NOTICES OF FINAL RULEMAKING

The Administrative Procedure Act requires the publication of the final rules of the state's agencies. Final rules are those which have appeared in the *Register* first as proposed rules and have been through the formal rulemaking process including approval by the Governor's Regulatory Review Council or the Attorney General. The Secretary of State shall publish the notice along with the Preamble and the full text in the next available issue of the *Register* after the final rules have been submitted for filing and publication.

NOTICE OF FINAL RULEMAKING

TITLE 14. PUBLIC SERVICE CORPORATIONS; CORPORATIONS AND ASSOCIATIONS; SECURITIES REGULATION

CHAPTER 2. CORPORATION COMMISSION FIXED UTILITIES

Editor's Note: Because the Corporation Commission is a separately elected constitutional body, the following Notice of Final Rulemaking was exempt from the Governor's Regulatory Review Plan memorandum, January 22, 2009. (See a copy of the memorandum in this issue on page 685.)

Editor's Note: The Office of the Attorney General approved certain Sections or portions of Sections within the following Notice of Final Rulemaking and disapproved others. For clarity, the Office of the Secretary of State – Public Services Division has removed the disapproved Sections or portions of Sections.

[R09-35]

PREAMBLE

1. Sections Affected — **Rulemaking Action**

R14-2-2301	New Section
R14-2-2302	New Section
R14-2-2303	New Section
R14-2-2304	New Section
R14-2-2305	New Section
R14-2-2306	New Section
R14-2-2307	New Section
R14-2-2308	New Section

2. The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Constitutional authority: Ariz. Const. Art. XV § 3

Authorizing statute: A.R.S. §§ 40-202, 40-321, 40-322, 40-331, 40-336, 40-361, 40-421 et seq.

Implementing statute: Not applicable

3. The effective date of the rules:

May 23, 2009

4. A list of all previous notices appearing in the *Register* addressing the final rule:

Notice of Rulemaking Docket Opening: 14 A.A.R. 1241 April 18, 2008

Notice of Proposed Rulemaking: 14 A.A.R. 1228 April 18, 2008

5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Jeffrey Pasquinelli, Public Utilities Analyst

Address: Corporation Commission
1200 W. Washington St.
Phoenix, AZ 85007

Telephone: (602) 542-4382

Fax: (602) 364-2270

6. An explanation of the rule, including the agency's reasons for initiating the rule:

The Arizona Corporation Commission ("Commission") issued Decision No. 69877 on August 28, 2007. In that decision the Commission ordered that the Public Utility Regulatory Act ("PURPA") standard on Net Metering be adopted for all Commission-jurisdictional electric distribution utilities.

The PURPA 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 onsite 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.

The decision also ordered that Commission staff begin a rulemaking process to draft the rules on Net Metering.

On October 23, 2008 the Commission adopted Net Metering rules in Decision No. 70567. The rules allow any retail customer of a Commission-jurisdictional electric utility to construct a renewable resource or Combined Heat and Power ("CHP") facility and interconnect for the purpose of exchanging electric power and energy with the electric utility that normally serves them. Under the rules, Net Metering is a Commission-approved, tariffed service of Arizona electric distribution utilities.

7. A reference to any study relevant to the rule that the agency reviewed and either relied on or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

On December 17, 2007, as required by Decision No. 69877, the Commission Staff disseminated proposed Net Metering Rules and encouraged interested parties to provide written comments on them. Between December 31, 2007 and January 24, 2008, Staff received written comments from 13 entities, ranging from private individuals to municipalities and from utility companies to renewable energy advocates. On February 1, 2008 Staff filed its revised draft proposed Net Metering Rules and again encouraged all interested parties to comment on them. Between February 12, 2008 and February 14, 2008, five sets of written comments were filed. On February 25, 2008 Staff filed a Recommended Order for proposed rules which incorporated the comments received. Staff recommended that the proposed rules be forwarded to the Arizona Secretary of State for Notice of Proposed Rulemaking.

On March 6, 2008, written comments on the Proposed Net Metering Rules were filed by the electric cooperatives, the Arizona Solar Energy Industries Association and the Solar Alliance, Arizona Public Service Company Tucson Electric Power Company and UNS Electric. On March 20, 2008 the Commission issued Decision No. 70194 which order Staff to prepare a Notice of Proposed Rulemaking to adopt Net Metering Rules, A.A.C. R14-2-2-2301 through R14-2-2308 for publication by the Secretary of State.

Decision No. 70194 further ordered the scheduling of a public comment proceeding. By Procedural Order dated March 28, 2008, the Administrative Law Judge set a deadline for public submission of written comments and for Staff's responses and any additional recommendations. Written comments were filed by Arizona Public Service, Interstate Energy Renewable Council, Solar Advocates, and Distributed Energy Association of Arizona.

The Notice of Proposed Rulemaking was published by the Secretary of State on April 18, 2008. On June 2, 2008 Staff filed its Staff Report regarding comments made by interested parties on the proposed rules. On June 5, 2008, the Commission held a proceeding to obtain public comments on the Proposed Net Metering Rules, as scheduled. Staff, Arizona Public Service Company, The Solar Alliance, Interstate Energy Renewable Council, and Distributed Energy Association of Arizona appeared and provided public comment on the proposed rules. Subsequently, comments from Arizona Solar Energy Association, Arizona Public Service Company, Interstate Energy Renewable Council, and Pima County Facilities Management were filed.

