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Arizona Corporation Commission  
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Docket Control  
Arizona Corporation Commission  
1200 W. Washington St.  
Phoenix, Arizona 85007

DOCKETED BY	<i>RLS</i>
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RE: Arizona Corporation Commission's Inquiry into Aggregated Net Metering for Electric Services and Possible Modification of Net Metering Rules Docket No. E-00000J-10-0202

Dear Sir or Madam:

Arizona Public Service (APS or Company) appreciates the opportunity to provide comments on the Arizona Corporation Commission Staff's (Staff) Inquiry into Aggregated Net Metering (ANM) for Electric Services. APS has organized its response to include three components: (i) introductory remarks about the potential policy issues associated with ANM; (ii) the description of a possible conceptual ANM model that APS will use as the framework for its response to Staff's questions; and (iii) responses to specific questions posed by Staff.

## I. Introduction

The concept of ANM is one that can result in a wide range of outcomes and impacts on utilities and their customers depending on the program construct. A handful of states in the U.S. have gone so far as to deploy limited ANM programs. As Staff is now evaluating the merits of a program in Arizona, APS believes it is important to identify some of the key policy issues potentially raised by ANM programs, including:

- the issue of retail competition (third-party service to multiple customers/accounts or "ala carte" provision of competitive services);
- the need to regulate a new generation of competitive electric service providers under the scenarios outlined in the first bullet;
- retail wheeling and potential FERC jurisdiction (remote power source requires transmission to reach load);

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- municipal power (e.g., "Community Choice Aggregation")<sup>1</sup>;
- technological challenges in the areas of metering (no bi-directional metering commercially available for totalized metered accounts); and
- billing (need to upgrade and reprogram existing customer information systems at considerable cost to implement the program).

ANM would, in any of its forms, represent a very significant departure from the Arizona Corporation Commission's (Commission) general rule of "one meter – one bill." *See* A.A.C. R14-2-210 (B) (1). Because ANM would represent a departure from the basis upon which existing electric rates have been established for APS and other electric public service corporations, it would entail significant revenue loss to the utility in the short term and a significant shift of cost responsibility to non-participating customers in the longer term if structured as a mere extension of the existing net metering rules. Finally, there is the very real possibility that ANM could compete with and therefore possibly reduce the effectiveness of any future feed-in tariff and existing distributed energy programs, which are already financially challenged as a result of high levels of customer participation.

For this and other reasons, the implementation of an ANM program in Arizona would likely require the reopening of the existing net metering rules less than 16 months after they first became effective and after some three years of debate and controversy. Assuming that ANM would be considered by the Commission as a distributed resource, the Renewable Energy Standard (RES) rules are also implicated and may need amending.

It is important to note that APS is experiencing high levels of customer participation in its renewable energy incentive programs and is already on pace to both meet and exceed its distributed energy deployment targets in 2010 through 2015. It is APS's recommendation that the Commission should not adopt any form of ANM at this time but rather monitor other regional ANM programs, such as those recently adopted in Colorado, to determine the strengths, weaknesses and opportunities for improvement before considering advancing its own state policy. Any billing credit for the customer's renewable energy that is greater than APS's avoided generation cost (and avoided distribution cost, if any) would result in net revenue erosion and eventual cost shifting. This is because the remaining fixed costs of generation and distribution would not be recovered (either in whole or in part) from customers participating in ANM. While this is already the case with simple net metering, ANM would needlessly exacerbate the problem by expanding the scope and size of net metering applications. Therefore, should the Commission nevertheless decide to advance ANM policy without the benefit of studying the results of such a policy in other states, APS strongly urges that any ANM be limited to pilot program of modest size, lest it prove either overly costly or result in a "crowding out" of smaller individual applications of renewable distributed generation. Any wider application of ANM policies should await both the results of such a pilot and be accompanied by effective per customer revenue decoupling for affected electric utilities.

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<sup>1</sup> Although Article 13, Section 5 of the Arizona Constitution permits municipalities to engage in the electric business, they may do so only after a public vote (A.R.S. §9-514) and compensation to the affected public service corporation (A.R.S. §9-516).

