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BEFORE THE ARIZONA CORPORATION

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Docket No. RE-00000A-07-0608

IN THE MATTER OF THE
PROPOSED NET METERING
RULES FOR THE PROPOSED
RULEMAKING ON NET
METERING

ARIZONA PUBLIC SERVICE COMPANY'S
COMMENTS TO STAFF'S REQUEST FOR
WRITTEN COMMENTS TO PROPOSED
NET METERING RULES

Arizona Public Service Company ("APS" or the "Company") hereby submits its comments to the Arizona Corporation Commission (the "Commission") to Staff's Request for Written Comments to the proposed Net Metering Rules ("Rules").

I. Introduction.

A Net Metering program, if designed appropriately, can both encourage distributed generation and fully reflect the cost to provide service, thus avoiding the need for other customers to subsidize the distributed generator. Distributed generation can have the potential to provide benefits to the distribution grid. Where they exist, these could include voltage support, reliability, lower losses, power quality improvements, and in selective instances, the possible deferral or even avoidance of distribution investment. Therefore, APS supports the goals and objectives outlined in Decision No. 69887.

II. Net Metering Rules.

1. Applicability: R14-2-2301

APS agrees that these Rules govern the treatment of Electric Utility Customers in Arizona who own or lease a Net Metering Facility and wish to interconnect with the Electric Utility that serves them and engage in Net

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1 Metering operations.

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3 2. Definitions: R14-2-2302

4 APS suggests the following modifications to the Definitions section to be
5 in conformance with the definitions incorporated within the Renewable
6 Energy Standard and Tariff (“REST”):

- 7 • Section R14-2-2302(B): APS suggests that the Commission adopt the
8 definition of “Biomass Electricity Generator” described in the REST
9 Rules, R14-2-1802(A)(2).
- 10 • Section R14-2-2302(C): APS suggests that the Commission adopt the
11 definition of “Biogas” described in the REST Rules, R14-2-
12 1802(A)(1).
- 13 • Section R14-2-2302(D): APS suggests that the Commission adopt that
14 portion of the definition of Renewable Combined Heat and Power
15 (“RCHP”) in the REST Rules, R14-2-1802(B)(5), which defines RCHP
16 as: “. . . a Distributed Generation system, fueled by an Eligible
17 Renewable Energy Resource, that produces both electricity and useful
18 renewable process heat.” In addition, the Company suggests the
19 following additional language: “Qualifying RCHP systems shall meet
20 all PURPA efficiency and effective utilization of heat production
21 standards for a Qualifying Facility certification.”
- 22 • Section R14-2-2302(P): APS suggest that the definition for “solar” be
23 modified as follows: “Solar means solar radiation of the earth’s sun that
24 produces electricity in a device or system designed for that purpose.”
- 25 • Section R14-2-2302(Q): APS suggests that the definition of “wind” be
26 modified as follows: “Wind means energy derived from wind
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1 movement across the Earth's surface that produces electricity in a
2 device or system designed for that purpose.”
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4 3. Requirements and Eligibility: R14-2-2303

5 The net metering program should be applicable to renewable resource
6 generation facilities, as defined in A.A.C. R14-2-1618 or successor, where
7 the customer's generator(s) and load are located on the same premise.
8 APS has concerns regarding the requirement that the Generating Capacity
9 be up to 125 percent of the customer's on-site total connected load. APS
10 designs its distribution facilities to serve the customers expected peak
11 demand. Customer's expected peak demand (load) can be 50% or less
12 than the customers total connected load. To require sizing of a generating
13 facility at up to 125% of the total connected load would require the utility
14 to increase the capacity of the local distribution system to allow the
15 generation output to flow back on the utility grid during customer low load
16 periods. It is more appropriate to limit customer's generation to no more
17 than 100% of the customer's expected peak demand. This would allow
18 sizing of the local distribution system to be consistent regardless of
19 whether or not the customer had a generating facility. To do otherwise
20 could require additional distribution investment to interconnect with the
21 customer. In addition, interconnection must be in compliance with the
22 utility interconnection requirements and associated agreements.

23 4. Metering: R14-2-2304

24 The Company agrees with Staff that a bi-directional meter is the
25 appropriate equipment to measure customer usage and generation. The
26 Company also agrees that the utility should be permitted to include within
27 its tariff either a one-time meter charge or an increased monthly customer
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1 charge to cover the metering cost to the extent not collected through the
2 REST.