All of the comments received were filed with the Commission's Docket Control and are summarized in Decision No. 70567.

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

A. ECONOMIC, SMALL BUSINESS, AND CONSUMER IMPACT SUMMARY.

1. Final rulemaking.

   Rules R14-2-2301 through R14-2-2308 allow any retail customer of a Commission-jurisdictional Electric Utility to construct a renewable resource or Combined Heat and Power ("CHP") facility and interconnect for the purpose of exchanging electric power and energy with the Electric Utility that normally serves them. Under the rules, Net Metering is a service of Arizona electric distribution utilities under a Commission-approved tariff.

2. Brief summary of the economic impact statement.

The public at large will benefit from Net Metering since it will encourage more of the electricity produced in Arizona to be generated from renewable resources and high-efficiency facilities. Electricity produced from renewable resources such as solar, wind, or biomass, or from CHP facilities, allows for lower levels of air emissions, and greater diversity and reliability of the energy supply in Arizona.

The cost to Electric Utilities to comply with the Net Metering Rules will depend on several factors. These factors include the cost of metering and billing Net Metering Customers, and the Electric Utility's avoided cost of production. Also affecting the Electric Utility's cost would be the retail rates under which the Net Metering Customer takes service.

Any proposed charge for recovery of additional costs due to compliance with these rules shall be filed by the Electric Utility with the Commission for consideration and approval in compliance with R14-2-2305. The charges shall be fully supported with cost of service studies and benefit/cost analyses. The Electric Utility shall have the burden of proof on any proposed charge.

As stated in R14-2-2307, Electric Utilities will be required to file a tariff specifying standard rates for purchases of energy from Net Metering Facilities.

Utilities may incur additional costs of complying with reporting requirements, and reviewing or inspecting a customer's Net Metering Facility. The Utilities and their customers may benefit from the reduced load on their local distribution systems and a reduced need for procurement of generation and transmission resources if Net Metering encourages more customer-installed generation.

Customers of Electric Utilities who install Net Metering Facilities will incur an initial cost for the equipment, and then may benefit from the ability to meet their own electricity needs rather than purchase from the local Utility. Electric energy produced beyond customer needs by the Net Metering Facility is credited to the customer, in effect resulting in purchase by the Electric Utility at its avoided cost. Any class of Utility customer may install Net Metering Facilities.

Manufacturers, distributors, and installers of eligible Net Metering technologies can benefit because Net Metering Customers will purchase and install these eligible technologies. Eligible Net Metering technologies include solar, wind, biomass, biogas, geothermal, hydroelectric, and CHP facilities. Employees of the manufacturers, distributors, and installers of eligible technologies will benefit through increased job opportunities.

3. Name and address of agency employees to contact regarding this statement.

Name: Jeffrey Pasquinelli, Public Utilities Analyst

Address: Corporation Commission
1200 W. Washington St.
Phoenix, AZ 85007

or

Name: Kevin Torrey, Staff Attorney, Legal Division

Address: Corporation Commission
1200 W. Washington St.
Phoenix, AZ 85007.

B. ECONOMIC, SMALL BUSINESS, AND CONSUMER IMPACT STATEMENT.

1. Identification of the final rulemaking.

The rules are new Sections under Title 14, Chapter 2 – Corporation Commission, Fixed Utilities. Rules R14-2-2301 through R14-2-2308 govern the treatment of Electric Utility Customers in Arizona who wish to interconnect with the Electric Utility which serves them and engage in Net Metering operation as defined in the Rules. The Rules apply to all Electric Utilities, as defined in the Rules.

2. Persons who will be directly affected by, bear the costs of, or directly benefit from the final rulemaking.
   a. the public at large;
   b. consumers of electric service in Arizona;
   c. electric public service corporations;
   d. Arizona Corporation Commission;
   e. manufacturers and installers of renewable energy and CHP power plants in Arizona and their employees;
   f. public entities, such as schools, cities, counties, and state agencies.

3. Cost-benefit analysis.
   a. Probable costs and benefits to the implementing agency and other agencies directly affected by the implementation and enforcement of the final rulemaking.

To the extent that the implementing agency and other agencies are customers of Electric Utilities and install Net Metering Facilities, probable costs will include the costs of the Net Metering generation equipment. Benefits will include the ability to meet their own needs for electricity rather than purchase from the Electric Utility.

Probable costs to the Commission of the Net Metering Rules will include costs associated with reviewing reports, processing proposed tariffs and charges, and general overview and enforcement of the Net Metering Rules as a whole.

b. Probable costs and benefits to a political subdivision of this state directly affected by the implementation and enforcement of the proposed rulemaking.

To the extent that political subdivisions are customers of Electric Utilities and install Net Metering Facilities, probable costs will include the costs of the Net Metering generation equipment. Benefits will include the ability to meet their own needs for electricity rather than purchase from the Electric Utility.

Local governments may benefit from increased property tax revenues resulting from new Net Metering generation facilities being installed in Arizona. Local governments may also benefit from an increase in employment in the renewable energy business sector.

c. Probable costs and benefits to businesses directly affected by the final rulemaking, including any anticipated effect on the revenues or payroll expenditure of employers who are subject to the final rulemaking.

A cost to an Electric Utility will be any costs of complying with the Net Metering Rules. These costs may be recovered through the Electric Utility's rates to customers. Other costs may include penalties that may be imposed for failing to comply with the Net Metering Rules. The anticipated effect on revenues or payroll expenditures of Electric Utilities will likely be minimal.