## II. Conceptual Aggregated Net Metering Scenario

The need for new rulemaking is, in APS's opinion, unavoidable should the Commission wish to implement a system-wide ANM of any sort, but it is possible to eliminate several of the more challenging issues discussed above such as retail competition, retail wheeling, "municipalization," and the need for new metering technologies by focusing on well-defined version of ANM. Under this conceptual scenario, ANM would be applied to a single site or premises with multiple accounts served from a customer-owned renewable resource located on that same premises. Schedule 1 of APS's Rate Manual describes a single premises as:

*"...adjacent and contiguous sites not separated by private or public property or right of way and operated as one integral unit under the same name and as a part of the same business..."*<sup>2</sup>

While APS does not advocate adoption of conceptual ANM model at this time, this form of ANM has been presented as a means by which to provide specific answers to Staff's questions. This approach addresses situations such as the Far Niente Winery and Google campus scenarios discussed at the recent ANM Workshop hosted by the Commission. Moreover, for the reasons set forth below, the individual accounts on the single premises could be currently served on any rate schedule, including unmetered and unbundled rate schedules. (This is not possible with other forms of ANM without the need for complicated and often arbitrary allocations of individual account usage for billing purposes.) The accounts would be summed (but not integrated) for billing purposes and a uniform billing credit applied to represent the "value" of the solar or other renewable energy supplied by the customer's facility.

A hypothetical example of this scenario would be a school site with a series of individual meters located on single buildings on the contiguous school property (single premises). A PV solar generation system owned by the school is constructed on the same property and sized to offset not more than 100% of the annual kWh consumption of the meters. The customer would have a summarized net bill for the service entrances on the premises and the distributed renewable generation facility. Therefore, the output of the on-site distributed renewable generation facility would be used to offset the customer's summary bill for the service entrances on the premises.

## III. APS's Response to Commission Staff's Questions Regarding ANM

*Note - In responding to Commission Staff's specific questions regarding ANM in this section, APS is referencing the parameters of eligible customer segments and properties as described in Section 2 of this letter as the basis for its responses.*

### 1. Please define Aggregated Net Metering ("ANM").

ANM allows the combination of the metered energy for multiple systems at different facilities owned by one customer.

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<sup>2</sup> The terms and conditions to be considered a single site is specified in the Company's Schedule 1, Terms and Conditions for Standard Offer and Direct Access Service, Section 4.1.1.

**2. What is your understanding of ANM? Compare and contrast with 1) Virtual Net Metering; 2) Community Net Energy Metering; and 3) Community Choice Aggregation concepts.**

None of the following definitions are relevant to APS's ANM but are provided for the purposes of responding to Staff's questions.

**1. Virtual Net Metering**

Virtual Net Metering allows customers to net meter multiple systems at different facilities on different properties (non-contiguous) owned by the same customer.

**2. Community Net Energy Metering/Neighborhood Net Metering/Solar Garden**

Community Net Energy Metering/Neighborhood Net Metering/Solar Garden allows for joint ownership of a solar energy system by different customers.

**3. Community Choice Aggregation**

Community Choice Aggregation permits any city/county to combine electric loads of residents, businesses, and municipal facilities for bulk electricity purchases. An opt-out structure exists for customers that choose to continue buying power directly from the local utility. The local utility continues to deliver electricity purchased by the Community Choice Aggregation program through its wires and provides meter reading, billing and maintenance services.

**3. Please address the following ANM policy design issues:**

**A. What customer classes should be eligible for ANM?**

Consistent with the example described in Section 2, small and large commercial customers with multiple-metered accounts on single premises could be eligible for ANM. (Theoretically, residential customers would not be excluded, but it is difficult to imagine many scenarios where a residential customer would have multiple services on the same premises.)

**B. What are the minimum and maximum system sizes that should be eligible for ANM?**

The system size should not exceed 100% of annual historical consumption for all buildings on the single premises. Also, to qualify as a distributed generation resource under the Renewable Energy Standard (RES) rules, system sizes must be less than 2 MW.

**C. What metering and other equipment will need to be installed or modified to implement ANM?**

A bi-directional meter must be installed at the renewable generation site; all other existing building meters would not need to be modified.

