

E-01933A-09-0340



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ARIZONA CORPORATION COMMI

UTILITY COMPLAINT FORM

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**Investigator:** Guadalupe Ortiz

**Phone:** [REDACTED]

**Fax:** [REDACTED]

**Priority:** Respond Within Five Days

**Opinion No. 2009 82918**

**Date:** 11/6/2009

**Complaint Description:** 08A Rate Case Items - Opposed  
N/A Not Applicable

**Complaint By:** **First:** Danielle **Last:** Kontovas

**Account Name:** Technicians for Sustainability

**Home:** [REDACTED]

**Street:** [REDACTED]

**Work:**

**City:** Tucson

**CBR:**

**State:** AZ **Zip:** [REDACTED]

**is:**

**Utility Company:** Tucson Electric Power Company

**Division:** Electric

**Contact Name:** Brenda BeVard

**Contact Phone:** [REDACTED]

**Nature of Complaint:**

EMAIL RECEIVED - OPINION OPPOSED

Docket No. E-01933A-09-0340

Arizona Corporation Commission  
**DOCKETED**

DEC 17 2009

-----Original Message-----

From: Danielle Kontovas TFS [mailto:[REDACTED]]  
Sent: Thursday, November 05, 2009 9:20 AM  
To: Bob Gray  
Cc: Utilities Div - Mailbox  
Subject: RE: TEP REST filings

DOCKETED BY [Signature]

Bob,

Attached please find our Public Comment Form on the TEP REST filings. I have created 4 PDFs as I was unable to fit all of the comments into the two page form provided.

Thank you for your consideration in this matter.

Kindest Regards,

Danielle Kontovas  
Technicians for Sustainability

Comments:

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2009 DEC 17 P 2:40  
AZ CORP COMMISSION  
DOCKET CONTROL

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I have the following comments which I hope ACC Staff will take into consideration:

1. The current filing proposes to re-allocate funds between the Up Front Incentive (UFI) pot, and the Performance Based Incentive (PBI) pot. It is not clear in the filing what method TEP will use to reallocate funds between these two. Because residential and small commercial projects which currently fall under the UFI program have intangible benefits which larger projects do not have, a mechanism should be clarified to reallocate funds in the event a sector is not using the funds, but preserve them within the sector if being used. For instance, if in 2009 when all the commercial funds were tied up temporarily, it would have been unfair to redistribute those funds if it prevented small customers from participating in the program. We need to know what the method of evaluation will be and how it will protect the participation of those smaller customers. This is the most important issue to me in the current REST filing.

2. TEP should clarify the DC and AC terminology and relationship. There are multiple ways to calculate AC output from DC nameplate rating. In the past, TEP has used a 1.5X conversion factor. California uses the PTC module rating multiplied by the inverter CEC rating. This method takes into account the quality of the modules and inverter.

Whatever method is used, it should be clear, unless TEP moves to entirely DC nameplate based calculations and terminology. This is particularly important for defining the line between UFI and PBI. See the following section for an example of the confusion. I have changed the text color to red.

Exhibit 5, Section 1-5

Notes:

\*Indicates that the incentive for that year has not yet been approved by the Arizona Corporation Commission ("ACC") or the ("Commission"). As such, these incentives are tentative and may change pending Commission approval.

\*On-Grid Residential customers will receive a UFI up to a cap of 20 kWac. If a residential system is installed larger than 20 kWdc, TEP will only provide an incentive payment for the first 20 kWdc. [Colors added for emphasis.]

\* On-Grid Small commercial customers will receive a UFI up to a cap of 100 kWac. If a small commercial system is installed larger than 100 kWac, it must apply under the large commercial program.

\*Off-Grid customers, residential or commercial, will receive a UFI up to a cap of 4 kWac.

\*The UFI may not exceed 60% of total System Cost.

\*The customer must pay at least 15% of the project cost, after other government incentives (e.g., tax credits) are considered. (See explanation of incentive calculation below.)

\*Systems may not be eligible to receive RECPP incentives if other utility incentives are applied.

\*As described later in this document, these incentive levels may be decreased because of sub-optimal system positioning.

3. With regard to the UFI program, I believe the derating method need clarification and modernization. The chart TEP currently uses, and has included in this filing is vague. It is not clear where the line between 100% rebate and 95% rebate falls. It also does not reflect the current market of products which do not derate in proportion to this chart. Some products, such as the Solyndra modules, are rated based on a horizontal mount.

We have installed systems at 15 degrees which produce more KWH yeild per year than other systems installed at 30 degrees. And products like the Sanyo Bi-facial modules can perform as well as conventional modules at a much lower angle, especially when mounted on a ramada. We would suggest TEP more clearly define the boundaries of

their chart, and that they provide an alternative method for calculating rebates based on a seasonally adjusted

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one month production test. SRP has such a program for commercial projects and it would not be difficult to compare output of one system to a TEP standard system. (143 kwh/month/kwdc is the number I heard Marc Romito offer at

a talk.) This method would create a rebate program which was more fair. The current rebate system puts higher quality systems at a financial disadvantage since a system yielding 155 kwh/month/kwdc will get the same rebate as a system which produces 140 kwh/month/kwdc. Also, the derate for BIPV seems unreasonable, since many BIPV products have low temperature coefficient of power. A similar measured derate would provide a more equitable treatment for these types of installations.