To the extent that other businesses are customers of Electric Utilities and install Net Metering Facilities, probable costs will include the costs of the Net Metering generation equipment. Benefits will include the ability to meet their own needs for electricity rather than purchase from the Electric Utility.

4. Probable impact on private and public employment in businesses, agencies, and political subdivisions of this state directly affected by the final rulemaking.

Manufacturers and installers of renewable and CHP energy systems in Arizona may hire additional employees. The impact on public employment or Electric Utilities' employment is expected to be minimal.

5. Probable impact of the final rulemaking on small businesses.

a. Identification of the small businesses subject to the final rulemaking.

Businesses that are subject to the rules are "Electric Utilities," which are public service corporations that own, operate, and maintain electrical distribution systems in Arizona. Some of these Electric Utilities are small businesses, but others are large regional businesses.

Additional small businesses that could be impacted by the Net Metering Rules are small business customers of an Electric Utility that choose to become Net Metering Customers.

b. Administrative and other costs required for compliance with the final rulemaking.

A cost to small Electric Utilities will be any costs of complying with the Net Metering Rules that are not recovered through the Utility's rates. Other costs could include penalties that may be levied for noncompliance with the Net Metering Rules.

Other small businesses that are customers of Electric Utilities and choose to become Net Metering Customers would need to pay the rates included in the tariff filed pursuant to rule R14-2-2307.

c. A description of the methods that the agency may use to reduce the impact on small businesses.

The Commission could consider specific rate designs that may reduce the impact on small businesses when setting rates pursuant to R14-2-2305 or R14-2-2307.

d. Probable cost and benefit to private persons and consumers who are directly affected by the final rules.

The public at large will benefit from a Net Metering program that encourages a larger portion of the electricity sold in Arizona to be produced from high efficiency and renewable energy resources. Producing electricity from high efficiency and renewable energy resources has fewer adverse impacts on air, land, and water than producing electricity from conventional energy sources. In addition, most renewable resources rely on either no-cost resources (such as the sun, wind and geothermal heat) or very low-cost resources (e.g., biomass) which are available locally in Arizona and are not subject to supply disruptions, manipulation of market prices, or wild unanticipated fluctuations in price. These features contribute to the reliability of the energy supply that Arizonans will depend upon to meet future energy needs.

6. Probable effect on state revenues.

   There may be an increase in state revenues from sales taxes on Net Metering Facility equipment purchases. There may also be increases in income taxes resulting from revenue increases in Arizona manufacture and installation of renewable technologies.

7. Less intrusive or less costly alternative methods of achieving the purpose of the final rulemaking.

   The Commission is unaware of any alternative methods of achieving the purpose of the rulemaking that would be less intrusive or less costly.

8. If for any reason adequate data are not reasonably available to comply with the requirements of subsection B of this section the agency shall explain the limitations of the data and the methods that were employed in the attempt to obtain the data and shall characterize the probable impacts in qualitative terms.

   The data used to compile the information set forth in subsection B are reasonably adequate for these purposes.

10. A description of the changes between the final rules, including supplemental notices, and final rules (if applicable):

Typographical error appearing in the text of the Net Metering Rules in the Notice of Proposed Rulemaking have been corrected. For clarity and ease of interpretation, defined terms have been capitalized wherever they appear throughout the text.

In response to comments received, some clarifying language has been incorporated in some sections of the rules, as explained in item 11 herein, but no substantial changes were required.

11. A summary of the principal comments and the agency response to them:

R14-2-2302. Definitions

R14-2-2302(4) "Combined Heat and Power or CHP (also known as cogeneration)"

Issue: APS proposes that this definition be replaced with a new definition of "Renewable Combined Heat and Power or (RCHP)." APS proposes deleting the entire definition of CHP appearing in this Section, and adding the following new definition of RCHP to the Net Metering Rules: "'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 as set forth in 18 CFR 292.205." APS' proposed new definition is similar to the definition of "Renewable Combined Heat and Power System" that appears in the Commission's Renewable Energy Standard and Tariff ("REST") Rules, A.A.C. R14-2-1801 et seq., at A.A.C. R14-2-1802(B)(5). APS recommends this definition change in conjunction with its recommendation to replace "CHP" with "RCHP" in Section 2302(13)(c), discussed below.

Distributed Energy Association of Arizona ("DEAA") does not agree with APS' proposal to replace the definition of CHP with a definition of RCHP, because DEAA does not agree that Net Metering should apply solely to promote renewable resources. DEAA argues that Decision No. 67744 (April 7, 2005), which directed the Commission's Utilities Division ("Staff") to schedule workshops to consider issues concerning distributed generation, interconnection and Net Metering, did not state that distributed generation issues are limited to renewable resources; that the August 24, 2006, announcement of a workshop on Net Metering did not indicate that Net Metering should only apply to renewable resources; and that the minutes from the Net Metering workshop did not state that Net Metering standards were to be limited to only renewable resources. DEAA also argues that Decision No. 69877 (August 28, 2007), which adopted the Public Regulatory Policies Act of 1978 ("PURPA") standard on Net Metering, does not limit Net Metering to only renewable resources. DEAA's position is that all CHP systems meeting PURPA efficiency standards should be included and allowed under the Net Metering Rules.

