net metering rules. Pima County contemplates larger projects with ANM, and at least one US Department of Energy forecast contemplates the price of utility-scale solar power will continue to drop, perhaps to as low as \$0.06 cents per kWh in 2015, as a result of federal stimulus fund investments and incentives. (US Department of Energy Fact Sheet at [http://apps1.eere.energy.gov/news/progress\\_alerts.cfm?page\\_id=389](http://apps1.eere.energy.gov/news/progress_alerts.cfm?page_id=389), 8/24/10).

As my June 18, 2010 letter to you documents, Pima County has expended considerable effort and resources to collaborate with TEP regarding implementation of the ACC's renewable energy programs. We value TEP's contributions to advancing solar energy renewable projects and desire to cooperate with them in this endeavor.

We remain convinced ANM offers an excellent win-win solution to the "Load/No Land and Land/No Load" circumstances created by existing net metering rules and that, with the ACC's leadership, an innovative ANM program for Arizona can be developed. We do not desire anything more than assisting in the substantial generation of renewable solar energy given our unique circumstance of having substantial load centers with little additional land at the load location and acres of public land available for solar generation but without a nearby load. An effective alternative ANM program will greatly improve our ability to assist in developing renewable solar energy.

Sincerely,



C.H. Huckelberry  
County Administrator

CHH/mjk

**Attachments**

- c: The Honorable Chairman and Members, Pima County Board of Supervisors  
Chair and Members, Arizona Corporation Commission  
Janice Alward, Chief Counsel, Arizona Corporation Commission  
Docket Control, Arizona Corporation Commission  
Jodi Jerich, Director, Arizona Residential Utility Consumer Office  
David Hutchens, Vice President, Energy Efficiency/Resource Planning, Tucson Electric Power  
C. Webb Crocket, Director, Fennemore Craig, PC  
Kevin Fox, ANM Workshop Moderator  
Reid Spaulding, Director, Pima County Facilities Management  
Tedra Fox, Pima County Sustainability Manager  
Terry Finefrock, Chief Contracts and Procurement Officer, Pima County Procurement

# EXHIBIT

"1"

## TEP Exhibit 1 kw and kwh Forecast

TEP	2008	2009	2010	2011	2012	2013	2014
RES Annual Renewable Energy Percentage	1.75%	2.00%	2.50%	3.00%	3.50%	4.00%	4.50%
Seven Months							
Energy Sales - MWh Growth @ 1.52%/yr	5,713,342	9,457,814	9,653,820	9,813,592	10,003,633	10,147,800	10,299,385
Expected DSM Program Annual Energy Reductions	31,384	63,837	97,308	131,815	167,496	220,257	275,657
Expected DG Program Annual Energy Reductions	0	9,943	28,152	47,642	72,256	102,521	117,900
Net Retail Energy Sales in MWh per Year	5,681,958	9,384,033	9,528,360	9,634,135	9,763,881	9,825,022	9,905,828
Renewable Energy - MWh	99,434	187,681	238,209	289,024	341,736	393,001	445,762
Utility Scale Renewable	89,491	159,529	190,567	216,768	239,215	275,101	312,034
Minimum Distributed Energy %	10.00%	15.00%	20.00%	25.00%	30.00%	30.00%	30.00%
Minimum Distributed Energy MWh	9,943	28,152	47,642	72,256	102,521	117,900	133,729
Minimum Residential Distributed Energy %	5.00%	7.50%	5.00%	6.25%	7.50%	7.50%	7.50%
Minimum Residential Distributed Energy MWh	4,972	14,076	11,910	18,064	25,630	29,475	33,432
Maximum Commercial Distributed Energy %	5.00%	7.50%	15.00%	18.75%	22.50%	22.50%	22.50%
Maximum Commercial Distributed Energy MWh	4,972	14,076	35,731	54,192	76,891	88,425	100,297

