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JEFF HATCH-MILLER, Chairman
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AZ CORP COMMISSION
DOCUMENT CONTROL

IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR A HEARING TO DETERMINE THE FAIR VALUE OF THE UTILITY PROPERTY OF THE COMPANY FOR RATEMAKING PURPOSES, TO FIX A JUST AND REASONABLE RATE OF RETURN THEREON, TO APPROVE RATE SCHEDULES DESIGNED TO DEVELOP SUCH RETURN, AND TO AMEND DECISION NO. 67744	DOCKET NO. E-01345A-05-0816 REPLY BRIEF OF SOLAR ADVOCATES
IN THE MATTER OF THE INQUIRY INTO THE FREQUENCY OF UNPLANNED OUTAGES DURING 2005 AT PALO VERDE NUCLEAR GENERATING STATION, THE CAUSES OF THE OUTAGES, THE PROCUREMENT OF REPLACEMENT POWER AND THE IMPACT OF THE OUTAGES ON ARIZONA PUBLIC SERVICE COMPANY'S CUSTOMERS	Docket No. E-01345A-05-0826
IN THE MATTER OF THE AUDIT OF THE FUEL AND PURCHASED POWER PRACTICES AND COSTS OF THE ARIZONA PUBLIC SERVICE COMPANY	Docket No. E-01345A-05-0827

Arizona Corporation Commission
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The undersigned counsel, on behalf of the Intervener's in this docket collectively known as the Solar Advocates, hereby offers its REPLY BRIEF in the above referenced dockets pertaining to the Arizona Public Service Company ("APS".)

SOLAR ADVOCATES REPLY BRIEF

Table of Contents

I. A SERIOUS CHALLENGE TO TRADITIONAL REGULATION 4

a. "Old" Challenges for Traditional Regulation (and previous remedies attempted with more or less success): 4

1. Asymmetry of information, resources, and experience 4

2. Inability Of Backward Looking, Cost-Reimbursement Plus Type Regulation To Cope With Rapidly Escalating Costs 4

3. Difficulty And Lack Of Regulatory Tools In Oversight Of Technology Choices For Generation, And Between "More Of The Same" System Investment Profiting The Company Versus Alternative Solutions Benefiting Society As A Whole, Such As Demand Management Technologies 4

4. Potentially New Weaknesses of Traditional Regulation Identified in This Proceeding: . 5

II. THE OPPORTUNITY AVAILABLE TO ARIZONA'S ECONOMY IF THE CHALLENGES CAN BE MET 7

III. THE IMPORTANCE OF THE PRINCIPLES AND REASONING OF THE COMMISSION'S RECENT FINAL DECISION AND ORDER NO. 69127 IN DETERMINING THIS UTILITY SPECIFIC PROCEEDING ..9

IV. ANALYZING AN ACTUAL SOLAR CUSTOMER'S BILL WHERE A SO-CALLED SUBSTITUTE FOR NET BILLING—THE "NET BILLING" TARIFF EPR-2 IS THE TARIFF APPLIED. 12

V. SOLAR ADVOCATES HAS PREVIOUSLY SET FORTH THE DETAILS OF THE ISSUES THAT ARE DETERMINED BY THE FINAL DECISION AND ORDER NO. 69127, IN ITS INITIAL REPLY BRIEF. 17

_____a.. Final Decision And Order No. 69127 Clearly Sets Forth Mechanism For Any Cost Recovery to be Allowed.....17

____b.. The Issuance Of Final Decision And Order No. 69127 Clearly Indicates That The Time For Overly Cautious And Limited "Pilot" Net Metering Tariffs Is Long Past. The Future Of Arizona's Economy Cannot Afford The Defeatist "Mixed Messages" Regarding Sustainable Energy Advocated By Aps. 18

____c..... Any Subsequent Action by Arizona Attorney General on Commission Authority Will not Alter Commission's Clear Authority AND OBLIGATION To Decide this Case..... 18

____d..... Final Decision and Order No. 69127 was the result of a long, full, and wide-ranging inquiry by the Commission, it's Staff, and a very large representation of the public, focusing specifically on the issues related to renewable energy in Arizona..... 19

VI___FINALLY, SOLAR ADVOCATES IS DISAPPOINTED IN THE APS INITIAL CLOSING BRIEF PERTAINING TO NET METERING, AS IT ESSENTIALLY IGNORE THE WEAKNESS AND ADMITTED NEED FOR CHANGE ESTABLISHED DURING CROSS EXAMINATION BY THE COMMISSION, THE ALJ, AND INTERVENERS. 22

THE VERBATIM TABULAR LISTING OF APS ARGURMENT REGUARDING NET METERING AND RELATED MATTERS AND POINT BY POINT REFUTATION

EXHIBITS 54

I. A SERIOUS CHALLENGE TO TRADITIONAL REGULATION

This proceeding is replete with potential challenges to the Commission's continued authority to regulate a large and powerful monopoly which owes its very existence to the State of Arizona. While the "deregulation" or "restructuring" movement which had begun to sweep the country is seemingly on hold, the weaknesses of traditional cost-of-service, rate-of-return regulation have not gone way. Indeed, the facts as offered in this rate proceeding suggest that Arizona suffers from many of the common problems of traditional regulation, and several relatively unique issues that Arizona needs to address:

a. "Old" Challenges for Traditional Regulation (and previous remedies attempted with more or less success):

1. **Asymmetry of information, resources, and experience**
   (Traditionally addressed by Commission regulation, publically funded staff, public consumer counsel, public legal proceeding with potential or real competitors and other represented interests allowed intervention.)
2. **Inability Of Backward Looking, Cost-Reimbursement Plus Type Regulation To Cope With Rapidly Escalating Costs**
   (Traditionally addressed by Fuel cost adjustment clauses, power purchase adjustments, third party providers of electricity)
3. **Difficulty And Lack Of Regulatory Tools In Oversight Of Technology Choices For Generation, And Between "More Of The**

Same" System Investment Profiting The Company Versus Alternative Solutions Benefiting Society As A Whole, Such As Demand Management Technologies (Traditionally addressed by Federal incentives and protections toward nuclear power, round 1, federal and state incentives for various technologies, least cost planning, integrated resource planning, perhaps the federal creation of Regional Transmission Organizations to facilitate regional planning)

4. Potentially New Weaknesses of Traditional Regulation Identified in This Proceeding:

a) ***CURRENT FACT:*** Inability of backward looking, cost-reimbursement plus type regulation to cope with rapidly growing demand growth.
QUESTION FACED BY COMMISSION: What is the appropriate way to ensure that the state designated monopoly has the needed resources to invest as required by the public interest during periods of rapid demand?

b) ***CURRENT FACT:*** Financial Determinations By Commission Affect Not Only Shareholders, But As a Result of Financial Market Feedback System, Commission Actions Also Directly Affect Company Financial Costs for Debt and Equity, Which Company Is Legally Entitled to Recover.
QUESTION FACED BY COMMISSION: How to apply traditional tools and methods of regulation, or develop innovations based on the goals and objectives of regulation, that create the proper incentive (and penalty) structure to lead the regulated monopoly to seek the public interest.

c) ***CURRENT FACT:*** Traditional Regulation Has Limited Tools In Determining The Public Interest In Its Oversight Of Utility Investment During Periods Of Rapid Technological Change. Prudence reviews and the "used and useful" doctrine are at best clumsy

threats for gross errors.

QUESTION FACED BY COMMISSION: How can the Commission ensure that the Company adopts the technological and operational innovations that are being developed and implemented in other jurisdictions that may provide other state economies competitive advantages that if not adopted in Arizona will ultimately disadvantage our state's citizens and its economy?

d) ***CURRENT FACT:*** Failure to Address new Challenges for Traditional Regulation may result in overreaction by legislative or other non-regulatory government institutions, leading to inappropriately broad deregulation, management "discretion," or other limitations on Commission oversight.

QUESTION FACED BY COMMISSION: How to craft a rate increase in this proceeding which addresses the need of the Company to maintain or improve its Wall Street credit ratings and other favorable financial evaluations, while maintaining appropriate oversight of a regulated monopoly who does not have the same objectives as the Commission pursing the public interest.

e) ***CURRENT FACT:*** Even if the Commission determines that the public interest requires that it approve the full rate increase requested by the Company—which Solar Advocates does not oppose—the public will demand an explanation and justification for the need for the rate increases beyond mysterious concepts such as "attrition."

QUESTION FACED BY COMMISSION: How to include in its general rate case decision the explanation and justification for any rate increase granted that satisfies the public that in return for the

increased revenues the state will receive a fair bargain.