Staff disagrees with APS that Net Metering should be available only to renewable resource facilities. Staff contends that CHP has a greater overall efficiency as compared to other types of generation because CHP uses the waste heat in other processes, and distributed generation using fossil-fueled CHP reduces the amount of fossil fuels used on a Utility's system because its greater efficiency is displacing less-efficient Utility generation.

Analysis: The Net Metering Rules are not intended to apply only to renewable resources. CHP is a valuable generation source because it has a greater overall efficiency as compared to other types of generation due to the fact that CHP uses the waste heat in other processes, and distributed generation using fossil-fueled CHP can reduce the amount of fossil fuels used on a Utility's system because CHP's greater efficiency can displace less-efficient Utility generation. We will therefore not adopt this recommendation by APS to replace the definition of "Combined Heat and Power" with a definition of "Renewable Combined Heat and Power." APS' alternative recommendation, discussed below, would clarify that PURPA-type standards for efficiency will be met by CHP systems qualifying for Net Metering for which any fuel is a non-renewable resource. As set forth below, we adopt the clarifying language to that effect which Staff proposed for this definition instead of replacing it with RCHP as proposed by APS.

Resolution: Retain this definition with additional clarifying language regarding CHP efficiency, as discussed below.

Issue: As an alternative to its recommendation to replace the definition of "Combined Heat and Power" with a definition of "Renewable Combined Heat and Power," and its recommendation to replace "CHP" with "RCHP" in Section

2302(13)(c), APS proposes that language be added to this definition to specify that CHP facilities must meet the minimum efficiency standards of Qualified Facilities as defined in PURPA. APS argues that non-renewable distributed generation should not be subsidized if it is less efficient than the Utility-owned generation it would replace. APS' alternative recommendation is to add the following sentence to the end of Section 2302(4): "Qualifying CHP systems shall meet all PURPA efficiency and effective utilization of heat production standards for a Qualifying Facility certification as set forth in 18 CFR 292.205 as promulgated at the time these rules go into effect."

Duncan Valley Electric Cooperative, Inc., Graham County Electric Cooperative, Inc., Mohave Electric Cooperative, Inc., Navopache Electric Cooperative, Inc., Trico Electric Cooperative, Inc., and Sulphur Springs Valley Electric Cooperative, Inc. (collectively, the "Electric Cooperatives") are also concerned that the definition of CHP would provide incentives for distributed generation from resources that are not qualified as renewable energy resources. The Electric Cooperatives argue that allowing non-renewable energy distributed generation onto the grid as Net Metering customers could displace renewable energy distributed generation resources, thereby interfering with Utilities' ability to meet their annual distributed renewable energy requirements under the REST Rules. However, the Electric Cooperatives are in agreement with APS that PURPA efficiency and useful heat definitions of a Qualified Facility should apply to qualification for Net Metering service.

DEAA states that it does not agree with the premise of the Electric Cooperatives' arguments for restricting CHP to only renewable resources. DEAA takes the position that all CHP systems meeting PURPA efficiency standards should be included and allowed under the Net Metering Rules. DEAA does; however, agree with APS' alternative recommendation to require CHP systems to meet the efficiency standards of Qualified Facilities as defined under PURPA.

Staff agrees with APS and DEAA that to ensure the efficiency of a CHP system, PURPA-type standards for efficiency should be met. Staff proposes adding the following clarifying language at the end of this Section: "such that the useful power output of the facility plus one-half the useful thermal energy output during any 12-month period must be no less than 42.5 percent of the total energy input of fuel to the facility."

Analysis: We agree with APS, the Electric Cooperatives, DEAA and Staff that clarifying language should be added to this Section to ensure that PURPA-type standards for efficiency will be met by Net Metering CHP systems. Staff's proposed language best provides the needed clarity, simplicity, and certainty.

Resolution: Add the following language to the end of this Section: "such that the useful power output of the facility plus one-half the useful thermal energy output during any 12-month period must be no less than 42.5 percent of the total energy input of fuel to the facility."

R14-2-2302(13) "Net Metering Facility"

R14-2-2302(13)(c)

Issue: APS argues that this definition would allow for the subsidization of non-renewable energy such as natural gas or diesel. APS proposes modification of this Section by replacing "CHP" with "RCHP."

For the same reasons summarized in the discussion of Section 2302(4) above, DEAA does not agree with APS' proposal to replace "CHP" with "RCHP" in this Section.

For the same reasons summarized in the discussion of Section 2302(4) above, Staff disagrees with APS and the Electric Cooperatives that Net Metering should be available only to renewable resource facilities, and also opposes APS' proposal to replace "CHP" with "RCHP" in Section 2302(13)(c).

Analysis: The Net Metering Rules are not intended to apply only to renewable resources. CHP is a valuable generation source because it has a greater overall efficiency as compared to other types of generation due to the fact that CHP uses the waste heat in other processes, and distributed generation using fossil-fueled CHP can reduce the amount of fossil fuels used on a Utility's system because CHP's greater efficiency can displace less-efficient Utility generation. APS' alternative recommendation, discussed above, would clarify that PURPA-type standards for efficiency will be met by CHP systems qualifying for Net Metering for which any fuel is a non-renewable resource. As set forth above, we adopt the clarifying language to that effect which Staff proposed for the definition of Combined Heat and Power, instead of replacing "CHP" with "RCHP" in this Section.

Resolution: No change required.