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4 5. New or Additional Charges: R14-2-2305

5 APS believes that the recovery of fixed costs associated with serving a
6 customer is necessary and appropriate. Specifically, these fixed costs
7 include the wires and distribution facilities, as well as the metering and
8 billing costs associated with having to maintain infrastructure to provide
9 service to net metering customers. APS agrees that such fixed costs should
10 be recovered because these charges are still incurred by the utility to serve
11 participating customers. Whether such fixed costs are recovered directly
12 from those customers participating in the Net Metering program or from
13 all customers through an increased system benefits charge is a policy
14 decision for the Commission.

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16 6. Billing for Net Metering: R14-2-2306

17 APS's agrees with Staff's proposed R14-2-2306(A)-(G). The Company is
18 concerned with the requirement specified in R14-2-2302(H). Most likely,
19 the Company and smaller customers would not be aware that excess
20 energy is being provided to the system in advance. In these instances, it
21 would not be possible to determine whether such purchase would be
22 economical. For larger customers, specifically commercial, capable of
23 pre-scheduling their excess generation, it may be possible to determine
24 whether the transaction will be economical to both parties. In this case a
25 firm commitment would be required from the customer or for amounts
26 above a certain kWh threshold. The price paid for the excess generation
27 should be limited to the utility's avoided cost.
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7. Net Metering Tariff: R14-2-2307

APS does not have an objection to changing rate schedules provided the proposal minimizes subsidization between customers and the utility is provided the opportunity to recover costs to earn a fair rate of return on investment.

8. Filing and Reporting Requirements: R14-2-2308

The Company accepts the reporting requirements in R14-2-2308.

RESPECTFULLY submitted this 4 day of January, 2008.

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ATTACHMENT
Draft Proposed Net Metering Rules

ARTICLE 23. NET METERING

R14-2-2301. Applicability

R14-2-2302. Definitions

R14-2-23 03. Requirements and Eligibility

R14-2-2304. Metering

R14-2-2305. New or Additional Charges

R14-2-2306. Billing for Net Metering

R14-2-2307. Net Metering Tariff

R14-2-2308. Filing and Reporting Requirements

R14-2-2301. Applicability

These Rules govern the treatment of Electric Utility Customers in Arizona who own or lease and operate a Net Metering Facility and wish to interconnect with the Electric Utility which serves them and engage in Net Metering operation as defined below. These Rules apply to all Electric Utilities, as defined in these Rules.

R14-2-2302. Definitions

For purposes of this Article, the following definitions apply unless the context requires otherwise:

- A. "Avoided Costs" means the incremental costs to an Electric Utility for electric energy or capacity or both which, but for the purchase from the net metering facility, such utility would generate itself or purchase from another source.
- B. "Biomass" means raw or processed plant derived organic matter that is available on a renewable or recurring basis, including dedicated energy crops and trees; agricultural food and feed crops; agricultural crop wastes and residues; wood wastes and residues including landscape waste, right of way tree trimmings, or small diameter forest thinnings that are 12" in diameter or less; dead and downed forest products; aquatic plants; animal wastes, other vegetative waste materials; non-hazardous plant matter waste material that is segregated from other waste; forest related resources, such as harvesting and mill residue, pre-commercial thinnings, slash and brush; miscellaneous waste, such as pallets, crates and dunnage; and recycled paper fibers that are no longer suitable for recycled paper production; but not including painted, treated or pressurized wood, wood contaminated with plastics or metals, tires or recyclable post-consumer waste paper. ~~"Biomass" means any organic matter that is available on a renewable or recurring basis, including dedicated energy crops and trees, agricultural food and feed crop residues, wood and wood wastes and residues, aquatic plants, grasses, residues, fibers, animal wastes, municipal wastes, or other waste materials.~~
- C. "Biogas" means gases that are derived from plant-derived organic matter, agricultural food and feed matter, wood wastes, aquatic plants, animal wastes, vegetative wastes or waste water treatment facility using anaerobic digestion or from municipal solid waste through a digester process, an oxidation process or other gasification process.
~~"Biogas" means combustible gas produced by the natural decay of Biomass.~~
- D. "RCHP" or "Renewable Combined Heat and Power" (also known as cogeneration) means a Distributed generation system, fueled by an Eligible Renewable Energy Resource, that produces both electricity and useful renewable process heat. Qualifying RCHP systems shall meet all PURPA efficiency and effective utilization of heat production standards for a Qualifying Facility certification system that generates electricity and thermal energy in a single, integrated system. CHP captures the heat that would otherwise be rejected in traditional generation of electricity.
- E. "Commission" means the Arizona Corporation Commission.
- F. "Electric Utility" or "Utility" means an electric distribution company that constructs, operates, and maintains the electrical distribution system for the receipt and/or delivery of power.
- G. "Electric Utility Customer" or "Customer" means an end-use retail customer served under a Utility's rate schedule.
- H. "Fuel Cell" means a device that converts the chemical energy of a fuel directly into electricity without intermediate combustion or thermal cycles. For purposes of these Net Metering rules, the source of the chemical reaction must be derived from Renewable Resources.
- I. "Geothermal" means heat from within the earth's surface.
- J. "Hydroelectric" means the kinetic energy derived from moving water.
- K. "Net Metering" means service to an Electric Utility Customer under which electric energy generated by that Electric Utility Customer from an on-site Net Metering Facility and delivered to the Utility's local distribution facilities may be used to offset electric energy provided by the Electric Utility to the Electric Utility Customer during the applicable billing period.

