

**Arizona Corporation Commission  
Meeting Minutes**

DATE: September 7, 2006

TIME: 9:30 a.m.

PLACE: Arizona Department of Environmental Quality, 1110 W. Washington Street #250 Phoenix, Arizona 85007

ATTENDANCE: No quorum of Commissioners. See attendance list on Attachment 2.

TOPIC: NET METERING WORKSHOP  
DOCKET NO. E-00000A-99-0431

Ms. Barbara Keene of Commission Staff welcomed the participants of the workshop and each participant made a self-introduction. Ms. Keene provided background on the metering standard included in the Energy Policy Act (“EPACT”).

According to the EPACT, the Arizona Corporation Commission (“ACC”) is to make a determination whether or not it is appropriate to implement the net metering standard. The ACC may decline to implement the standard or adopt a modified standard. The ACC is required to begin its consideration by August 8, 2007, and complete its consideration by August 8, 2008. The standard would apply to utilities with greater than 500,000 megawatt-hours (“MWh”) in annual retail sales. The standard is as follows:

Each electric utility shall make available upon request net metering service to any electric consumer that the electric utility serves. For purposes of this paragraph, the term 'net metering service' means service to an electric consumer under which electric energy generated by that electric consumer from an eligible on-site generating facility and delivered to the local distribution facilities may be used to offset electric energy provided by the electric utility to the electric consumer during the applicable billing period.

Ms. Keene explained that the ACC is required to consider the three purposes of PURPA in its determination of whether to adopt the net metering standard. The three purposes of PURPA are as follows:

- Conservation of energy supplied by electric utilities
- Optimal efficiency of electric utility facilities and resources
- Equitable rates for electric consumers

Ms. Keene asked the group to provide feedback about how net metering would play a role in conservation. Various parties commented that net metering technologies

would create an incentive to install distributed generation (“DG”) and lead to the conservation of fossil fuels. There was a statement that a surplus is not a sale of kWh back to the customer, but actually represents an exchange of kWh.

There was also discussion about the value of the kWh going in one direction may not be the same value as that of the kWh going in the other direction due to timing (seasonal or time of day).

A question was asked about whether or not independent generators selling back to the grid would be regulated by the ACC. It was mentioned that Nevada and Pennsylvania do not require them to be regulated. A comment was made that a Certificate of Convenience and Necessity should not be required, and that PURPA and a Supreme Court case have already addressed this issue. Also, it would be impossible to prove where the kilowatt-hours (“kWh”) came from or where they were delivered. There was also comment that the ACC should regulate to ensure reliability of the grid, and safety concerns should be addressed during the interconnection process through specific safety requirements.

The group discussed other issues related to net metering: plan elements (participation and eligibility, metering, treatment of net excess generation), costs, and rate structures.

### Participation and Eligibility

The issue of customer caps based on total participation or project size was discussed. A comment was made that caps on project size could prevent economies of scale that exist with large projects. Also, caps could stifle the implementation of net metering, and a cap could be added later if it is found that caps are needed. A statement was made that it doesn’t make sense to establish a cap based on project size, and whatever is adopted would need to be in alignment with the proposed Renewable Energy Standard (“RES”) rules. It was also mentioned that in the interconnection workshops the participants agreed that the service entrance should be the basis for establishing the customer’s size.

The question of what is meant by “aggregate cap” in terms of basing the cap on total participation was discussed. Ms. Keene commented that the aggregate cap could refer to the total amount of all the customers that could participate in net metering as a percentage of a utility's total retail load or simply a total number of MW of customer generation. Comment was made that if a cap is to be adopted it should not be set too low. Comment was also made that you could start with a cap and then increase the cap over time. It was mentioned that New Jersey has a 2 MW project size limit with no cap on total participation, and California had a 0.5 percent of utility peak demand cap on total capacity which was raised to 2.5 percent. It was stated that the Arizona market is similar to the California market, but the California market is already moving so we shouldn’t need to go through the same learning curve that California did.

Other comments were made, including that there could be a cap on the aggregate participation, but there should not be a cap on project size. Also, a project cap could be set at 100 percent of customer load.

A utility representative expressed concern about the utility not being able to recover all distribution and service costs and commented that the ACC should adopt customer service charges to reflect the true cost of service. Ms. Keene asked the group if rates had been redesigned in other states in response to net metering. Comments were made that rates have not been redesigned because the goal in many states is to encourage net metering and distributed generation.