R14-2-2302(13)(d)

Issue: The Electric Cooperatives request that "125%" as stated in this Section be deleted and replaced with "100%." The Electric Cooperatives argue that this change is necessary because there will be a need for total distributed generation limits to maintain system reliability, and that allowing systems sized to 125 percent of total connected load appears to provide an incentive for customers to install more distributed generation equipment so that the customer could regularly sell unused energy to the Utility. The Electric Cooperatives express concern with the potential need to upgrade their distribution systems to meet the 125 percent allowance. The Electric Cooperatives state that they design and size their distribution system based on 100 percent of customers' total connected load, and contend that additional distribution plant investment would be required to meet the 125 percent of total connected load allowance for distributed generation interconnection. The Electric Cooperatives also state a concern with a future need to install

energy storage assets to manage the "energy storage" demands imposed by Net Metering Customers, pointing to language in the Staff Report accompanying the original proposed draft Net Metering Rules which notes that customers will use Net Metering for "... essentially storing excess power on the grid...." The Electric Cooperatives contend that this comprises a new role for which Utilities' assets are not appropriately suited.

Interstate Renewable Energy Council ("IREC") opposes changing "125%" to "100%." IREC agrees with the Electric Cooperatives that Net Metering Customers should not be provided an incentive to oversize their distributed generation system, but argues that this issue is adequately addressed by Section 2302(13)(b), which defines a Net Metering Facility as a facility "intended primarily to provide part or all of the Net Metering Customer's requirements for electricity." IREC interprets this limitation to mean that only systems that are sized to meet a customer's load qualify for Net Metering. IREC argues that Net Metering is intended to compensate distributed generation system owners for electricity provided to a Utility on a regular, net basis, and that if system sizes were limited such that customers with distributed generation systems were unlikely to export energy, there would be no need for Net Metering. IREC states that it fully supports the Commission's decision to require avoided cost payments for annual net excess generation, but that it believes the most appropriate means to address system over-sizing concerns would be to remove avoided cost payments for annual excess or, in the alternative, direct such payments to low-income assistance programs. IREC contends that limiting system size to a percentage variant of peak demand would not prevent a system from being an annual net exporter and might well have the unintended consequence of preventing Arizonans from sizing onsite renewable generation to meet their onsite needs.

Solar Advocates also disagree with the Electric Cooperatives. Solar Advocates argue that the Electric Cooperatives' concern, that distribution system upgrades would be required because distributed generation output could produce flow back into the system at a level greater than 100 percent of total connected load, assumes the extraordinarily rare event that 100 percent of customers on given distribution circuit have installed the maximum size system possible under the Net Metering Rules. Solar Advocates point out that the National Electric Code addresses back-feeding distributed generation devices, and limits the amperage of any device feeding back onto the grid to safe levels. Solar Advocates argue that the safety and reliability related limitations built into interconnection standards undercut the Electric Cooperatives' stated concerns.

Staff also clarifies that the Electric Cooperatives appear to misunderstand the concept of "energy storage" on the grid as discussed in the referenced Staff Report to mean that an investment in energy storage assets is required. Staff explains that no investment in energy storage assets will be required by Net Metering, but that instead, Staff's wording "essentially storing excess power on the grid" in the Staff Report referenced by the Electric Cooperatives simply refers to the fact that with Net Metering, the grid acts as a "virtual" storage system, by which "stored" power is returned to the customer by Utility generation, not from an actual storage facility, and that no investment in energy storage assets would be required by the Net Metering Rules.

Staff states that because power is sold to the Utility at avoided cost, it is unlikely that Net Metering customers would greatly over-size their systems and thus force Utilities to purchase excess power. Staff also points out that generating significantly beyond a Net Metering Customer's requirements for electricity would violate the Net Metering Rules, because a Net Metering Facility is defined in Section 2302(13)(b) as a facility intended primarily to provide part or all of the Net Metering Customer's requirements for electricity.

According to Staff, the Electric Cooperatives' concern that Utilities would have to upgrade distribution systems to meet 125 percent of connected load is unfounded. Staff states that distribution systems are designed incorporating the diversity of customer load, i.e., that not all customers will demand maximum power at the same time. Staff states that the same concept of diversity applies in the delivery of power back to the Utility, and contends that the probability that a large number of Net Metering Customers will be located close together and will be generating at their maximum capacity such that the local distribution system cannot handle the influx of power is too small to even consider as a possible event.

Analysis: As explained by Solar Advocates and Staff, the Electric Cooperatives' concern that distribution system upgrades would be required due to distributed generation output producing flow back into the system at a level greater than 100 percent of total connected load is unfounded. The National Electric Code addresses back-feeding distributed generation devices, and limits the amperage of any device feeding back onto the grid to safe levels. A Net Metering Facility is intended primarily to provide part or all of the Net Metering Customer's requirements for electricity, and oversizing a system in order to sell electricity back to the Utility would violate the Net Metering Rules. Additionally, because electricity is sold back to the Utility at the Utility's avoided cost rather than retail, customers would have little incentive to oversize in order to sell back excess generation. As clarified by Staff, implementation of the Net Metering Rules will not require Utility investment in energy storage assets.

Resolution: No change required.

Issue: The Electric Cooperatives request that the words "total connected load" in this Section be replaced with the words "peak demand." They are concerned with the difficulty in estimating total connected load for their customers who do not have demand meters.