- L. "Net Metering Customer" means any Arizona customer who chooses to take electric service in the manner described in the definition of Net Metering above, and under the Net Metering tariff, as described in R14-2-2307.
- M. "Net Metering Facility" means a facility for the production of electricity that:
 1. Is owned and operated by a Net Metering Customer;
 2. Is intended primarily to offset part or all of the Net Metering Customer's requirements for electricity;
 3. Uses Renewable Resources, a Fuel Cell, or CHP to generate electricity;
 4. Has a generator continuous nameplate kW rating ~~generating capacity~~ less than or equal to 100+25% of the Net Metering Customer's expected peak demand ~~total connected load~~; and
 5. Can establish Parallel Operation with an Electric Utility's existing transmission and distribution facilities.
- N. "Parallel Operation" means the operation of a customer's on-site generation that is electrically interconnected to a bus common with the Electric Utility's distribution system.
- O. "Renewable Resources" means natural resources that can be replenished by natural processes. Renewable Resources include Biogas, Biomass, Geothermal, Hydroelectric, Solar, or Wind.
- P. "Solar" means solar radiation of the Earth's Sun that produces electricity in a devise or system designed for that purpose.
- Q. "Wind" means energy derived from wind movement across the Earth's surface that produces electricity in a devise or system designed for that purpose.

R14-2-2303. Requirements and Eligibility

- A. An Electric Utility shall interconnect with any retail Customer who owns and operates a Net Metering Facility in the Electric Utility's service territory.
- B. Facilities with a generator continuous nameplate kW rating ~~generating capability~~ greater than 100+25% of the customer's on-site expected peak demand ~~connected load~~ shall require a special contract between the Utility and the Customer.
- C. Interconnection must be in accordance with the utility interconnection requirements and associated supply/purchase agreements.

R14-2-2304. Metering

- A. If the meter that is currently installed on the net metering facility is incapable of registering and recording the flow of electricity in both directions, a bi-directional meter shall be installed by the Electric Utility to monitor the flow of electricity in both directions.
- B. Metering equipment shall be installed to accurately measure and record both the kilowatt-hours (kWh) supplied by the Electric Utility to the Net Metering Customer and also to accurately measure and record the kWh generated by the Net Metering Customer that are delivered back to the Electric Utility over the applicable Billing Period.
- C. The Utility's Net Metering tariff may include a one-time charge or an increased Customer charge to cover the meter costs.
- D. Accuracy requirements for a meter configuration operating in both forward and reverse registration modes shall be as defined in R14-2-209.E.
- E. A test to determine compliance with this accuracy requirement shall be made by the Electric Utility either before or at the time the Net Metering Facility is placed in operation in accordance with these Rules.
- F. A customer charge for the costs associated with the test may be included in the Net Metering tariff. The customer charge for testing may be assessed when the customer's meter is first tested, and the same fee may be charged by the Electric Utility each time the customer requests an additional test unless the test demonstrates that the meter does not comply with the accuracy requirements. If the meter is found to not comply with the accuracy requirements, then the Net Metering Customer shall not be charged for the testing. To the extent that a faulty meter has resulted in a Net Metering Customer receiving insufficient credits or payments, pursuant to R14-2-2306, the Electric Utility

shall make the appropriate credits or payments in the next billing cycle. If the faulty meter has resulted in the Net Metering Customer receiving excess credits or payments, pursuant to R14-2-2306, then the Electric Utility shall reduce any future credits or payments by the excess amount in the next billing cycle.