The issue of cost subsidization was discussed where the rates for the entire customer base could be increased due to the potential for utility losses. For instance, some fixed costs are recovered through kWh rates. It was mentioned that the benefits need to be considered as well as the costs. Comment was made that renewables provide a benefit to all. However, there was also discussion that low income customers would benefit from reduced capital cost. A utility representative commented that he is concerned about the recovery problem facing the utilities. Comment was also made that subsidization is not a problem, and we should forget about chasing numbers. One participant commented that he would support a cost-benefit study. Ms. Keene indicated that the group should provide comments about the costs and benefits associated with net metering.

In regard to what customer sectors should be allowed to participate in net metering, comments were made that all customer sectors should be allowed to participate.

The next topic discussed was about what generation resources should be eligible for net metering. Should the resources include just renewables or some other mix? For instance, should generation resources be based on the Federal Energy Regulatory Commission's definition of a Qualifying Facility? Comments included: (1) having multiple resource options is a good policy, and that this standard this is not just a green standard; (2) the standard should include only renewables because it would help prevent fraud on the part of the customer; and (3) there are benefits to fossil fuel generators, and it is hard to achieve goals with only renewable resources. Mr. Bill Murphy of the Distributed Energy Association of Arizona stated that his preference would be to have renewables and combined heat and power ("CHP") included in a net metering standard. A question was raised about how this standard would tie to the proposed RES rules. Ms. Keene commented that the two standards should be separate, but compatible, and the net metering standard should be able to stand on its own. Comment was made that fuel cells, micro turbines, and CHP were part of the state standard in North Dakota and Arkansas.

### Meters

Ms. Keene raised the question about how net metering should be approached from the perspective of the meter. For instance, should one meter be used or two meters? Comment was made that costs should be considered and kept down, and some small

systems do not require a meter. Comment was also made that the meter should be able to run forward and backward and most do run bidirectionally. Mr. Tom Yost of APS commented that it would require APS to change out every meter to account for this, and costs could range from \$200-\$500 per meter. APS was asked if it would be cheaper to add second meter instead of replacing the current meter. APS indicated that it would be more costly; plus utilizing two meters can create an esthetic issue for its customers. Mr. Tom Olsen of American Solar Electric said that the meter cost is included in the price of the system and it is very minimal in comparison to the total system cost. Comment was also made that the basic meter cost should not be passed on to net metering customers, but that only the cost for the incremental functionality should be passed on to the net metering customer. Comment was made that customers could take advantage and purposely spin the meter backwards and therefore there should be a penalty adopted for this type of behavior. Comment was made that the revenue meter is the utility billing meter, and the production meter is a system performance meter. It was also stated that the more meters you have, the greater the potential for error; therefore, one meter is the best approach. Ms. Keene asked the utilities what type of meter they currently require for net metering or billing. APS and TEP responded that the current meter would be replaced with a bidirectional meter. A question was asked about power factor and whether it would be addressed. Ms. Keene commented that power factor is generally addressed in a utility's tariffs.

#### Treatment of Net Excess Generation

Ms. Keene asked the group to comment on the treatment of net excess generation. It was stated that it is common for the net excess generation to be rolled over to the next billing period and then true-up on an annual basis. This approach will keep things simple for the customer. There were several statements made that terminating the credits at the end of the year reduces the incentive for the customer to oversize the system. Comment was also made that the system should be sized to the minimum monthly usage. Ms. Keene commented that options discussed in current literature include either the utility paying avoided cost to the customer or rolling credits forward. If rolled forward do you terminate the credits at the end of the year or is there a true up where the utility pays the customer a predetermined rate for those credits? It was mentioned that in Oregon there is a draft staff proposal to allow the annual true-up amount to go into a low income fund. There was a comment that we could give it to low income customers at wholesale cost, but this would be an ACC policy call.

#### Costs

Ms. Keene asked the group to comment on how net metering costs should be handled and who pays them: the utility, the net metering customer, or all ratepayers? It was mentioned that there are two sources of money: the net metering customer and all the other customers. It was commented that costs and benefits should be reflected in general rates and spread among all ratepayers. A suggestion was also made that every net metering customer should pay for their meter.

## Rate Structures

A statement was made that rate structures need to be addressed to conserve energy. It was mentioned that when a net metering customer is provided the value of the energy they produce on a seasonably adjusted basis, the customer will still be paying the monthly customer charge. It was also said that when the energy is sold back to the utility, the customer should not receive the full retail rate because the distribution facilities are used when selling back to the utility. Comment was made that the value of the energy changes at certain times of the day so there is a value to the system for having generation during the day time. It was also commented that if current rate structures are not designed appropriately, existing price structures may need to be redesigned to account for net metering.