In response to the Electric Cooperatives' concern regarding measurement of total connected load, Solar Advocates argue that this concern would only come into play in the event of a dispute over system size, which Solar Advocates believes would be rare. Solar Advocates argue that measuring total connected load may not be as difficult as the Elec-

tric Cooperatives may fear, and that if the data on total connected load is not available, that the customer's electric drop capacity may be used for system sizing, as allowed in Section 2302(13)(d). Solar Advocates also argue that peak demand is a number difficult to estimate, and contend that adoption of this word replacement has the potential to exclude over 25 percent of solar distributed generation systems sold in Maricopa County from participation in Net Metering. Solar Advocates bases this figure on a report by one Solar Alliance member company that over 25 percent of the systems it has installed have a capacity exceeding 125 percent of the estimated peak average demand of the home, which is often around 7 to 8 kW.

IREC disagrees with the Electric Cooperatives that lack of demand meters or any difficulty estimating total connected load necessitates a limitation of system size to a percentage of peak demand. IREC also points out that according to the Electric Cooperatives' own written comments, they regularly undertake total connected load estimations in designing and sizing their distribution systems. IREC argues that it is difficult to understand how, in the absence of a demand meter, peak demand would be any easier to measure than total connected load. Like Solar Advocates, IREC interprets Section 2302(13)(d) to allow Utilities to limit Net Metering eligibility to customers with systems sized below their service drop capacity, in the event that estimating total connected load proves to be overly involved and difficult.

Staff also states that Section 2302(13)(d) provides that the customer's service drop capacity would be the generating capacity limit in the event connected load determination is difficult. Staff argues that using peak demand as the limit is unacceptable because peak demand can continuously change.

Analysis: The Net Metering Rules already provide an alternative means for determining generating capacity limits in the event that a Utility finds it difficult to determine total connected load. The Electric Cooperatives' proposed wording replacement is therefore not necessary.

Resolution: No change required.

R14-2-2305. "New or Additional Charges"

R14-2-2305(A)

Issue: IREC proposes that Section 2305(A) be clarified by replacing the words "other customers" with "another Net Metering Customer."

DEAA states that it can support IREC's stated recommended modifications to Section 2305.

Staff believes that a misinterpretation of the meaning of Section 2305(A) and Section 2305(B) may be possible, and recommends the following new language for a single Section 2305 to replace both Section 2305(A) and Section 2305(B): "Net Metering charges shall be assessed on a nondiscriminatory basis. Any proposed charge that would increase a Net Metering Customer's costs beyond those of other customers with similar load characteristics or customers in the same rate class that the Net Metering Customer would qualify for if not participating in Net Metering shall be filed by the Electric Utility with the Commission for consideration and approval. The charges shall be fully supported with cost of service studies and benefit/cost analyses. The Electric Utility shall have the burden of proof on any proposed charge."

Analysis: Staff's proposed language provides clarification of both Section 2305(A) and Section 2305(B) in order to avoid misinterpretation.

Resolution: Replace both Section 2305(A) and 2305(B) with the following new Section 2305: "Net Metering charges shall be assessed on a nondiscriminatory basis. Any proposed charge that would increase a Net Metering Customer's costs beyond those of other customers with similar load characteristics or customers in the same rate class that the Net Metering Customer would qualify for if not participating in Net Metering shall be filed by the Electric Utility with the Commission for consideration and approval. The charges shall be fully supported with cost of service studies and benefit/cost analyses. The Electric Utility shall have the burden of proof on any proposed charge."

R14-2-2305(B)

Issue: IREC believes that the requirement of Section 2305(B) that Net Metering costs be assessed on a nondiscriminatory basis with respect to other customers with similar load characteristics should be clarified with regard to charging Net Metering customers additional fees or charges or imposing equipment or other requirements. IREC proposes the addition of language which currently appears in the REST Rules at R14-2-1801(M), as follows: "The Utility may not charge the customer-generator any additional fees or charges or impose any equipment or other requirements unless the same is imposed on customers in the same rate class that the customer-generator would qualify for if the customer-generator did not have generation equipment." IREC argues that this clarification is necessary to ensure that additional fees are not imposed on Net Metering customers as a whole, which can substantially increase the cost of self-generation and neutralize the benefits of Net Metering, particularly for small systems.

DEAA states that it can support IREC's stated recommended modifications to Section 2305.

APS opposes the addition of the language recommended by IREC because it would restrict Utilities' ability to collect costs as allowed by Section 2305(A), when such costs are properly supported by a cost of service study and benefit/cost analysis. APS further opposes the language because APS believes it appears to expand the recovery restriction to include "any equipment or other requirements." APS argues that such restrictions would be directly contrary to the

Commission's interconnection rules and APS' current approved tariffs which allow for the recovery of increased costs incurred based upon a customer's specific load requirements or characteristics, even if such costs to serve that customer are greater than the cost to serve a typical customer in the same class. APS argues that the language would restrict APS from charging the additional cost of a bi-directional meter, which is a piece of equipment used only by Net Metering Customers. APS argues that in any event, the language is not needed, because the current language requires the Utility to fully justify such costs and receive Commission approval under Section 2305(A).

As discussed above, Staff recommends new language for a single Section 2305 to replace both Section 2305(A) and Section 2305(B).

Analysis: Staff's proposed language provides clarification of both Section 2305(A) and Section 2305(B) in order to avoid misinterpretation.

Resolution: Replace Section 2305(A) and 2305(B) with the new Section 2305 language recommended by Staff as discussed above.