It is in answer to this very serious question that Solar Advocates believes that Commission support for such publically popular measures as net metering, and the more general "future proofing" suggestions made to allow the Commission to monitor and ensure that the huge investments to be made in the coming years by APS will best prepare the state's infrastructure for the very serious energy challenges ahead in the remainder of this century and beyond.

II. The Opportunity Available To Arizona's Economy If the Challenges Can Be Met

While the challenges facing the Commission, the Company, and the other parties are significant, the opportunity for Arizona and its economy is almost limitless. Arizona is the fastest growing state in the nation, and one of the nation's richest states in solar energy, and has perhaps the best combination of the "special direct" sunlight required for concentrating solar installations[1] to generate electricity. This indigenous source of energy is increasingly recognized as extremely

[1] Utilizing either photovoltaic or solar thermal technologies in CSP configurations.

important to the state's economy[2] and beyond, including the national security of the United States[3]. The Arizona Department of Commerce's recently issued Solar Electric Road Map Study stated, in part,

> "***AZ has the potential to become a world leader in many aspects of solar development, and is a model location for the evolution of new solar technologies and applications.*** This roadmap is intended to provide a framework to make AZ a world leader in the research, development, manufacture and deployment of next generation solar electric technologies." (Emphasis added)

The Solar Advocates role in this docket has focused on bringing to the attention of the Commission, and perhaps in some cases to Arizona Public Service Company (the "Company") the documented knowledge and experience of the many other states, Commissions, utilities, scientists and engineers, and legislatures throughout the country who have already successfully implemented and even expanded their true net metering programs in the last three decades. With the recent adoption of the RENEWABLE ENERGY STANDARD AND TARIFF RULES ("REST Decision") in Commission Decision 69127, and perhaps more

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[2] Arizona Solar Electric Roadmap Study, Full Report, January 2007, Arizona Department of Commerce

[3] See

importantly, the determination of the principles set forth in that lengthy and thorough process, the Commission is well positioned in this APS general rate proceeding to begin to implement in utility specific fashion the policies that will position Arizona's energy future for the daunting challenges ahead.

Such specific action can and should start with the adoption of a true net metering tariff in this docket, without the strings and limitations again proposed by the Company. Such action by the Commission will thereby accomplish both the necessary determination of this specific rate case, but also the broader goal of clarifying the Commissions intention of following through on its efforts to date regarding Arizona's sustainable energy future. By maintaining a steady course the Commission will also ensure the ability the citizens and consumers of Arizona to make their own market based choices, by investing their own resources in addressing the energy needs of the state. Such action will have the very real consequence of reducing the need to further raise APS's rates to meet the nation's highest and continuous demand growth.

III. THE IMPORTANCE OF THE PRINCIPLES AND REASONING OF THE COMMISSION'S RECENT FINAL DECISION AND ORDER NO. 69127 IN DETERMINING THIS UTILITY SPECIFIC PROCEEDING

The Administrative Law Judge has now officially taken notice in this case of the recent decision by the full Commission in DOCKET NO. RE-OOOOOC-05-0030, IN THE MATTER OF THE PROPOSED RULEMAKING FOR THE RENEWABLE ENERGY STANDARD AND TARIFF RULES (hereinafter "RES Decision" or "COMMISISON'S FINAL DECISION AND ORDER NO. 69127.) Whether or not the Decision is ultimately upheld pursuant to the current Attorney General review or subsequent appeals, the lengthy record, underlying Commission staff work, public input, Commissioner deliberations, policy discussions and reasoning, and Commission adopted final conclusions and issue resolutions are clearly of continuing relevance to the necessarily utility specific decisions in this proceeding.

In fact, if the RES Decision does not ultimately go into effect, the final conclusions and issue resolutions of the REST Decision will likely provide ***the best set of general principles available to the Commission and the regulated utilities of the state for the foreseeable future***. Solar Advocates thus suggests that the RES Decision is an extremely valuable resource to the State of Arizona, its regulated utilities, and its economy in seeking uniform statewide objectives and approaches

applicable to renewable energy issues -whether or not the specific rules therein adopted ever go into effect.

Thus, Solar Advocates strongly urges the Commission, even (or perhaps especially) in the event that the Attorney General determines that the formal rules should not go into effect in whole or in part, to give life to the hard bargained issue resolutions embodied in the REST Decision that apply to situations demainding resolution--such as the present APS proceeding. In this case there can be no argument as to the Commissions' underlying authority. Faced with the need to decide issues such as the appropriate form of a net metering tariff, or the proper approach in determining whether and how much cost recovery should be allowed to a utility adopting a net metering tariff, Solar Advocates urges the Commission to recognize that it has already decided these issues, and that principles of judicial economy, stare decisis[4], and the general principle of non discrimination[5] at the root of public utility regulation requires renewable energy

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[4] "Latin for "to stand by things decided." Stare decisis is essentially the doctrine of precedent. Courts cite to *stare decisis* when an issue has been previously brought to the court and a ruling already issued. Generally, courts will adhere to the previous ruling, though this is not universally true." See, e.g., Planned Parenthood of Southeastern Pennsylvania v. Casey, 505 US 833 (1992), retrieved from "http://www.law.cornell.edu/wex/index.php/Stare_decisis" From Wex, everyone's resource for law learning,

[5] Non discrimination in regulation endeavors to assure that customers in similar situations be treated similarly.

policies and consistent issue resolution that conform as much as reasonably possible to the principles and issue resolutions set forth in DECISION AND ORDER NO. 69127.

IV. Analyzing an actual Solar Customer's Bill Where A So-Called Substitute For Net Billing—The "Net Billing" Tariff EPR-2 Is The Tariff Applied.

APS consistently attempts to justify its failure to offer a true net metering tariff on a general basis by claiming that customers denied[6] the choice of the proposed Net Metering Tariff needn't complain—they have access to EPR-2 and EPR-4—their so-called net billing tariffs. While Solar Advocates points out in the Section VI the logical inadequacy of attempting to legally justify an inadequate tariff by stating that others are available, it is also worthwhile to illustrate the magnitude of the Company's misrepresentation in claiming that "net billing" is an adequate substitute for "net metering[7]."

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[6] Because of the application of one of its many limitations such as limitation to generation facilities of 10kw or under, the aggregate cap, or the application of one of the "preferred" tariffs

[7] It must also be noted that the Company has offered no evidence from any other jurisdiction that such a substitute is proper. In fact, they offer only their assertion that such is true.

A member of the Solar Advocates, American Solar Electric, is an Arizona-based design-build firm specializing in Photovoltaic (Solar-Electric) Power Systems for commercial, industrial and residential applications. One of American Solar Electric's previously installed projects, owned by Genesis Worldwide, Inc[8]., has made its actual APS bills available to Solar Advocates and the Commission for discussion and illustrative purposes. The actual bill for the period ending July 18, 2006 is also attached for the Commission's review (EXHIBIT A-2), with only the account number and meter number redacted. The basis for the bill is clearly indicated on page one, top left, as "YOUR SERVICE PLAN: E-32 WITH EPR-2"

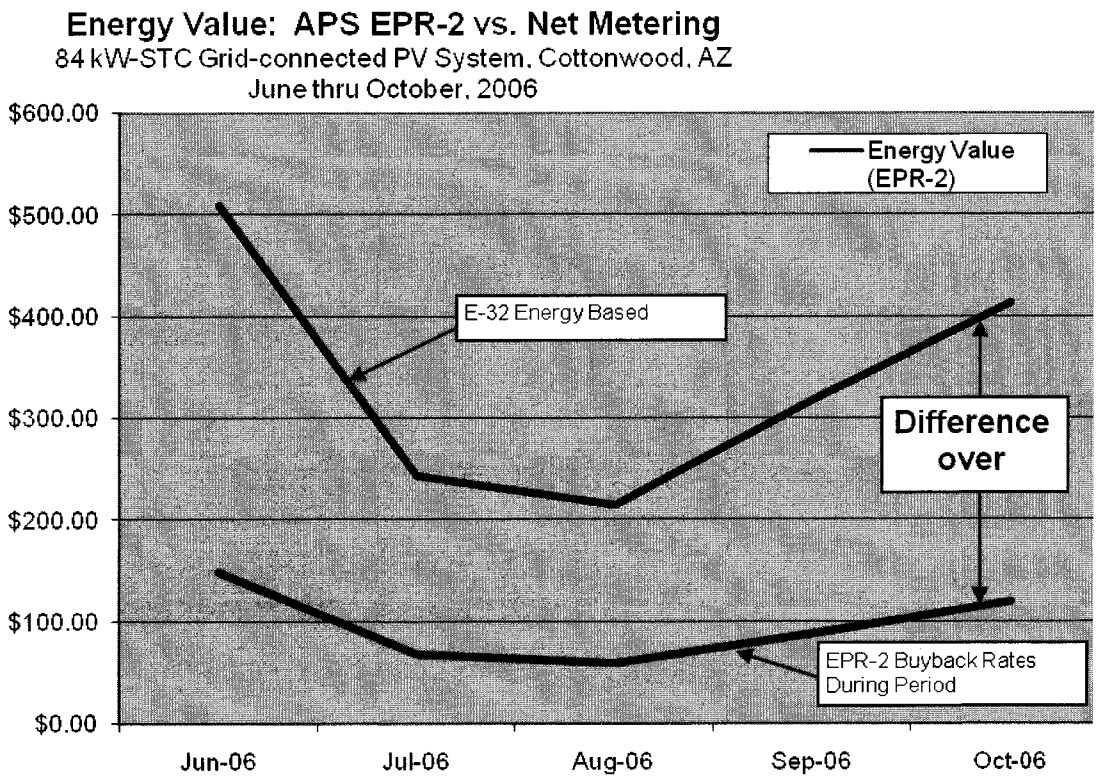
Even cursory review of this bill will disclose several key elements that are not at all fully brought out in the APS references to the availability of net billing:

- The customer purchased from APS a total of 7,520 kWh during the period ending July 18, 2006, for which it was charged an average rate per kWh of $0.0921.

[8] This commercial installation is described in the Project Installation Bulletin (see EXHIBIT A-1) Members of the Company, the Commission, and Commission staff attended the opening of this installation.

- While the solar system fed 2,640 kWh into the grid during the same period, it received only $67.87, at an average rate of $0.025708.
- If the 2,640 kWh that the Genesis system fed into the grid had received even the average rate paid—i.e. net metering--during the period, that would have resulted in a credit of $243.23. The difference for this billing period is $175.36.
- For this month, providing net metering instead of net billing would result in a 15% reduction in Genesis's utility bill. Net metering would clearly significantly enhance the value of the solar system, reducing it's payback time, and incentivizing more customers to invest in clean, renewable solar energy.
- As indicated on FIGURE 1 below, this simple difference in charged rates versus the rate paid under the "net billing" tariff amounts to $1,212.94 over the summer peaking months of June through October, 2006. It is no wonder the Company prefers "net billing" as a substitute for "net metering."

Figure 1-APS EPR-2 VS NET METERING



- Especially in light of the Commissions goals and objectives regarding removing barriers to private investment assisting the state in achieving a significantly increased penetration of sustainable energy technologies, this additional DISINCENTIVE imposed by net billing rates such as EPR-2 should not be ignored.

- The actual DISINCENTIVE is actually even greater, as the above figures do not include the following:
- A customer utilizing tariff EPR-2 is also required to pay an additional "basic service charge" of $7.34. (Note that this is in addition to the E-32 Basic Service Charge also assessed)
- The distribution charge, assessed on a kW basis similar to a demand charge, is $7.722 per kW measured at the monthly peak of 53 kW, for a total of $409.27. Note that under net billing, the customer owned generation is not allowed to reduce the assessed peak, which is thus unfairly discriminatory to the particular customer, and also discourages in general terms the very kind of peak reducing behavior that the rate structure should encourage.
- While it is a matter of public record that on during the peak on July 24-25 the listed price at the Palo Verde Hub was listed price at Palo Verde for the 2006 summer peak hour was $399.00 per MW hour, APS was paying Genesis $0.03551 per kW hour. If part of the task of good regulation is "getting the incentives right," there remains much work to be done.

In Summary, "Net Billing" is simply not an adequate substitute for a true net metering tariff available to all who are willing to invest their own funds in sustainable energy technologies, and APS must not be allowed to claim that it is. See Initial Reply Brief for additional facts and reasoning regarding this issue.

V. Solar Advocates Has Previously Set Forth the Details of the Issues that Are Determined by the Final Decision And Order No. 69127, in its initial reply brief.

a. Final Decision And Order No. 69127 Clearly Sets Forth Mechanism For Any Cost Recovery to be Allowed.

As provided therein, any amount of costs to be allowed APS must be demonstrated to be limited to that necessary ***"to recover only the costs in excess of the Market Cost of Comparable Conventional Generation[9]"*** as defined in the

[9] As adopted in Commission rule R14-2-1801. Definitions (K)"Market Cost of Comparable Conventional Generation" means the Affected Utility's energy and capacity cost of producing or procuring the incremental electricity that would be avoided by the resources used to meet the Annual Renewable Energy Requirement, taking into account hourly, seasonal, and long-term supply and demand circumstances. Avoided

Decision. The "methodology" proposed by APS in this proceeding does not conform to either the letter or the spirit of the policy determinations set forth in Final Decision and Order No. 69127.

b. THE ISSUANCE OF FINAL DECISION AND ORDER NO. 69127 CLEARLY INDICATES THAT THE TIME FOR OVERLY CAUTIOUS AND LIMITED "PILOT" NET METERING TARIFFS IS LONG PAST. THE FUTURE OF ARIZONA'S ECONOMY CANNOT AFFORD THE DEFEATIST "MIXED MESSAGES" REGARDING SUSTAINABLE ENERGY ADVOCATED BY APS.

The Final Decision and Order No. 69127 approach to net metering requirements indicates Commission confidence that there is no need for the timidity offered by APS "pilot" net metering tariff, with limits in individual systems and aggregate participation clearly below the current norm of other states with much higher levels of experience, including virtually all of Arizona's neighbors.

c. Any Subsequent Action by Arizona Attorney General on Commission Authority Will not Alter Commission's Clear Authority AND OBLIGATION To Decide this Case

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costs include any avoided transmission and distribution costs and any avoided environmental compliance costs.

Whether or not it is ultimately determined that the Commission has the authority to order by rule that the utilities meet the overall objectives set forth in Final Decision And Order No. 69127, in its decision applicable to a specific utility in this case there is no such limitation on deciding the details of the renewable energy related tariffs proposed by the Company. It would be extremely inappropriate for the Commission to allow the Company to ensure the failure of any other approach to reaching the goals and objectives of Final Decision And Order No. 69127 by approving the proposed limits on net metering and the inconsistent cost recovery proposals of APS. Rather, the Commission can and should determine such details based on its clear authority to decide such issues in a manner consistent with what it has already determined to be in the public interest regarding the increase in public participation in achieving higher percentages of renewable energy penetration in Arizona's portfolio.

d. Final Decision and Order No. 69127 was the result of a long, full, and wide-ranging inquiry by the Commission, it's Staff, and a very large representation of the public, focusing specifically on the issues related to renewable energy in Arizona

Finally, Solar Advocates urges the Commission to stand firm in its clear decisions set forth in its FINAL DECISION AND ORDER NO. 69127, whatever the ultimate outcome of the current Attorney General review and subsequent appeals may be. DOCKET NO. RE-00000C-05-0030, unlike this general rate case directed at a specific utility, involved a long, full, and wide-ranging inquiry by the Commission, it's Staff, and a very large representation of the public and formal interveners, focusing specifically on the various issues related to renewable energy in Arizona.

The very purpose of proceeding such as DOCKET NO RE-00000C-05-0030 is to determine general statewide policy, and whether or not it is ultimately determined that the particular form in which the Commission expressed its policy determinations was appropriate—the Commission must not allow those who would tie the Commission's hands for perhaps years to come, to silence the clear policy decisions rendered as a result of that Docket. in summary of the

The importance and depth of the factual review carried out in DOCKET NO. RE-00000C-05-0030, and the full and fair consideration of the issues contained in Final Decision And Order No. 69127, was directed at issues and matters far broader than the narrow issue to be reviewed by the Attorney General. Solar Advocates urges the Commission to stand firm, using its clear authority to decide the issues presented in this rate case of its clear direction to the utilities and citizens of Arizona regarding the importance of net metering and investment in distributed renewable energy equipment and the related capital costs:

Analysis: We agree with Staff that customers who pay capital costs to install distributed generation, benefit not only themselves, but the system by not contributing to overloading of transmission lines, overheating of distribution lines, wear and stress on substations and transformers, and the need for utilities to procure or generate the most expensive peaking power during peak load times, and utility customers who do not install distributed generation will therefore receive a benefit from distributed generation. We agree with the VSI statement that Net Metering is an important piece of the regulatory infrastructure for distributed generation, and disagree with APS' assertion the terms of the definition go beyond what is necessary to define the term. We see no reason to delete language requiring Affected Utilities to pay for power it receives from customer-generators, and find that it is preferable to have the definition of Net Metering set forth at this time in order to provide: certainty for the Distributed Generation Working Group, which can then move forward with other important interconnection issues. We note that the definition of Net Metering adopted herein does not allow for the "zeroing out" of credits at the end of the year, as the SunShare customer stated currently occurs in her comments, but requires that the customer-generator receive compensation for credits at the end of the annualized period.