**D. Should all participating ANM accounts be within the same location as their generation source, or can ANM loads and generation sources be in separate geographic locations?**

All participating accounts should be within the same location as their renewable generation source, *i.e.*, located on a single premises, with the renewable generation source owned by the customer.

**E. Should all participating accounts be owned and operated by the same entity?**

All participating accounts should be owned and operated by the same entity as owned the renewable generation source and located on single premises.

**F. How does a customer designate participating accounts, and how often can a customer change account designations?**

A customer could designate participating accounts once per year. A customer could also add or delete a participating ANM account after it has been designated, once per year. With the decided seasonality inherent in many of the Company's rate schedules, more frequent designations would invite rate arbitrage and increase the administrative burden of ANM.

**G. How many accounts may a customer designate to participate in a single ANM system?**

Customers may have an unlimited number of accounts designated to participate in a single ANM system as long as they are located on a single premises as described in APS Rate Schedule 1.

**H. If ANM credits will be allocated to multiple accounts, how does a utility determine how many ANM credits to allocate to each account?**

The theoretical model described by APS in its comments does not require any allocation of ANM credits. The participating ANM accounts would be summary billed and a renewable generation credit applied to the total bill. The on-site renewable generation credit is calculated based on the output of the distributed

renewable generation facility multiplied by a designated per kWh value. This would result in a net bill for the participating customer.

**I. Can participating accounts be on any retail tariff?**

Again, theoretically this would not matter, although for administrative simplicity, it may be easier to keep residential and non-residential accounts separate for purposes of ANM.

**J. Should all participating accounts on a certain ANM generation source be on the same retail tariff?**

See response to Question 3. I.

**K. Can (or should) an ANM generator serve on-site electrical demand? If so, what would be allocated to other accounts, instantaneous excess generation or monthly excess generation?**

The ANM generator owned by the customer should serve on-site electrical demand. The value of the excess generation is credited to the summed billing of all of the customer's ANM accounts on single premises.

**L. What charges, if any, should be assessed to customers enrolling in ANM?**

Customers enrolling in ANM should be responsible for the costs of implementing the required changes to the utility's billing systems to prevent subsidization by customers who cannot participate in the program. A surcharge mechanism could be one method to address implementation costs. Further additional cost to customers participating under ANM could be costs associated with interconnecting to APS's system. If the customer requires any system improvements in order to prepare their premises for ANM, additional costs may be incurred by the customer.

**M. What effect would the implementation of an ANM policy have on existing Net Metering Rules?**

ANM would represent a very significant departure from the Commission's general rule of "one meter – one bill" and would, in APS's opinion, require reopening the existing net metering rules.

**N. Will adoption of an ANM policy increase the installation of distributed renewable energy facilities in Arizona?**

Currently APS is experiencing a high demand that is already exceeding its available RES budget. Therefore, unless additional money is collected from customers to fund additional incentive payments, an ANM program will displace current DE programs. Further, assuming that ANM would be considered by the Commission as a distributed resource, the RES rules would need to be revised to include customers under ANM as a distributed resource.

**O. What distribution costs, if any, are incurred in an ANM program?**

ANM may require additional distribution system investment. For example, there may be cases where specific-distribution improvements such as distribution transformer replacements are necessary. There may also be other costs, but they are likely associated with customer-side improvements necessary for generator output and would be absorbed by the customer.

**P. How does the utility company aggregate all of the billing data for multiple "customers" in order to make ANM work? What are the anticipated IT costs?**

The participating ANM accounts (one customer with multiple meters on single premises) would be summary billed. This can be done already and does not entail aggregation of billing date. The application of a distributed generation credit to the summed bill would entail IT costs of an as of yet undetermined magnitude.

**Q. Does ANM require "totalizing" of meters in order to work?**

Based on the scenario described in Section 2, ANM does not require totalizing meters.