Issue: The Arizona Solar Energy Industries Association and The Solar Alliance ("Solar Advocates") recommend that the language of this Section be changed to read as follows: "No Net Metering charges shall be assessed to a Net Metering customer that are not assessed to all customers with similar load characteristics, regardless of whether or not they participate in Net Metering."

DEAA supports the language proposed by Solar Advocates to clarify the intent and meaning of this Section.

For the same reasons it opposes the language change to this Section proposed by IREC, APS opposes the addition of the language recommended by Solar Advocates.

As discussed above, Staff recommends new language for a single Section 2305 to replace both Section 2305(A) and Section 2305(B).

Analysis: Staff's proposed language provides clarification of both Section 2305(A) and Section 2305(B) in order to avoid misinterpretation.

Resolution: Replace Section 2305(A) and 2305(B) with the new Section 2305 language recommended by Staff as discussed above.

R14-2-2306. "Billing for Net Metering"

R14-2-2306(E)

Issue: The Electric Cooperatives state that they do not support participation in a time-of-use program for Net metering customers because they believe that the costs for such customers would not properly be recovered in the time-of-use rates. The Electric Cooperatives state that should the Commission require offering a time-of-use program to Net Metering customers, such customers will need a separate time-of-use rate class to appropriately reflect the costs of service for Net Metering customers. The Electric Cooperatives state that using existing available technology, the costs could be high, but may decline with implementation of smart metering systems. The Electric Cooperatives suggest no language changes for this Section, but state that their proposed Net Metering tariffs will reflect technology for time-of-use Net Metering at the time the tariffs are presented.

Staff responds that if Net Metering is offered to time-of-use customers, and additional costs are incurred, Section 2305 allows Utilities to file for approval of charges to recover additional costs.

Analysis: The Electric Cooperatives suggest no language changes for this Section. At the time the Commission reviews a proposed Net Metering Tariff, the Commission will determine whether it is appropriate.

Resolution: No change required.

R14-2-2307. "Net Metering Tariff"

R14-2-2307(B)

Issue: IREC states that the following language regarding capacity limits should be added to the end of this Section: "and must be consistent with applicable REST goals for renewable distributed generation resources." IREC argues that capacity limits artificially restrict the expansion of onsite renewable generation and curtail the market for new renewable energy distributed generation systems. IREC explains that under the REST Rules, Utilities must obtain 15 percent of their retail electric load from eligible renewable resources by 2025, with 30 percent of this amount coming from renewable distributed generation resources, and that accordingly, Utilities will need to procure 4.5 percent of their electricity supply from renewable distributed generation by 2025. IREC contends that as such, it will be difficult to meet REST distributed generation goals if Net Metering enrollment is capped below 4.5 percent of a Utility's electric supply.

Solar Advocates also oppose capacity limits in general, and agree with IREC that capacity limits should be set above 4.5 percent at the very least, to avoid hindering compliance with Renewable Energy Standard goals.

DEAA states that it can support IREC's stated recommended modifications to Section 2307.

APS argues that if CHP eligibility were restricted to renewable applications, and its proposed definition of "RCHP" were adopted (see discussion of Section 2302 above), APS would have less of a concern about linking capacity requirements to the Renewable Energy Standard. APS states that capacity limits would likely become an issue only if non-renewable CHP "crowds out" the available capacity for distributed generation on a Utility's system.

Staff states that it does not believe the proposed language is necessary, because at the time the Commission reviews a Net Metering tariff, the Commission may determine whether a requested capacity limit is acceptable.

Analysis: At the time the Commission reviews a Net Metering Tariff, the Commission will determine whether a requested capacity limit is acceptable, based on the facts presented at that time.

Resolution: No change required.

Issue: Solar Advocates propose the addition of a new Section 2307(D) as follows: "To the extent practicable, R14-2-2301 through R14-2-2308, inclusive, shall be implemented consistent with the Renewable Energy Standard and Tariff (R14-2-1801 et seq.)" Solar Advocates alternatively suggests that the same wording could be included in the Decision approving the Net Metering Rules.

DEAA does not agree with the proposed new Section 2307(D), arguing that it appears to be an effort to link the implementation of the Net Metering Rules and the REST Rules. DEAA argues that the PURPA standard adopted by the Commission in Decision No. 69877 does not limit Net Metering to only renewable resources.

APS interprets the proposed language as simply stating the principle that all Commission regulations should be interpreted and implemented, to the extent practicable, in a manner that gives effect to each, and therefore does not oppose this addition to Section 2307.

Staff states that it does not believe the language proposed by Solar Advocates is necessary.

Analysis: The Net Metering Rules are not intended to apply only to renewable resources. Because all Commission regulations should be interpreted and implemented, to the extent practicable, in a manner that gives effect to each, the new Section proposed by Solar Advocates is not necessary.

Resolution: No change required.