### TEP UFI Budget Requirements

	2010	2011	2012	2013	2014
DG kwh required	47,641,800	72,256,014	102,520,750	117,900,264	133,728,681
UFI cumulative required	11,910,450	18,064,004	25,630,188	29,475,066	33,432,170
Existing UFI kwh	4,482,447	11,910,450	18,064,004	25,630,188	29,475,066
UFI kwh required	7,428,003	6,153,554	7,566,184	3,844,878	3,957,104
Res PV %	50.00%	50.00%	50.00%	50.00%	50.00%
Res H20%	12.50%	12.50%	12.50%	12.50%	12.50%
Small Comm PV	25.00%	25.00%	25.00%	25.00%	25.00%
Small Comm H20	12.50%	12.50%	12.50%	12.50%	12.50%
Res PV kwh	3,714,001	3,076,777	3,783,092	1,922,439	1,978,552
Res H20 kwh	928,500	769,194	945,773	480,610	494,638
Small Comm PV kwh	1,857,001	1,538,388	1,891,546	961,220	989,276
Small Comm H20 kwh	928,500	769,194	945,773	480,610	494,638
Res PV kw	2,185	1,810	2,225	1,131	1,164
Res PV systems	546	452	556	283	291
Small Comm PV kw	1,092	905	1,113	565	582
Small Comm PV systems	55	45	56	28	29
Res H20 systems	332	275	338	172	177
Small Comm H20 systems	33	27	34	17	18
Res PV cost	\$6,554,120	\$5,429,606	\$6,676,045	\$3,392,540	\$3,491,562
Small Comm PV cost	\$2,730,883	\$2,262,336	\$2,781,685	\$1,413,558	\$1,454,818
Res H20 cost	\$497,411	\$412,068	\$506,664	\$257,470	\$264,985
Small Comm H20 cost	\$497,411	\$412,068	\$506,664	\$257,470	\$264,985
<b>Total Cost</b>	<b>\$10,279,825</b>	<b>\$8,516,079</b>	<b>\$10,471,058</b>	<b>\$5,321,037</b>	<b>\$5,476,349</b>

TEP PBI Budget Requirements					
	2010	2011	2012	2013	2014
DG kwh required	47,641,800	72,256,014	102,520,750	117,900,264	133,728,681
PBI cumulative required	21,731,350	18,460,661	22,698,552	11,534,635	11,871,312
Existing PBI kwh	14,000,000	35,731,350	54,192,011	76,890,563	88,425,198
PBI Required	35,731,350	54,192,011	76,890,563	88,425,198	100,296,510
PBI Cost	\$3,620,479	\$2,990,627	\$3,677,165	\$1,868,611	\$1,923,153
Max PBI	\$0.16	\$0.16	\$0.16	\$0.16	\$0.16
Total PBI	\$7,220,479	\$10,211,106	\$13,888,271	\$15,756,882	\$17,680,036

Utility-Scale MWH and Budget					
	2010	2011	2012	2013	2014
Portfolio Percentages based on:					
20 MW PV			34,000	34,000	34,000
50 MW Wind			120,000	120,000	120,000
5 MW CSP		13,000	13,000	13,000	13,000
Biogas	28,571	28,571	28,571	28,571	28,571
Sun Edison REC only	5,100	10,200	15,300	15,300	15,300
Springerville Generating Station 4.6 MW	7,820	7,820	7,820	7,820	7,820
Springerville Generating Station '09 .81MW	1,377	1,377	1,377	1,377	1,377
Springerville Generating Station '10 1 MW	1,700	1,700	1,700	1,700	1,700
WRE 7.5 MW	55,000	55,000	55,000	55,000	55,000
Landfill Gas	18,750	17,813	16,922	16,076	15,272
Total (MWH)	118,318	135,481	283,690	292,844	292,040

TEP Utility-Scale Budget	
2010	\$11,331,633
2011	\$11,724,226
2012	\$12,167,480
2013	\$13,486,428
2014	\$14,370,166

EXHIBIT

"2"