**4. What, if any, technical considerations should the ACC consider in determining whether to adopt ANM?**

**A. How would introduction of an ANM program impact load research, cost allocation and rate design?**

An ANM program will have significant impacts on current load research. If an ANM meter is part of the load sample, the research meter would have to be moved to another site. The ANM meters could be used for data collection and program evaluation, but this would be independent of traditional load research. Cost allocations and rate design will be impacted. ANM will reduce the amount of energy billed by APS to customers. This will increase rates over time

because of the need to recover fixed costs from those remaining kWh. This issue can be addressed in several ways. One approach could be to credit the ANM energy only against the variable generation component of participating customer loads. Alternatively, participating customers could be charged the unbundled "wires" components of the applicable retail electric rates.

**B. Would ANM change the way loads are metered?**

See response to Question 3. C.

**C. What are the potential impacts to utility system reliability and safety?**

Distributed generation installed under an ANM program would be required to meet all the safety and reliability standards associated with other distributed generation. The interconnection study and review process would be the means to identify and site specific safety or reliability issues. If an ANM model other than the model described in the APS response were to be adopted by the ACC, additional safety issues could arise. For example, remote generation sites would need to be identified and a means to isolate the generation during system emergencies would need to be available.

**5. Are there any additional technical or cost issues to be considered in relation to adopting an ANM policy?**

As noted in its introductory remarks as part of Section 1, additional technical or cost issues to be considered in relation to adopting an ANM policy include:

- Potential for cost shifting to and subsequent subsidization by non-participating customers;
- Costs for power supply firming and other related services that will be required by participating customers;
- An evaluation of the definition of a public service corporation under Arizona law; and
- Depending on the ANM model adopted by the ACC, ANM could also raise issues as to what portions of the ANM model may be FERC jurisdictional. There is also a need to evaluate ANM as it relates to the state of retail competition in Arizona. As noted above, the theoretical model of ANM discussed herein avoids these issues for the most part.

**6. What, if any, cost shifting issues should the ACC consider in determining whether to adopt ANM?**

Because any billing credit for the customer's renewable energy that is greater than APS's avoided generation cost (and avoided distribution cost, if any) would result in net revenue erosion and eventual cost shifting, APS strongly urges that should the

Commission decide to proceed with ANM policy prior to examining the results of ANM in other states, it be limited to a pilot program of modest size, lest it prove either overly costly or result in a crowding out of smaller individual applications of renewable distributed generation. Any wider application of ANM policies should await both the results of such a pilot and be accompanied by effective per customer revenue decoupling for affected electric utilities.

**7. What are the potential positive impacts of adopting an ANM policy?**

ANM benefits a relatively few participants at the expense of non-participating customers. It does so by further subsidizing the costs of renewable energy resources for the former.

**8. What are the potential negative impacts of adopting an ANM policy?**

The implementation of an ANM program would come at the expense of other customer programs currently experiencing high levels of participation and available to a broader group of participants. The APS response has attempted to document a number of the considerations that may have potentially negative effects on state policy, regulated utilities, and their customers. In addition to the rulemaking ramifications around RES and Net Metering policy, utilities would be required to implement new rate schedules and metering and billing technologies to accommodate ANM with costs distributed among all customers. These potential issues should be strongly weighed against any perceived need to further incent the deployment of distributed resources, the pace of which is currently exceeding available funding and RES targets.

**9. Should the ACC adopt ANM? Why or why not?**

It is APS's position that the success of the current distributed energy programs for both residential and non-residential systems does not warrant the development of an ANM policy at this time. It is APS's recommendation that the Commission should consider monitoring other regional ANM programs, such as those recently adopted in Colorado, to determine the strengths and opportunities for improvement before advancing its own state policy. Similar to the lessons learned from European Feed-in Tariff programs, the Commission would benefit from developing any ANM policy based on the real-world application of other programs before investing additional customer resources given current renewable energy incentive program participation. Should the Commission nevertheless decide to advance an ANM policy now, APS strongly urges that any ANM be limited to pilot program of modest size, lest it prove either overly costly or result in a "crowding out" of smaller individual applications of renewable distributed generation. Any wider application of ANM policies should await both the results of such a pilot and be accompanied by effective per customer revenue decoupling for affected electric utilities.

10. **If the ACC decides to adopt ANM, should it be implemented on a trial or pilot basis?**

See APS response to Question 9.

Sincerely,



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TLM/

cc: Parties of Record

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