Resolution: No change required[10].

[10] Final Decision in DOCKET NO. RE-00000C-05-0030 at page 6, Exhibit B

I. Finally, Solar Advocates Is Disappointed in the APS Initial Closing Brief Pertaining to Net Metering, AS IT Essentially Ignore the weakness and admitted need for change established During Cross Examination By the Commission, the ALJ, and Interveners.

While perhaps a bit tedious, Solar Advocates finds it necessary to set forth below, in a Detailed Tabular Format, a line by line refutation of the full argument of APS pertaining to net metering contained in its INITIAL POST-HEARING BRIEF. This verbatim analysis and refutation is made necessary because of APS's apparent willingness to ignore virtually all evidence brought out during the hearing relating to the weaknesses of its net metering tariff and related proposals. The second column associated with the language of APS presents in summary form Solar Advocate's refutations, consisting of identification of the factual error or linguistic diversions concealed by the APS language, logical inconsistencies, and where appropriate, a more accurate characterization of the facts and analysis offered by Solar Advocates.

In each instance in the table where available, references to the transcript or conflicting Company testimony is also forth to demonstrate the lack of evidentiary basis for any approval by the Commission of the APS proposals as filed.

THE TABLE BELOW CONTAINS THE COMPLETE SECTION REGARDING NET METERING FROM APS INITIAL POST-HEARING BRIEF BEGINNING AT LINE 19, PAGE 107 WITH THE SECTION ENTITLED "B. NET METERING. 1. THE APS PROPOSAL.

APS Initial POST-HEARING BRIEF beginning at line 19, page 107	
"APS is seeking Commission approval of its proposed Rate Schedule EPR-5, which would create a ~~**three year pilot**~~ net metering program for customers that have renewable resource generation facilities ~~**of 10 kW or less**~~, where the customer's generator(s) and load are located at the same premise. (APS Exhibit No. 37 at 9 [DeLizio]; id. at Attachment GAD-5). EPR-5 sets a proposed ~~**15 MW cap**~~ on total aggregate participation in the EPR-5 net metering pilot program. (APS Exhibit No. 38 at 14 [DeLizio]). Renewable resources eligible to participate in this pilot program include solar and other renewable resources, as defined in the Commission's Environmental Portfolio Standard, A.A.C. R-14-2-1618. (APS Exhibit No. 37 at 9-1 0 [DeLizio]). ~~**Qualifying standard retail rate schedules for service under this pilot program would be limited to Rate Schedules E-12, ET-1, ET-2, ECT-IR and ECT-2 for residential customers and Rate Schedules E-32 and E-32TOU for general service customers with a monthly maximum demand of 20kW or less. (Id. at 10).**~~	• The first two paragraphs, beginning on line 16, page 107 and ending on line 15, page 108, is an accurate restatement of APS's proposal • For summary purposes, the provisions to which Solar Advocates objects are highlighted by strike-through formatted font. • Note that Commission Staff has joined the Solar Advocates in opposing the limitation of net metering to facilities "of 10kw or less," and also in opposition to the APS proposed limitation to customers taking service under only selected rate schedules.

The EPR-5 rate is proposed ~~as a pilot program and is, therefore, designed to be a limited offering~~ to provide an incentive for ~~small~~ customers to participate in the Company's Solar Partners Incentive Program (credit purchase program). (APS Exhibit No. 38 at 14-1 5 [DeLizio]). The Company has proposed that the EPR-5 net metering rate be available to residential customers and general service customers ~~with monthly demands less than or equal to 20 kW. (Id. at 16).~~ The net metering program, as proposed within this rate schedule, is intended to attract ~~small~~ customers to install renewable generation by providing an additional incentive beyond the credit purchase under the Company's Solar Partners Incentive Program. (Id.).	• Linguistic Device: Junk Logic[11] • The fact that APS has proposed its tariff as "a pilot program and is, therefore, designed to be a limited offering" is irrelevant to what the Commission should do, especially in light of the full decision and policy discussion in the final RES Decision.
APS Brief Page 108, beginning at line 16 "By setting a participation limit of 15 MW[12] and limiting it to customer-owned renewable resource generation facilities with a nameplate rating of 10 kW or less, ***the Company has targeted customers who have renewable energy facilities for the primary purposes of meeting their own energy needs, but occasionally have excess energy to provide to the Company"*** (APS Exhibit No. 37 at 12 [DeLizio]). **12 Even with a 15MW cap, APS estimates**	• **Misleading Linguistic Device**— combining facts with misleading description of target customers. • By the conjunction of the preceding factual statement with an overly broad, and thus misleading, description of the Company's "targeted customers," APS attempts to cloak their proposal with an unjustified sense of reasonableness. • The APS description of targeted

[11] See "A Default-Logic Framework for Legal Reasoning in Multiagent Systems", peer-reviewed paper available in Technical Report FS-06-05 for the 2006 Fall Symposium of the American Association for Artificial Intelligence, and "Restoring the Individual Plaintiff to Tort Law by Rejecting "Junk Logic" about Specific Causation", 56 ALABAMA LAW REVIEW 381 (2004).

potentially 5,000 3kW-unit customer installations. (Tr. Vol. VIII at 181 1 [DeLizio]).	customers, while reasonable, ***is not what the proposed APS Tariff actually covers.*** • Contrary to the apparent meaning of the highlighted statement, the Company's proposal in no way allows all customers who meet the offered description of targeted customers to qualify for net metering. • The offered description of targeted customers applies to any reasonably expected installation of distributed solar generation—"***customers who have renewable energy facilities for the primary purposes of meeting their own energy needs, but occasionally have excess energy to provide to the Company"***. • However, in truth APS would deny net metering to any member of this class described proposing an installation of greater than 10kw. • Solar Advocates strongly urges the Commission to conform the final tariff to be adopted to in fact apply to the claimed targeted customers "customers who have renewable energy facilities for the primary purposes of meeting their own energy needs, but occasionally have excess energy to provide to the Company." • Solar Advocates notes that the APS description would apply to virtually all customers up to 2 MWs, as under the current APS tariffs, even including an unlimited net metering tariff, it would never make economic sense to invest in solar generation in excess of that appropriate "for the primary

	purposes of meeting their own energy needs, but occasionally have excess energy to provide to the Company"
Company Initial Brief at page 108, beginning at line 23, "The proposed 10 kW cap on the individual generator size is appropriate for net metering, even in light of an expanded program under the proposed Renewable Energy Standard ("RES"), ***because the Company already offers net billing rate options for all distributed generation systems up to 100 kW***, which options do not have any cap on aggregate participation. (APS Exhibit No. 38 at 13 [DeLizio]). APS also currently offers rate Schedule EPR-2, which is available to all."	Here is the very foundation of the Company's argument, to which the Company witnesses returned again and again—in fact whenever directly challenged with evidence of the weakness of the extremely limited "pilot" proposal of the Company. Solar Advocates here wishes to clearly underline the logical structure of the APS justification: "The proposed 10 kW cap on the individual generator size is appropriate for net metering, even in light of an expanded program under the proposed Renewable Energy Standard ("RES"), ***because the Company already offers net billing rate options for all distributed generation systems up to 100 kW***." Or, reduced to its logical structure: "A" is appropriate, even" [though the Commission has recently expanded its requirements] "because the Company already offers "**B".** That is not a justification of **"A"**-it is a linguistic device diverting the reader's attention to "B." This approach thus fails the Commission in two ways—it provides an inadequate basis for adopting the APS proposal "A" as offered, and yet

	then begs the question of the adequacy of the "net billing" tariffs offered as justification for the anemic net metering proposal. • **Review of the "net billing" tariffs as implemented by APS clearly shows that they are NOT adequate substitutes for a true net metering tariff, but are rather a vestige of the by-gone "PURPA WARS" when utilities defending their monopolies attempted to discourage the rise of independent generation. See Section IV "Analyzing an actual Solar Customer's Bill Where A So-Called Substitute For Net Billing—The "Net Billing" Tariff EPR-2 Is The Tariff Applied." above** "
Qualifying Facilities ("QF"), cogeneration and small power production facilities, up to 100 kW. (*Id.*). The Company further offers Rate EPR-4 for renewable distributed generation up to 10 kW, and, in addition, provides partial requirement rates for distributed generators larger than 100 kW. (*Id.* at 14). Finally, the Company has proposed a partial service requirement rate, E-57, for solar installations up to 1MW with no aggregate cap.	Again, as noted above, providing a list of other tariffs is in no way, logical or otherwise, relevant to the merits of the tariff proposed. • Further, for the reasons noted in "ANALYZING AN ACTUAL SOLAR CUSTOMER'S BILL WHERE A SO-CALLED SUBSTITUTE FOR NET BILLING—THE "NET BILLING" TARIFF EPR-2 IS THE TARIFF APPLIED", above, the Commission must not allow the Company to ensure the failure of the Commission's efforts to encourage renewable and distributed generation through the use of "net billing" rather than "net metering."