## Exhibit 2

### TEP Renewable Energy Standard Tariff Cost Recovery Factors Definition for 2010

<b>Total REST Budget 2010:</b>		<b>\$ 37,139,897</b>
<b>Purchased Renewable Energy:</b>		
Above Market Cost of Conventional Generation calculated annually on hourly data per MCCCC Matrix <sup>aa</sup>	\$	11,331,633
Transmission direct-use cost <sup>ab</sup>	\$	480,000
Transmission line-loss cost	\$	-
Grid management ancillary services and day-ahead unit commitment cost	\$	-
Grid stability analysis cost allocation, EPRI research, & other RE research costs <sup>ac</sup>	\$	200,000
Fuel and maintenance \$ assoc. w/ increased CT use and load range ramp cycles to manage over/under scheduled RE	\$	-
RFP preparation, issue and evaluation cost <sup>ad</sup>	\$	10,000
Independent Auditor cost <sup>ae</sup>	\$	25,000
Loss of revenue from off-system sales due to transmission constraints created by transmission alloc. to RE PPA	\$	-
Labor overhead allocation cost for purchased renewable power contracts <sup>af</sup>	\$	50,000
In-state renewable resource economic development premium payment cost	\$	35,000
<b>Total</b>	<b>\$</b>	<b>12,131,633</b>
<b>Customer Sited Distributed Renewable Energy:</b>		
Up-front subsidy payment to customers' cost <sup>ba</sup>	\$	10,279,825
Annual production-based performance payment to customers' cost <sup>bb</sup>	\$	7,220,479
Builder solar energy system program <sup>bc</sup>	\$	750,000
Interconnection and net meter application processing labor cost <sup>bd</sup>	\$	90,000
Acceptance testing cost <sup>be</sup>	\$	180,000
Customer technical support cost <sup>bf</sup>	\$	300,000
Annual meter reading cost <sup>bg</sup>	\$	92,000
Support tools, materials, transportation and supply cost <sup>bh</sup>	\$	75,000
Direct internal labor cost for administration of the customer sited renewable generation program <sup>bi</sup>	\$	400,000
Outside services and internal labor for outreach, marketing materials, education and website maintenance cost <sup>bj</sup>	\$	500,000
Grid management cost study, EPRI research, and other RE research <sup>bk</sup>	\$	500,000
Grid stability analysis and interconnection cost allocation	\$	-
Cost-of-service contracts for outside labor for inspections and maintenance <sup>bl</sup>	\$	100,000
Loss of revenue from the fixed-cost portion of customer charges displaced by customer self generation	\$	1,275,000
Utility Performance Incentives	\$	215,398
Customer Self-directed Program	\$	210,000
<b>Total</b>	<b>\$</b>	<b>22,187,702</b>
<b>Information Systems Integration Costs:</b>		
Annual administrative CC&B cost database upgrades <sup>ca</sup>	\$	50,000
Database and customer interface program development and program revision cost	\$	-
Capital A&G load allocations for above development work	\$	-
CC&B incremental transaction allocation cost for CC&B support <sup>cb</sup>	\$	50,000
Work Management System work type and time charging expansion	\$	100,000
Geospatial Information System integration	\$	100,000
Asset Management System data repository integration	\$	100,000
<b>Total</b>	<b>\$</b>	<b>400,000</b>
<b>Net Metering:</b>		
Direct material cost for meters <sup>ca</sup>	\$	64,449
Direct energy credit purchase cost (12 mo. True-up) <sup>cb</sup>	\$	10,340
Time-of-Use Net Metering Program development cost	\$	-
Net Metering data interval recording for load research and program metrics evaluation <sup>cc</sup>	\$	70,000
Communications for Net Metering data retrieval	\$	-
<b>Total</b>	<b>\$</b>	<b>144,789</b>
<b>Reporting:</b>		
Annual Compliance Report and hearing cost <sup>ca</sup>	\$	50,000
Annual Planning and Implementation Report and hearing cost <sup>cb</sup>	\$	100,000
Annual Tariff review and hearing cost <sup>cc</sup>	\$	100,000
<b>Total</b>	<b>\$</b>	<b>250,000</b>

**Outside Coordination and Support:**

Support provided to University research projects (eg. AzRise) <sup>1a</sup>	\$	250,000
Support through providing information and answering questions of national energy labs cost <sup>1b</sup>	\$	25,000
Support through providing information and testing equipment of renewable energy equipment vendors cost <sup>1c</sup>	\$	15,000
Responding to renewable energy questions from non TEP customers' cost <sup>1d</sup>	\$	10,000
Support of outside service territory renewable energy interest cost <sup>1e</sup>	\$	10,000
WREGIS and other renewable energy certification agency fee cost	\$	-
Utility Wind Interest Group fee cost <sup>1f</sup>	\$	5,000
Solar Electric Power Association fee cost <sup>1g</sup>	\$	4,500
Other renewable energy association fees as needed cost <sup>1h</sup>	\$	10,000
Training, travel, memberships, periodicals, etc. cost <sup>1i</sup>	\$	80,000
Labor allocation cost for outside coordination and support <sup>1j</sup>	\$	115,000
<b>Total</b>	\$	<b>524,500</b>

**Renewable Energy Hardware Development:**

Technology development projects - ground source heat pumps, solar test yard, residential wind generation, etc. cost <sup>2a</sup>	\$	400,000
Springerville addition 1 MW	\$	4,000,000
AzRise matching buildout for Stimulus funds - 1MW	\$	3,500,000
Energy storage demonstration project cost <sup>2b</sup>	\$	-
Operation and maintenance of renewable generation systems cost <sup>2c</sup>	\$	50,000
Renewable energy resource monitoring program cost <sup>2d</sup>	\$	-
Support of Arizona-wide renewable energy studies cost <sup>2e</sup>	\$	-
Up-front funded renewable technology construction cost <sup>2f</sup>	\$	-
Development of wind and solar forecasting program costs <sup>2g</sup>	\$	-
Development of load-shed systems for managing rapid changes in renewable energy generation levels cost <sup>2h</sup>	\$	-
Property taxes, sales taxes and insurance for renewable energy hardware costs <sup>2i</sup>	\$	-
Labor overhead, Stores loads, allocation cost for renewable energy hardware development <sup>2j</sup>	\$	-
<b>Total</b>	\$	<b>7,950,000</b>