See section 1-12

Qualifying systems using Building Integrated Photovoltaic (BIPV) modules of total array capacity of 5 kWdc or less shall receive 90% of the UFI incentive value for PV systems listed in Attachment A. Systems using BIPV modules of total array capacity of greater than 5 kWdc shall be derated based on heating unless the applicant can demonstrate optimal performance.

4. The small commercial water heating incentive is a brilliant idea. However, it does not make any sense to offer commercial customers \$7500 + \$0.25/kwh. That means a small commercial system would get \$7500, even if it were an expensive but low production system. Why not just offer \$0.5/kwh? That way the rebate scales with the production of the system. *This is not a big issue for us, as leaving the incentive at \$7500 + \$0.25/kwh would just mean that small commercial solar hot water heating systems would get 60% of their system cost as a rebate.* However, it seems likely that integrators with less integrity might raise their prices just to capitalize on the huge rebate.

See 3-5 table 3

5. I strongly disagree with the chart in section 3-12. It shows a lack of understanding about the design and performance of solar hot water heating systems in southern AZ, and it goes against the installation guidelines in the RECPP. If this chart is incorporated into the rebate program it will have a significant negative long term impact on solar hot water heating in Tucson.

For example, a system installed with the collector at a 10 degree tilt will produce less usable hot water than one installed at 60 degree tilt. People generally use less hot water in the summer than in the winter and because of the high ambient temperature and the long days, most controller based systems turn off by or before mid day. In the winter, people tend to use more hot water and systems may only supply a portion of the demand. A collector installed at 10 or even 20 degrees will produce unusable hot water in the summer and insufficient hot water in the winter.

Collectors mounted at 60 degrees will have a more favorable effect. It would serve to increase the winter production, but would not decrease the summer solar fraction since there is less usage, more BTU available for capture, and less ambient to heat transfer fluid (HTF) temperature differential.

Also, while the PV derate chart recognizes that most photovoltaic systems will produce more energy if they are biased east than if they are biased a similar angle away from south to the west, the solar hot water chart does not recognize the fact that it is generally the temperature differential that affects BTU capture, and that therefore the afternoon exposure of a west bias should have a lower derate than an eastern exposure. In addition, this chart will encourage the mounting of glycol system collectors at low angles where they will be more likely to experience stagnation temperatures and have maintenance issues from blowing off pressure or from HTF degradation, whereas stagnation in the summertime will be decreased by a high collector angle.

Standard practice for domestic hot water heaters is latitude plus 15 degrees. This chart should be centered on 45 degrees facing south, not 30 degrees. The RECPP document itself states:

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The system shall be installed with a horizontal tilt angle between 20 degrees and 60 degrees (40 and 60 degrees for space heating applications), and an azimuth angle of +/- 60 degrees of due south (+/- 20 degrees for space heating applications). It is recommended that collectors be positioned for optimum winter heating conditions at a minimum tilt angle of 45 degrees above horizontal, or as recommended by the manufacturer for the specific collector type and geographic location of installation.

Azimuth or tilt angles outside these parameters may be reviewed and approved by the utility, at their discretion.

6. There should be no derate for large commercial solar thermal as it is a PBI. I would suggest removing the chart on page 4-10.

7. With so little wind in the state it seems strange that wind turbines up to 1 MW would be given a UFI. See Section 6-4. Will a 1 kw wind turbine really yield 107 kwh/month? (75% of the PV yield.)

Regarding the TEP REST filing made on Sept 18th, 2009: Docket # E-01933A-09-0340

### 8. VII. The 2010 REST Tariff: Additional Options

I strongly support the originally proposed REST tariff where contribution is proportional to use. This tariff is meant to help mitigate the environmental impact of electricity generation and should be borne in proportion to that impact, which is tied to use. The other plans place the burden of environmental mitigation on the residential and small commercial sectors disproportionate to their impacts.

9. With everything that TEP has done and is doing to promote solar, I am disappointed that they have not made proposals for demand based rates to be more favorable to solar customers. These customers pay into the REST surcharge, but cannot cost effectively participate in implementation the way residential and commercial customers can.

Thank you for your consideration. Please feel free to contact me regarding these suggestions, and thank you for the work you are doing to transition our energy usage to renewable sources, and to protect the inheritance we leave to future generations.

Kevin Koch  
Technicians For Sustainability  
520-740-0736  
kevin@tfssolar.com  
\*End of Complaint\*

### Utilities' Response:

n/a  
\*End of Response\*

### Investigator's Comments and Disposition:

Email to Customer:

Dear Danielle Kontovas,

Your email dated November 5, 2009, regarding the Tucson Electric Power Company ("TEP") application requesting approval of its renewable energy standard and tariff implementation plan has been received and assigned to me for further handling. An opinion has been filed and will be docketed with the Docket Control Center of the Arizona Corporation Commission ("Commission") to be made part of the record. The Commission will take your comments into consideration before a decision is rendered in the TEP application.

Concerns raised from customers do assist the Commission within the investigation and review of the

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application. The Commission's independent analysis of the utility and its request attempts to balance the interest of the utility and its customers. Commission Staff is very sensitive to the burden that can be placed on the consumer, and therefore does everything within its authority to protect the consumer.

Commission staff appreciates the time you have taken to express your comments and concerns on the proposed application. If you should have any questions relating to this matter, please call me toll free at (800) 222-7000 or directly at [REDACTED].

Thank you,

Guadalupe Ortiz  
Public Utilities Consumer Analyst  
Arizona Corporation Commission  
Utilities Division  
\*End of Comments\*

**Date Completed: 12/17/2009**

**Opinion No. 2009 - 82918**

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