As part of this pilot program, the Company would install the necessary bi-directional metering to measure power flow both to and from the customer. (APS Exhibit No. 37 at 10 [DeLizio]).

The Company would have to make changes to its customer information systems, so participation under this schedule is subject to the availability of enhanced metering and billing system upgrades. (Id.).

Renewable resource energy generated by the customer in excess of their monthly consumption would be accumulated on a kWh basis, and credited to the customer's future monthly bills within the same calendar year. (*Id.*).

Under net billing,93 excess power is purchased at an avoided cost rate,94 while under net metering the excess power would be credited against power that the customer purchases from the Company in future billing periods and would, therefore, be compensated at full retail rates.95 (APS Exhibit No. 37 at 3 [DeLizio]). (emphasis added)

93 APS currently utilizes the net billing methodology for customers taking service under rate schedules EPR-2 and EPR-4. (APS Exhibit No. 38 at 13 [DeLizio]).
94 Avoided costs are based on wholesale generation market rates for on-peak and off-peak generation by season.
95 The Energy Policy Act of 2005 defines net metering as "....service to an electric consumer under which electric energy generated by that electric consumer from an eligible on-site generating facility and delivered to the localv distribution facilities may be used to offset electric energy provided by the electric utility to the electric consumer during the applicable billing period...." (APS Exhibit No. 38 at 12 [DeLizio]). Net Billing, as defined in the Proposed Rulemaking for the Renewable Energy Standard and Tariff Rules (Decision No. 68566), "...is a system of billing a customer who installs an eligible Renewable Energy Resource generator on the customer's premises for retail electricity purchased at retail rates while

- **Solar Advocates urges the Commission to reject the attempt in the emphasized language to put yet another qualification or "string" on the APS offering of net metering.**

  APS has the full power and authority to ensure that the "*enhanced metering and billing system upgrades*" are in place when needed.

- Rather than including such "requirements" as yet another potential excuse for not providing a modern net metering tariff which put Arizona in a leadership role, Solar Advocates urges the Commission to clearly state that delays in implementation will not be tolerated.

- See the example of how Net Billing actually works above, at **"Analyzing an actual Solar Customer's Bill Where A So-Called Substitute For Net Billing—The "Net Billing" Tariff EPR-2 Is The Tariff Applied."**

crediting the customer's bill for any customer-generated electricity sold to the Affected Utility at avoided cost." (*Id.*).	
2. Uncollected Fixed Costs Or "Net Lost Revenues".[96] ***EPR-5 would not yield appropriate revenue to cover fixed costs because customers that took service under this schedule and produced their own generation would not pay appropriate transmission and distribution costs, nor will they pay the full amount of non-avoidable charges, such as*** the Competition Rules Compliance Charge ("CRCC"), EPS Surcharge, DSM Cost Adjustment, PSA (for deferred fuel costs incurred during prior periods) and Transmission Cost (emphasis added) 96 In discussing the Company's net metering proposal, "uncollected fixed costs" have also been referred to as "Net Loss Revenues," and are not to be confused with DSM related net lost revenues.	• **Linguistic Device: Junk Logic** • **Again, this "claim" must be rejected based on its complete lack of necessary factual basis and substance.** **Carefully parsed, the emphasized language says:** 1) "EPR-5 would not yield appropriate revenue to cover fixed costs" Here is where the mischief begins. Nowhere in this proceeding has APS established what the "appropriate revenue," if any, is. Rather, they always relay on what appear to be reasonable "assumptions" which in fact lead to inequitable results. While it is a clear requirement of traditional regulation that rates be set, in the course of a rate case, to provide the company with the reasonable opportunity to earn a reasonable

	return on, and of, its investment, that cannot simply be translated into an isolated demand for recovery of APS's "fixed costs" that it argues are somehow not being recovered because of the offering of net metering. 2) "because customers that took service under this schedule and produced their own generation would not pay ***appropriate transmission and distribution costs***, " Again, nowhere in this docket has APS established what the "***appropriate transmission and distribution costs***, "are. What is clear however, is that on this record the Commission has only essentially irrelevant estimates of what might occur with respect to revenue erosion, and absolutely no estimates of the value of benefits provided with the exception of a proposal to allow a credit for electricity generated calculated in a manner that clearly does not meet the requirements of Commission FINAL DECISION AND ORDER NO.

	69127 3) "nor will they pay ***the full amount of non-avoidable charges***, such as [list]" Again, APS is apparently only concerned about ensuring the full accounting for erosion in charges that should be accounted for in the general rate case. These charges especially may, at the discretion of the Commission, be deemed met (approximately or not) through a proper consideration of the benefits provided.
From at page 110, beginning at line "Under the Company's proposal, ***the incremental cost*** for net metering would be funded through revenues collected through the current EPS surcharge. (Id. at 10). In addition, infrastructure costs, such as changes to the customer billing systems, would also be funded through the EPS surcharge. (Id.). Revenue associated with transmission and distribution, as well as non-avoidable costs that are not recovered from EPR-5 customers would also be funded by the EPS surcharge. (Id.)." **(emphasis added)**	• **Here APS implies that it is entitled to the "incremental cost" for net metering—while nowhere in its testimony or other filings has it made any coherent argument regarding precisely what should appropriately be recovered beyond the bare assumption that it is entitled to various sums, always noting that "someone" has to pay!** **Solar Advocates points out that without more facts, and much more careful analysis, it is not at all clear that there is a "net" unrecovered cost to the company that "someone" has to pay.** **Until such a proper analysis is done, and the experience which the Company's own witnesses (see Trans at ___ and ___) admitted**

	was necessary in order to know what additional costs, if any (see transcript at ____) might exist, no recovery is appropriate, whether under general rate making principles or the principles of the RES Decision
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 The Company believes that it is appropriate to recover its uncollected fixed costs under EPR-5, which offers a ***special financial subsidy*** to customers as a means to promote small renewable distributed generation systems. (APS Exhibit No. 38 at 18 [DeLizio]).	**The term "*special financial subsidy*"** is nowhere defined or demonstrated. Indeed, it logically cannot be demonstrated until the company determines the very elements which it claims is the reason for only offering a "pilot" provision. Further, using such pejorative and undefined terminology is both unnecessary and inappropriate given the clear policy direction give in the Commission's FINAL DECISION AND ORDER NO. 69127.
With regard to the proposed RES energy requirement associated with distributed generation, the Company is seeking recovery of the fixed costs component and expenses associated with the infrastructure necessary to connect customers to the grid. (Tr. Vol. VIII at 1784 [DeLizio]). The Company is not requesting to collect the generation energy component or the fuel component of such costs. (Tr. Vol. XI1 at 2576 [DeLizio]).	While it is of course clear that a regulated monopoly is entitled to have a reasonable chance to recover a return on, and a return of, it's prudent investment, or rate base, it is by no means true that whenever such a Company makes an appropriate investment, it is immediately entitled to full recovery of such amount. Recovery must be determined in a manner that allows full consideration of simultaneous reductions in cost occurring either because of the investment, or for that matter for any

	other reason. The problems inherent in addressing just one element of a utilities cost and revenue structure are why there is a strong tradition against "single issue rate making.[13]"