R14-2-2305. New or Additional Charges

- A. Any proposed charge that would increase a Net Metering Customer's costs beyond those of other customers in the same rate class shall be filed by the Electric Utility with the Commission for approval. The filings shall be supported with cost of service studies and benefit/cost analyses.
- B. Following notice and opportunity for public comment, the Commission may a) authorize an Electric Utility to assess a Net Metering Customer greater fees or charges of any type, or b) assess all customers a system benefits charge, if the Electric Utility's direct costs of Net Metering outweigh the environmental, public policy, and system benefits of allocating the costs among the Electric Utility's entire customer base.
- C. Net Metering costs shall be assessed on a nondiscriminatory basis with respect to other customers with similar load characteristics.

R14-2-2306. Billing for Net Metering

- A. On a monthly basis, the Net Metering Customer shall be billed or credited based upon the rates applicable under the customer's currently effective standard rate schedule and any appropriate rider schedules.
- B. The billing period for net metering will be the same as the billing period under the customer's applicable standard rate schedule.
- C. With Net Metering, only the kWh units of a customer's bill are affected by the energy flow to and from the Net Metering Facility; i.e., not kW demand charges or customer charges.
- D. If the kWh supplied by the Electric Utility exceed the kWh that are generated by the Net Metering Facility and delivered back to the Electric Utility during the Billing Period, the Customer shall be billed for the net kWh supplied by the Electric Utility in accordance with the rates and charges under the customer's standard rate schedule.
- E. If the electricity generated by the Net Metering Customer exceeds the electricity supplied by the Electric Utility during the Billing Period, the Customer shall be credited during the next Billing Period for the excess kWh generated. That is, the excess kWh during the Billing Period will be used to reduce the kWh supplied and billed by the Electric Utility during the following Billing Period.
- F. Customers taking service under time-of-use rates who are to receive credit in a subsequent Billing Period for excess kWh generated shall receive such credit during the next Billing Period during the on- or off-peak periods corresponding to the on- or off-peak periods in which the kWh were generated by the Customer.
- G. Once each calendar year the Electric Utility shall issue a check or billing credit to the Net Metering Customer for the balance of any credit due in excess of amounts owed by the customer to the Electric Utility. The payment for any remaining credits shall be at the Electric Utility's Avoided Cost. That Avoided Cost shall be clearly identified in the Electric Utility's Net Metering tariff.
- H. An Electric Utility will not be required to purchase electric energy or capacity from the Net Metering Customer during any period which, due to operational circumstances, purchases from the Customer would result in costs greater than those which the Utility would incur if it did not make the purchases, but instead generated or purchased from a different source an equivalent amount of electricity. An Electric Utility seeking to invoke this rule must notify each affected Net Metering Customer within a reasonable amount of time to allow the customer to cease the delivery of energy or capacity to the Electric Utility. A claim by an Electric Utility that such a period has occurred or will occur is subject to verification by the Commission.

R14-2-2307. Net Metering Tariff

- A. Each Electric Utility shall file, for approval by the Commission, a Net Metering tariff within 90 days from the effective date of these rules, including financial information and supporting data

sufficient to allow the Commission to determine the Electric Utility's fair value for the purposes of evaluating any specific proposed charges.

- B. The Net Metering tariff shall be filed with and maintained by the Commission. The tariff shall specify standard rates for purchases from net metering facilities and may specify capacity limits.
- C. Electric utilities may include seasonally differentiated avoided cost rates for purchases from Net Metering Customers, to the extent that Avoided Costs vary by season.

R14-2-2308. Filing and Reporting Requirements

- A. Prior to May 1 of each year, each Electric Utility shall file a report listing all existing Net Metering Facilities and the inverter power rating or generator rating as of the end of the previous calendar year.
- B. Also included in this report shall be the monthly peak demand delivered to the Electric Utility and the monthly amount of kWh delivered to the utility.