Ms. Keene asked the group to provide comment on any other issues related to net metering. Comment was made that this process needs to move forward in a timely fashion. Comment was also made about rate structure and the customer's ability to be on an energy-based rate instead of a time-of-use or demand rate. More specifically, a solar customer should be rewarded by changing to an energy-based system. Comment was also made that general service customers also need to have an energy only rate. It was also stated that there is an incremental phase-in of benefits, and benefits attributed to net metering will be very gradual.

## Wrap-up

Ms. Keene stated that the group should provide written comments on the issues discussed today. The issues are summarized on Attachment 1.

Written comments were to be due on Friday, October 6, 2006. Comments should be filed with the ACC's Docket Control at 1200 W. Washington Street, Phoenix, AZ 85007. Comments should include Docket Number E00000A-99-0431, and 13 copies plus an original is required by Docket Control.

Ms. Keene explained that Staff will utilize the comments provided in this workshop and the written comments provided by interested parties to develop a net metering Staff report for review by the ACC.

Ms. Keene commented that Staff's goal for producing the interconnection Staff report is by the end of September.

Ms. Keene thanked the members of the group for their participation in the workshop.

**Net Metering Workshop**  
**Docket No. E-00000-99-0431**  
**Staff is Requesting Written Comments on the Following Issues**

1. How would net metering support the three purposes of PURPA? The three purposes are:
  - a) Conservation of energy supplied by electric utilities
  - b) Optimal efficiency of electric utility facilities and resources
  - c) Equitable rates for electric consumers
2. Participation in and Eligibility for Net Metering
  - a) Should there be a cap on total participation?
  - b) Should there be a cap on project size?
  - c) Which customer sectors should be allowed to participate?
  - d) What type(s) of generation resources should be allowed to participate?
3. What types of meters should be used for net metering?
  - a) Dual meters?
  - b) Bidirectional meters?
  - c) Other metering technology?
4. How should net excess generation be treated?
  - a) Payment at utility's avoided cost?
  - b) Credit against future bills?
    - i. Credits roll forward indefinitely?
    - ii. Credits roll forward for a fixed time period?
    - iii. True up at predetermined rates?
    - iv. Credits terminate without additional compensation?
5. Who should pay the costs of net metering?
  - a) The utility?
  - b) The net metering customer?
  - c) All ratepayers?
6. Should rate structures be changed to accommodate net metering? If so, how?
7. What are the costs and benefits of net metering?
8. What are other issues related to net metering?

**Attendees at the Net Metering Workshop  
September 7, 2006**

Name	Representing
Farrell Anderson	Arizona Solar Energy Association
Jerry Anderson	Commission Staff
Erinn Andreason	Commission Staff
Jana Brandt	Salt River Project
Richard Brill	Deluge, Inc.
Adam Browning	Vote Solar
Jim Charters	Western States Energy Solutions
Anne Cobb	Trico Electric Cooperative
David Couture	Tucson Electric Power
Mick Dalrymple	AKA Green
Greg DeLizio	Arizona Public Service
Erin Erben	Salt River Project
Bentley Erdwurm	Tucson Electric Power
Jon Findley	Sierra Club
Art Fregoso	Tucson Electric Power
Eric Gorsegner	Commission Staff
Mark Holohan	Code Electric
Barbara Keene	Commission Staff
Barbara Lockwood	Arizona Public Service
Ben Marcus	American Solar Electric
Mark Marshall	K.R. Saline & Associates
Joe McGuirk	Sun Miner
Julie McNeely	Commission Staff
Robert Metli	Arizona Public Service
Steve Metzger	Tucson Electric Power
Amy Mignetta	White Mountain Apache Tribe
Robin Mitchell	Commission Staff
Colin Murchie	Sun Edison
Bill Murphy	Distributed Energy Association of Arizona
Brian O'Donnell	Southwest Gas
Valerie Rauluk	Greater Tucson Coalition for Solar Energy
Russ Romney	Curtis, Goodwin, Sullivan, Udall & Schwab
Sean Seitz	Arizona Solar Energy Industries Association
Chuck Skidmore	City of Scottsdale
Karen Smith	Salt River Project
Jim Stack	Consumer
Geoff Sutton	Arizona Solar Energy Association
Jim Taylor	Tucson Electric Power
John Wallace	Grand Canyon State Electric Cooperative Association
Ray Williamson	Commission Staff
Tom Yost	Arizona Public Service
Dennis Young	XL Dairy Group