APS Initial Post-Hearing Brief beginning at Line 19, Page 107 The potential loss of kWh sales and the related uncollected fixed costs from the proposed net metering program would occur for two reasons. First, the Company would be providing a subsidy through the net metering rate to encourage customers to install renewable distributed generation, which will reduce kWh cost recovery that the Company would otherwise have achieved absent the program. (Tr. Vol. XII at 2576 [DeLizio]).	Solar Advocates emphasizes to the Commission that the fact that a particular utility tariff provides a benefit to ratepayers able to qualify for the tariff does not mean there is a prohibited subsidy. A "subsidy" must necessarily involve a benefit not shared by other ratepayers, and for which the utility is not fully compensated. Otherwise, the concept can have no meaning. Of course, the fatal omission in the APS approach to the discussion is their refusal, or inability, to determine, or even address, whether the benefits to be provided by the installation of privately owned and operated generation facilities qualifying for net metering fully compensates the utility for any costs incurred. Rather, APS simply asserts that it is not being compensated for fixed costs, as if the net metered customer is producing ANY electricity, APS is losing revenue, and therefore it must be compensated. This is simply false. As discussed in Solar Advocates Initial Brief, there are many reasons that a utility's

[13] In some states there is an absolute prohibition, "Single-issue ratemaking is prohibited because it considers changes in isolation, thereby ignoring potentially offsetting considerations and risking understatement or overstatement of the overall revenue requirement. *City of Chicago v. Ill. Commerce Commn.*, 281 Ill.App.3d 617, 627 (1996), See also 8 Am. Jur. 2d, Public Utilities § 118

	revenues might decline, ranging from energy conservation, to warm weather in the winter, to cool weather in the summer. Only in the context of a general rate case can the complete financial picture and resulting appropriate rates and mechanisms be set, although curiously APS seems unable to determine just what the effects of net metering are or will be during this general rate case.
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 Although the customer would be providing a portion of their own energy needs through their distributed generator, they would still be connected to the grid and would rely on APS to back up their distributed generator and provide their remaining energy needs. (Id.). Because the proposed net metering rate does not include a ***customary standby charge*** to recover such costs, the customer would not pay their full costs for transmission, distribution or other fixed costs, especially for rate schedules that recover these costs through energy-based charges. (APS Exhibit No. 38 at 19 [DeLizio]).	Solar Advocates asserts that there is no such thing as a "customary standby charge." Rather, "standby charges" are largely an invention of monopoly utilities at the time of PURPA to provide significant disincentives to any customer considering the acquisition of self generation equipment. There are documented cases of utilities charging "standby" to customers self generating virtually all power the consumed charges in excess of the total amounts paid prior to the installation of the self generation equipment[14]. As documented in the recent December 2005 public cation, **"Rate Structures for Customers With Onsite Generation: Practice and Innovation"**, by Synapse Energy Economics and Regulatory Assistance Project, innovative state commissions have generally prohibited the charging of any form of standby rates to renewable and other environmentally preferred generation.
APS Initial Post-Hearing Brief beginning at Line 19, Page 107	The fact that the customer might receives

[14] See "Making Connections: Case Studies of Interconnection Barriers and their Impact on Distributed Power Projects" NREL/SR-200-28053 Revised July 2000,United States Department Of Energy, Distributed Power Program Office of Energy Efficiency and Renewable Energy, Office of Power Technologies

Second, excess power that the customer generates above their own needs, which flows back to the grid, would be compensated at an amount that is above the Company's avoided cost.	an amount greater than the Company's "avoided cost" is meaningless. The Company's "avoided cost" is a simply single rate computed as a result of PURPA, enacted in 1978. As admitted on cross examination, net metering clearly does not provide a net metering customer investing in solar generation—which only produces during daylight hours—anywhere near market value during APS's peak days, where for example the listed rate at the Palo Verde during the afternoon of the 2006 summer peak, where the listed price was $399.00[15] per MW hour. Meanwhile paying the "avoided cost" suggests the customer generating solar power should be entitled to an offset of only $0.05765 per kWh. Second, the policy determined in the Commission RES decision requires that APS take into account "hourly, seasonal and long-term supply and demand circumstances."
APS Initial Post-Hearing Brief beginning at Line 19, Page The customer would receive a credit equal to the ***entire energy charges*** in their applicable rate schedule, which includes generation, transmission, distribution, system benefits, DSM, PSA, regulatory assessment, CRCC, EPS and other energy-based charges. (Id.).	Again, the term used by APS conceals important facts. Most importantly, note that even with a full credit for energy, tariffs including demand charges would not be so credited, and further, as admitted by the Company, "The basic service charge and any kW charges would not typically be included in this calculation because the associated revenues are not likely to be reduced with distributed generation. (Id.)." Note that traditional tariff practices utilize the basic service charge and "any kWcharges" to pay for many of the very benefits provided by

[15] From ICE data available for Palo Verde Hub, July 24-25, 2006 at https://www.theice.com/marketdata/indices

	distributed generation technologies.
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 The Company would **incur foregone kWh cost recovery equal to the customer's total kWh generation** and incur the associated fixed costs consistent with the customer's otherwise applicable rate schedule. (APS Exhibit No. **38** at 19 [DeLizio]).	Here the company asserts that it "incurs foregone kWh cost recovery equal to the customer's total kWh generation." If that mind numbing phrase means anything, it must mean that APS believes that if it doesn't get paid for a kWh of electricity produced by a customer—it is entitled to that revenue as some sort of "make-up"!!! Solar Advocates urges the Commission to clearly state that there is no such general principle in Arizona in 2007. Rather, APS is entitled to the reasonable chance to make a reasonable rate of return on its prudent investment, and a reasonable return of its investment. APS does not own the right to all revenues that it might have received had it produced electricity produced by customers operating their own generation facilities within its monopoly territory. As "technological deregulation[16]"

[16] "Technological Deregulation" occurs as technological advances allow the purchase of smaller and smaller capacity generation technologies that become economically competitive for an increasingly broad range of customers previously limited to purchasing electric power from utilities able to fully capture economies of scale and scope through their investment in huge electric facilities. Note that while only large industrial plants first found it economic to build co-generation plants, now even non cogeneration technologies can be economic at the residential level, where customers are faced with significant line extension costs.

	continues to occur, this issue will grow in importance, and the Commission should put its regulated utilities on notice that the proper remedy is technological evolution, innovation, and building close relationships with its customers—not misplaced claims for public aid based on fictitious incurrence of "foregone kWh cost recovery."
APS Initial Post-Hearing Brief beginning at Line 19, Page The customers' generation kWh output would be calculated by applying a capacity factor to each customer's actual installed kW of generation. (Id.). The uncollected fixed costs would be derived by applying the average kWh charges in the customer's otherwise applicable rate schedule to the lost kWh. (Id.).	Again, while APS is eager to compute the "uncollected fixed costs," there is no mention of the many "unpaid for reductions in costs" of distribution, transmission, and generation, always occurring during the daylight peaking hours. See the Commission discussion of such benefits in FINAL DECISION AND ORDER NO. 69127 at Exhibit B, page 6, **"Analysis: We agree with Staff that customers who pay capital costs to install distributed generation, benefit not only themselves, but the system by not contributing to overloading of transmission lines, overheating of distribution lines, wear and stress on substations and transformers, and the need for utilities to procure or generate the most expensive peaking power during peak load times, and utility customers who do not install distributed generation will therefore receive a benefit from distributed generation."**
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 The basic service charge and any kW charges would not typically be included in this calculation because the associated revenues are not likely to be reduced with distributed generation. (Id.). These uncollected fixed costs would be calculated for each billing month for each participating customer. (Id.).	Note as commented upon above that it is the basic service charge and any kW hour charges that traditionally are fashioned to pay for the "fixed costs" of an utility system. And these remain even under a true net metering tariff. Further, as shown in the analysis of net billing, any rate that includes a kW demand charge that provides only an energy charge payment for solar generation is likely ***grossly***

	discriminatory against the solar investor.
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 The uncollected fixed costs would be netted against the associated avoided generation costs that the Company would not incur as the result of the distributed generation. (APS Exhibit No. **38** at 20 [DeLizio]). Both the generation energy and capacity cost savings from net metering would be based on the Company's PURPA avoided costs, which are used to purchase excess energy from qualifying small distributed generators in the EPR-2 rate schedule. (Id.). The ***uncollected fixed costs*** would be reflected within the EPS budget, collected through the EPS surcharge, and reported to the Commission as part of the reporting requirements of the EPS program. (Id.). (emphasis added)	As noted above, the PURPA avoided costs are not fairly compensatory in the Arizona climate to a technology that only produces during daylight hours, and the RES Decision requires that the overall recovery take into account Final Decision And Order No. 69127 Clearly Sets Forth Mechanism For Any Cost Recovery to be Allowed, and Amount limited to ***"to recover only the costs in excess of the Market Cost of Comparable Conventional Generation"*** as defined in the Decision. The Decision provides the following definition: **R14-2-1801. Definitions** (K) "Market Cost of Comparable Conventional Generation" means the Affected Utility's energy and capacity cost of producing or procuring the incremental electricity that would be avoided by the resources used to meet the Annual Renewable Energy Requirement, taking into account hourly, seasonal, and long-term supply and demand circumstances. Avoided costs include any avoided transmission and distribution costs and any avoided environmental compliance costs.
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 3. Staffs Recommendation. Although Staff supported APS's recovery of uncollected fixed costs through the EPS, Staff would limit such recovery to the customers' excess generation,97 not total generation. Staff also recommended that the limit on facility size be increased to 100kW and	