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

13. Incorporations by reference and their location in the rules:

None

14. Was this rule previously adopted as an emergency rule?

No

15. The full text of the rules follows:

TITLE 14. PUBLIC SERVICE CORPORATIONS; CORPORATIONS AND ASSOCIATIONS; SECURITIES REGULATION

CHAPTER 2. CORPORATION COMMISSION
FIXED UTILITIES

ARTICLE 23. NET METERING

Section

ARTICLE 23. NET METERING

R14-2-2301. Applicability

These rules govern the treatment of Electric Utility Customers in Arizona who 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:

1. "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.
2. "Biomass" means any raw or processed plant-derived organic matter available on a renewable basis, including:
   a. Dedicated energy crops and trees,
   b. Agricultural food and feed crops,
   c. Agricultural crop wastes and residues,
   d. Wood wastes and residues, including:
      i. Landscape waste.
      ii. Right-of-way tree trimmings.
      iii. Small diameter forest thinnings that are 12 inch in diameter or less.
   e. Dead and downed forest products,
   f. Aquatic plants,
   g. Animal wastes,
   h. Other vegetative waste materials,
   i. Non-hazardous plant matter waste material that is segregated from other waste,
   j. Forest-related resources such as:
      i. Harvesting and mill residue.
      ii. Pre-commercial thinnings.
      iii. Slash.
      iv. Brush.
   k. Miscellaneous waste such as:
      i. Waste pallets.
      ii. Crates.
      iii. Dunnage; or
   l. Recycled paper fibers that are no longer suitable for recycled paper production, but not including:
      i. Painted, treated, or pressurized wood,
      ii. Wood contaminated with plastics or metals,
      iii. Tires, or
      iv. Recyclable post-consumer waste paper.
3. "Biogas" means gases that are derived from:
   a. Plant-derived organic matter,
   b. Agricultural food and feed matter,
   c. Wood wastes,
   d. Aquatic plants,
   e. Animal wastes,
   f. Vegetative wastes,
   g. Wastewater treatment facilities using anaerobic digestion, or
   h. Municipal solid waste through:
      i. A digester process,
      ii. An oxidation process, or
      iii. Other gasification process.
4. "Combined Heat and Power" or "CHP" (also known as cogeneration) means a system that generates electricity and useful thermal energy in a single, integrated system such that the useful power output of the facility plus one-half the useful thermal energy output during any 12-month period must be no less than 42.5 percent of the total energy input of fuel to the facility.
5. "Commission" means the Arizona Corporation Commission.
6. "Electric Utility" or "Utility" means an electric distribution company that constructs, operates, and maintains the electrical distribution system for the receipt and delivery of power.
7. "Electric Utility Customer" or "Customer" means an end-use retail Customer served under a Utility's rate schedule.
8. "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.
9. "Geothermal" means heat from within the earth's surface.
10. "Hydroelectric" means the kinetic energy derived from moving water.
11. "Net Metering" means service to an Electric Utility Customer under which electric energy generated by or on behalf of that Electric Utility Customer from a 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.

12. "Net Metering Customer" means any Arizona Customer who chooses to take electric service in the manner described in the definition of Net Metering in subsection (11) and under the Net Metering tariff, as described in Section R14-2-2307.
13. "Net Metering Facility" means a facility for the production of electricity that:
    a. Is operated by or on behalf of a Net Metering Customer and is located on the Net Metering Customer's premises,
    b. Is intended primarily to provide part or all of the Net Metering Customer's requirements for electricity,
    c. Uses Renewable Resources, a Fuel Cell, or CHP to generate electricity,
    d. Has a generating capacity less than or equal to 125% of the Net Metering Customer's total connected load, or in the absence of customer load data, capacity less than or equal to the Customer's electric service drop capacity, and
    e. Is interconnected with and can operate in parallel and in phase with an Electric Utility's existing distribution system.
14. "Renewable Resources" means natural resources that can be replenished by natural processes, including:
    a. Biogas,
    b. Biomass,
    c. Geothermal,
    d. Hydroelectric,
    e. Solar, or
    f. Wind.
15. "Solar" means radiation or heat from the Earth's sun that produces electricity from a device or system designed for that purpose.
16. "Wind" means energy derived from wind movement across the earth's surface that produces electricity from a device or system designed for that purpose.

R14-2-2303. Requirements and Eligibility

An Electric Utility shall interconnect with any retail customer with a Net Metering Facility in the Electric Utility's service territory.

R14-2-2304. Metering

The meter that is installed on Net Metering Facilities after the effective date of these rules shall be capable of registering and accumulating the kilowatt-hours ("kWh") of electricity flowing in both directions in each billing period.

R14-2-2305. New or Additional Charges

Net Metering charges shall be assessed on a nondiscriminatory basis. Any proposed charge that would increase a Net Metering Customer's costs beyond those of other customers with similar load characteristics or customers in the same rate class that the Net Metering Customer would qualify for if not participating in Net Metering shall be filed by the Electric Utility with the Commission for consideration and approval. The charges shall be fully supported with cost of service studies and benefit/cost analyses. The Electric Utility shall have the burden of proof on any proposed charge.

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. 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.

D. If the electricity generated by the Net Metering Customer exceeds the electricity supplied by the Electric Utility in 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 (not kW or kVA demand or customer charges) and billed by the Electric Utility during the following billing period.

E. 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.

F. 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.

R14-2-2307. Net Metering Tariff

A. Each Electric Utility shall file, for approval by the Commission, a Net Metering tariff within 120 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. The Commission shall issue a decision on these filings within 120 days.

B. The Net Metering tariff shall specify standard rates for annual purchases of remaining credits from Net Metering Facilities and may specify total utility capacity limits. If total utility capacity limits are included in the tariff, such limits must be fully justified.

C. Electric utilities may include seasonally and time of day differentiated Avoided Cost rates for purchases from Net Metering Customers, to the extent that Avoided Costs vary by season and time of day.

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, for each existing Net Metering Facility, the monthly amount of energy delivered to and from the Electric Utility and, if available, the monthly peak demand delivered to and from the Electric Utility.