**2010 Program Cost** \$ **43,588,824**

**Overcollection of REST Funds from 2008** \$ **(6,448,727)**

**Grand Total** \$ **37,139,897**

Notes:

aa: 190,567 MWh @ \$59.46 per MWh above cost of MCCCCG – Purchased Power. Contracts are in addition to existing power purchase contracts, costs are incremental and caused by renewable purchased power contracts.

ab: Cost of acquiring transmission from a third party provider for the 4th quarter of 2010.

ac: Cost of performing annual analysis of hourly delivery intermittencies on grid stability in order to better understand grid impact of intermittent generation sources. Also used to enhance forecasting of renewable development. This research is in addition to existing power purchase analysis. Also includes costs for research performed by EPRI and other sources.

ad: Internal development, review, posting, query response, evaluation, contract development and close out – internal TEP personnel, 120 hours. RFPs are in addition to existing power purchase RFPs, costs are incremental and caused by renewable purchased power.

ae: Historic cost basis.

af: Contract administration, settlement review, payment approval, internal overhead – internal TEP personnel, 200 hours. Contracts are in addition to existing power purchase contracts, costs are incremental and caused by renewable purchased power contracts.

ba: Residential & Small Commercial – est. 75% will be PV, 25% will be SDHW. See Exhibit 1

bb: Commercial PBI: Solar PV – 100% \* 21.7 GWh/yr/ @ \$0.16 = \$3.5M. Additional payments from 2008-2009 add \$3.7M.

bc: Assumes an incremental .50 /watt DC for 300 homes with an average panel size of 5kWDC.

bd: assume 1 FTE - 601 PV units & 365 hot water/wind @ 1000 units/person/year.

be: assume 2 FTE - 601 PV units & 365 hot water/wind @ 500 units/person/year.

bf: assume 2 FTE - 601 PV units & 365 hot water/wind @ 500 units/person/year + large commercial.

bg: Historic cost basis

bh: Vehicles, small tools, and consumables for 2 mobile units

bi: 3 supervisory/managerial people

bj: Direct-outreach education expense with providers. Includes media purchases, printing, and design.

bk: Study to perform cost/benefit analysis of distributed generation to TEP specific grid characteristics. Will allow TEP to determine location preferences for DG, revenue losses, other costs or benefits. Also includes research performed by EPRI or other sources.

bl: Used for annual inspections, customer support. Based on historic costs extrapolated to 1,200+ customers from \$25,000/year for 300 customers.

ca: Estimate – discovery in progress - new programming.

cb: Estimate – discovery in progress - database upgrades.

da: approximately 546 net meters @ \$118 incremental cost per meter

db: Estimate based upon approx. 1400 PV systems @ average 148 kWh credit @ \$0.05 per kWh

dc: Future One-Quarter time for an energy analyst to collate data, prepare analysis and review cost impacts and effect on lost revenues of net metering.

ea: Historic cost basis, extrapolated to a larger program with more reporting factors.

eb: Historic cost basis, extrapolated to a larger program with more reporting factors.

ec: Historic cost basis, extrapolated to a larger program with more reporting factors.

fa: Funding support for projects to fund renewable research at such entities as AzRise.

fb: Historic cost basis, extrapolated to a larger program with more reporting factors. Program manager level respondent.

fc: Historic cost basis, extrapolated to a larger program with more reporting factors. Program manager level respondent.

fd: Historic cost basis, extrapolated to a larger program with more reporting factors. Administrative level respondent.

fe: Historic cost basis, extrapolated to a larger program with more reporting factors. Administrative level respondent.

ff: AWEA and potential AZ specific wind development

fg: Historic based.

fh: Historic based. Biomass, geothermal, etc.

fi: Historic based

fj: Historic cost basis, extrapolated to a larger program with more reporting factors.

ga: Estimated based on project size and mix.

gb: Estimated based on project size and mix.

gc: Historic based. OH, DAMP and SASS

gd: Historic based.

ge: Historic based.

gf: Operating Headquarters Test Yard

gg: Matching funds for grants in application.

gh: Matching funds for grants in application.

gi: Historic based.

gj: Calculated as 10% of internal labor costs = \$0 plus 2% of transaction costs = \$0 Total = \$0