that participation not be limited by rate schedule.	
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 The Company's proposed recommendations already attempt to allow the excess energy to be netted against energy purchased from APS in subsequent months. (Id. at 14).	Note that this is certainly not true with respect to those customers left to the "net-billing" rates under the APS proposal. .
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 Staff also recommended that the Company not necessarily require the use of bidirectional meters; rather Staff recommended the use of two separate meters if more economical. It is the Company's position that while the EPR-5 net metering rate could technically be implemented with two standard meters, a single bi-directional meter would be a better option because any initial savings realized with two standard meters would be eliminated due to additional electrical infrastructure costs, such as an additional meter base, sockets, adaptors and other meter-service costs. (APS Exhibit No. 38 at 17 [DeLizio]). The Company also prefers the operational benefits of the bi-directional meter for this application, which includes reduced meter inventory requirements, fewer meter sets and less meter reading, and it is already using a single bi-directional meter for the current distributed generation (partial service requirements) rates, EPR-2 and EPR-4. (Id.). In addition, the use of a bi-directional meter is consistent with industry and regulatory practice throughout the country. (Id.).	Solar Advocates generally supports the use of a single meter, but also notes the widely varying testimony from APS witnesses ranging from net metering customers requiring a $450 meter to the final estimate of $150 for a modern meter that can be programmed from the central office. Solar Advocates urges the Commission to insist that APS cease the purchase of obsolete metering systems that are used as excuses for not moving to modern dynamic rate structures that provide more accurate market cost data to Arizona's citizens, and lay the groundwork for a more competitive economy than is possible based on an obsolete and rigid electric infrastructure. See section IV above for a discussion of the drawbacks and disincentives of the EPR-2 and EPR-4 net billing tariffs.
APS Initial Post-Hearing Brief beginning at Line 19, Page 107	

4. Solar Advocates' Proposal. The Solar Advocates proposed that the cap on individual system size be increased to 2 MW, that the overall program cap be increased to some higher level commensurate with an expanded RES program, and that the rate be made available to larger commercial customers. Solar Advocates also opposed the recovery of uncollected costs resulting from the company's proposed net metering program. APS believes that the proposed 10 kW cap on the individual generator size is appropriate for net metering, even in light of an expanded RES program, ***because the Company already offers net billing rate options for distributed generation systems up to 100 kW (EPR-2), which do not have any cap on aggregate participation.*** (APS Exhibit No. 38 at 13 [DeLizio]). Under EPR- 2, the customer's excess generation is compensated at an avoided cost rate, while EPR-5 would xxxxxx, In addition, the Company has proposed a net metering generation only rate, E-57, for solar installations up to 1 MW with no aggregate cap. (emphasis added)	As discuss above , this is simply not an adequate evidentiary basis for the adoption of the APS proposal, and ***Solar Advocates urges the Commission to specifically instruct the Company that a proposed tariff is not rendered fair and reasonable because other options are available to its customers.*** ***Note the Solar Advocates Objection to aspects of E-57 described in its Initial Brief.***
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 Most other jurisdictions that offer net metering have relatively small caps on the individual size of participating generators as well as the overall aggregate level of program participation. (APS Exhibit No. 38 at 15 [DeLizio]). Out of the 41 states referenced by the Interstate Renewable Energy Council that offer net metering, 33 have caps on generator size at or below 100 kW. (Id.).	This first sentence, after the evidence of the hearing and the revelations provided by cross examination, appears to approach, if not cross, the chutzpah line and head toward that of intentional disregard for the truth. Solar Advocates has provided a graphic at Exhibit B of All States listed on Solar Exhibit-2, which was used in cross examination of Mr. DeLizio at trial, showing graphically the true distribution of all states that offer net metering.

	At a minimum, this is a statement that should be offered to support Staff's recommended increase to a 100kw limit.
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 The Company believes that its proposal of 10 kW for the EPR-5 rate is consistent with these other jurisdictions, including Arizona, because the Company already offers net billing rates, which provide most of the benefits of net metering, for customers with generators up to 100 kW in size. (Id.).	Again, the justification offered by APS for the woeful inadequacy of its proposed net metering tariff is the existence of other, even more inadequate, choices for its customers. Unfortunately, as demonstrated in Section IV, those other choices are much worse than would be provided by the application and availability of a true net metering tariff.
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 Although Solar Advocates cited several states with relatively high caps for individual generator size and for total MW allowed on a net metering program, in fact, only two states allow participation in net metering of generators up to 2 MW. (APS Exhibit No. 38 at 15-16[DeLizio]). Furthermore, in each of the states that Solar Advocates cited as examples, other than Colorado, the utilities have divested generation as part of retail competition and are facing very different generation procurement situations compared to APS. (Id.).	Actually, as of the date of this filing, New Mexico has now increased its limit to Once again, APS counsel uses a deceptive linguistic device. "Each of the states that Solar Advocates cited" are presumably two states! Thus, the "other than Colorado" exception dismissed by APS is fully 50 percent of the states under discussion.
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 Solar Advocates also proposed that the overall cap of 15MW proposed by the Company should be increased. (Solar Exhibit No. 8 at 4-5 [Smeloffl). In contrast, the Company-proposed	

15 MW cap on total aggregate participation in the EPR-5 net metering pilot program is appropriate, because (1) it is a pilot program designed to be a limited offering to provide an incentive for small customers to participate in the Company's Solar Partners Incentive Program (credit purchase program), and (2) the Company already offers ***other net metering/net billing type rates*** that do not have any aggregate cap on participation. (APS Exhibit No. 38 at 14-15 [DeLizio]).	This is not relevant to the Commission's determination, but is simply an arrogant restatement of the Company's unilateral determination of what it will offer its customers. The use by the company of the phrase " ***other net metering/net billing type rates"*** hopefully needs no further comment.
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 Solar Advocates opposed the recovery of uncollected costs from the Company's proposed net metering program and claimed that such recovery is unnecessary, because the Company is experiencing rapid growth in its service territory. ***However, the issue of whether APS sales are growing, remaining flat, or declining is irrelevant to the issues of uncollected fixed costs.***	To the contrary, as also argued by RUCO in their initial closing brief, APS cannot in the same argument demand payment for revenues lost because a potential net metering customer has self generated a portion of its electricity load—and then deny the relevance of the possibility that the very service capacity that was not sold to customer A because of such customer's self generation, will be sold to either new customer B, or growing customer C. It is simply incredible that APS would even attempt such an argument.

Sales will be less than they would have been absent the distributed generator. (APS Exhibit No. 39 at 6 [DeLizio]). That particular customer will still have avoided paying for the cost of providing service to such customer. Moreover, APS's rapid growth also carries with it the additional costs to serve the Company's increasing customer base. (Id.). This additional financial burden heightens, not lessens, the importance of preserving the margins for fixed delivery costs from customers participating in public benefit programs like net metering. (Id.).	This alone does not justify any payment. Again, this can only be relevant if the company can prove: 1 The customer also has not provided benefits equal to the loss 2 The company has not simply sold the same amount to a neighboring customer 3 Other revenues have not grown by such amount, and 4 Other costs have not been reduced by such amount.
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 The Commission must make a policy decision as to the scope of the proposed net metering program, ***given the fact that there are uncollected fixed costs that need to be recovered*** ***and must determine whether it is more appropriate to recover such costs through the EPS or RES,*** ***or defer recovery of such costs until a general rate case and spread such costs among all classes through the cost of service.*** APS requests the Commission approve Rate	In the field of parenting, a tremendously effective linguistic technique in dealing with young children is for the adult to offer the child choices—all of which are acceptable to the adult. It is easy for the child to miss the fact that the enumerated choices are a significant narrowing of the universe of choices actually available to him or her. The choices provided already presuppose (include) the key element desired by the adult. In the emphasized language to the left, APS uses precisely such a device upon the Commission. In presupposes that

Schedule EPR- 5, without modification for customers that have renewable resource generation facilities of 10 kW or less. As part of EPR-5, APS proposes that the Commission enact a 15 MW cap on total aggregate participation in the EPR-5 net metering pilot program. The Company also requests Commission authorization to recover its uncollected fixed costs associated with the implementation of EPR-5, which offers a special financial subsidy to customers in order to promote small renewable distributed generation systems.	there ***"are uncollected fixed costs that need to be recovered***," APS in fact neither honestly points out the actual choices available to the Commission, nor provides all the data necessary for an appropriate decision. Solar Advocates believes this request for cost recovery must be denied by the Commission at this time. The Commission can simply grant APS the right to refile its claim under the principles of the RES Decision.
APS Initial Post-Hearing Brief beginning at Line 19, Page 107 In response to an inquiry by Commissioner Mayes, the Company has submitted Appendix C (attached to APS Exhibit 105), which is a recalculation of APS Exhibit 73 using Staffs modified recommendation that only when a metered customer is producing a surplus of energy will there be unrecovered fixed distribution costs through the EPS or RES. It is noteworthy that the aggregate level of unrecovered fixed distribution costs remains unchanged from APS Exhibit 73. ***These unrecovered costs are an undeniable aspect of net metering and, if not recovered through the RES, will impact base rates charged to non-***participating customers.	The statement made by the Company that the "level of unrecovered fixed distributions costs remains unchanged" is true only because APS did not in fact carry out the intentions of Staff, and thus did not carry out the intentions of Commission Mayes. By claiming that these "***unrecovered costs are an undeniable aspect of net metering***" APS once again simply ignores the plain meaning of the staff recommendation and Commissioner Mayes request, and restates its claim for full payment of the terriffed value of any revenues lost to self generation—wholly ignoring all cost savings other than the grudging application of the PURPA avoided cost rate, and the other logical requirements noted above.

98 APS Exhibit 73 entitled "RES Surcharge Calculations for Impacts of Uncollected Fixed Costs under Net Metering" sets forth the calculation that was requested to show the revenue impact of uncollected fixed costs due to net metering. It includes distribution costs plus items such as system benefits and other kilowatt hour, or non-fuel nonpurchased power, power supply fuel or related costs. (Tr. Vol. XXIII at 4313 [Rumolo]). Exhibit 73 makes the assumption that every three years the uncollected dollars from distributed net-metered customers would be rolled into the revenue requirements in a rate case. (Id).	As noted previously, Exhibit 73 is a misapplication of Staff's argument, and simply restates APS claim for full payment at tarriffed rates for all kW hours to be produced by net metering customers, reduced by the PURPA avoided cost rate. Such a methodology, while at times represented during the hearing as the proposed methodology, and at other times merely an example, with the "real" methodology to be developed during the pilot, should be denied by the Commission, with APS instructed to refile any claim for cost recovery under the principles of the RES Decision.

VI. Closing Issues

a. ***Unreasonable Limitation On Customers Choosing Solar-3 Tariff***. The unreasonable limitation on which customers may chose Solar-3 Tariff are likely ensure failure. In its late filed exhibits pertaining to the **SCHEDULE SOLAR-3, CLASSIFIED SERVICE SOLAR PILOT PROGRAM TARIFF** further described in its INITIAL BRIEF at page 130 beginning at line 12 APS sets forth the following options:

> Solar Power Energy shall be a percentage of the customer's total monthly energy 6%). Two options are available:
>
> A. Solar Power shall account for 100.0% of the customer's monthly energy
>
> B. Solar Power shall account for 50.0% of the generation mix in the customer's service.

Solar Advocates suggests that there is no reason to limit customers to the 100% and 50% services other than to ensure failure. Elimination of the unreasonable percentage requirements leaving all customers free to specify any percentage, or perhaps in multiples of 5 or 10 percent, would significantly increases the potential class of customers electing to purchase some portion of their electricity from solar generation.

b. SUMMARY OF CONCERNS REGARDING NET METERING

In its brief, APS describes, at some length, two cost-related impacts of the net metering program: first, the incremental costs of a net metering program and second, the "charges" that net-metered customers would not pay due to the reduction in

consumption resulting from the customer's generation – lost revenue implying unrecovered cost. APS seeks to recover the "incremental cost of net metering" as well as infrastructure costs through the EPS surcharge. While there may be a legitimate argument for one-time overheads like billing system modification, to the extent it is necessary, overhead costs should generally be very small on an ongoing basis. In any event, both start-up and ongoing administrative costs should be scrutinized very carefully in a regulatory setting to assure customers and the Commission that the funds available through the renewables surcharge are not being treated as a slush fund for a wish list of administrative maintenance projects (utility as free-rider).

In regards to the second category, i.e. unrecovered costs, APS unveils a part of the pie, but only a small slice. There are three final points to be made here. First, one must never look at the costs of an option without looking at the benefits – every cost incurred is subject to this discipline. Second, APS' rapid load growth impacts cost recovery and thus must be carefully incorporated into the analysis of load reduction impacts on cost recovery. Finally, ratepayers that reduce consumption for other reasons, such as spending summers in a cooler climate, or buying energy efficient appliances, are not similarly asked to reimburse the company for unrecovered costs.

APS clearly recognizes that there are system benefits provided by many instances of onsite generation which will be utilizing the net metering tariff , and staff also clearly so concludes. However, the methodology offered by APS utilizes only the

offsetting cost of power not required to be purchased as a benefit—ignoring the reliability, diversity, and other benefits found in the Commission's Decision in the REST proceeding and elsewhere in the testimony in this case. APS offers no offset for benefits reducing its generation, transmission or distribution costs beyond the simple "avoided cost" first and presumably still determined in reference to the PURPA requirements enacted in 1978.

The citizens of Arizona deserve the far more accurate information and rate costing that has been enabled in the last nearly three decades, in order to provide the best possible price signals to the state's energy markets. Before the Commission considers allowing APS or any utility to draw down funds provided by customers through the renewables surcharge, a much more detailed analysis must be done that takes all of the costs AND all of the benefits of distributed generation into account.

Similarly, APS complains that excess power the customer generates above their own needs, which flows back to the grid, would be compensated at an amount that is above the Company's avoided cost. The reality is that such excess power will flow through the grid to the nearest load, reducing the overall load for that segment of the company's distribution system. If the excess is flowing from a residential system, it is most likely flowing right back into a neighbor's house. The image of small amounts of excess electricity flowing back "to the grid" implying some sort of further control or dispatch by the utility is far from the actual situation. It is wholly appropriate to

compensate the customer-generator at retail rate levels for excess generation in a given hour or month. Here again, a detailed examination of the costs and benefits is required.

APS loads are growing rapidly and the incremental cost of serving the new loads is resulting in large proposed cost increases that will affect every ratepayer. These increases are, in effect, the incremental cost of load growth. Reductions in consumption from any source should be welcomed. Moreover, rapid load growth can result on over-collection of costs in various other surcharges that APS ratepayers find on their bills, depending on a host of factors. Here, too, all cost and benefits, and impacts related to other factors, must be considered.

APS apparently believes that whether sales are growing, are remaining flat, or are declining is irrelevant to the issues of uncollected fixed costs. We believe it is incumbent upon APS to provide an open and detailed analysis to demonstrate that its sales and demand growth does not offset sales and demand reductions related to distributed generation to prove its contention that the latter indeed results in a net reduction of fixed cost recovery. All of APS's arguments points to the need for a detailed analysis that demonstrates that the effect of a net metering program is a net cost to the company. Solar Advocate's witness Smeloff identified numerous benefits and cost savings (examples) related to distributed solar resources. APS has failed to provide analytical proof of its contention in this proceeding, and the Commission should reject the concept of "lost revenue" recovery as currently proposed by the Company.

Similarly, it should reject the limitations and temporary nature of the proposed net metering tariff proposed by APS, and provide a true net metering tariff available to all customers willing to invest their own assets in helping Arizona's electric infrastructure meet the very serious challenges ahead.

RESPECTFULLY SUBMITTED THIS 15TH DAY OF FEBRUARY, 2007.

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CERTIFICATE OF SERVICE

This is to certify that I have duly served the Solar Advocates REPLY BRIEF upon all parties herein electronically or by mail or FED EX, this 15th day of February, 2007, addressed as follows:

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EXHIBITS

EXHIBIT A-1– PROJECT INSTALLAITON BRIEF FOR MAY 2005 INSTALLATION

EXHIBIT A-2 GENESIS JULY 18TH BILL UNDER E-32 AND EPR-2

EXHIBIT A-3

EXHIBIT B