BEFORE THE ARIZONA CORPORATION COMMISSION

CARL J. KUNASEK
CHAIRMAN
JIM IRVIN
COMMISSIONER
WILLIAM A. MUNDELL
COMMISSIONER

IN THE MATTER OF THE GENERIC INVESTIGATION OF THE DEVELOPMENT OF A RENEWABLE PORTFOLIO STANDARD AS A POTENTIAL PART OF THE RETAIL ELECTRIC COMPETITION RULES.

DOCKET NO. E-00000A-99-0205

DECISION NO. 62506

OPINION AND ORDER

DATES OF HEARING: September 13, 1999 (pre-hearing), September 16, 17, and 27, 1999 (hearing).

PLACE OF HEARING: Phoenix, Arizona

PRESIDING OFFICER: Jerry L. Rudibaugh

APPEARANCES: Mr. Thomas L. Mumaw and Mr. Jeffrey B. Guldner, SNELL & WILMER, LLP, on behalf of Arizona Public Service Company;

Mr. Michael M. Grant, GALLAGHER & KENNEDY, on behalf of Arizona Electric Power Cooperative;

Mr. Michael A. Curtis and Mr. Paul R. Michaud, MARTINEZ & CURTIS, P.C., on behalf of Arizona Clean Energy Industries Alliance;

Mr. C. Webb Crockett and Ms. Karen Aaron, FENNEMORE CRAIG, on behalf of Cyprus Climax Metals Co. and ASARCO, Inc.;

Mr. Bradley S. Carroll and Mr. Raymond S. Heyman, ROSHKA, HEYMAN & DeWULF, on behalf of Tucson Electric Power Company;

Mr. Douglas C. Nelson, DOUGLAS C. NELSON, P.C., on behalf of Calpine Power Services and Commonwealth Energy Corporation;

Mr. John Wellinghoff on behalf of the Land and Water Fund of the Rockies;

Mr. Kenneth C. Sundlof, Jr. and Ms. Michelle Irons, Paralegal, JENNINGS, STROUSS & SALMON, P.L.C., on behalf of New West Energy;

Mr. David L. Deibel, on behalf of the City of Tucson;

Mr. Stephen Gibelli, Staff Attorney, on behalf of the

Residential Utility Consumer Office;

Mr. Charles A. Miessner on behalf of NEV Southwe and

Mr. Paul A. Bullis, Chief Counsel and Ms. Janice Alward, Staff Attorney, Legal Division, on behalf of the Utilities Division of the Arizona Corporation Commission.

BY THE COMMISSION:

On January 11, 1999, the Arizona Corporation Commission ("Commission") issued Decision No. 61311 which stayed the effectiveness of A.A.C. R14-2-1061 et seq. ("Rules" or "Electric Competition Rules") and related decisions, and ordered the Hearing Division to issue a Procedural Order to begin consideration of further comment and actions in the docket. The Commission in Decision No. 61634, dated April 23, 1999, amended the Electric Competition Rules which included the elimination of the Solar Portfolio Standard (R14-2-1609).

On April 8, 1999, Commissioner Kunasek filed a copy of the new proposed rule entitled Solar and Environmentally – Friendly Portfolio Standard ("EFPS" or "New Portfolio Standard" or "New Rule 1609") (See Attachment A). On May 7, 1999, the Utilities Division Staff ("Staff") of the Commission filed a list of recommended questions regarding the New Rule 1609. Staff requested interested parties to file comments by May 21, 1999 concerning the appropriateness of its recommended questions. Subsequently, on May 21, 1999, Arizona Public Service Company ("APS"), Tucson Electric Power Company ("TEP"), Arizona Electric Power Cooperative, Inc. ("AEPCO"), K.R. Saline and Associates, Center for Energy and Economic Development ("CEED"), Southwest Windpower, Inc. ("SWI") and the City of Tucson ("City")[1] filed comments regarding Staffs request.

Our June 16, 1999 Procedural Order set the matter for a public comment hearing regarding the New Portfolio Standard commencing on September 16, 1999 along with an evidentiary hearing regarding any rate impact or cost-benefit analysis.

On September 16, 1999, a full public hearing commenced before a duly authorized Hearing Officer of the Commission. The City, APS, AEPCO, Arizona Clean Energy Industries Allian-

[1] Filed on May 28, 1999.

("Clean Industries"), Cyprus Climax Metals Company and ASARCO, Inc., (collectively "Companies") TEP, Calpine Power Services ("Calpine") and Commonwealth Energy Corporation ("Commonwealth"), Land and Water Fund of the Rockies ("Land and Water Fund"), Residential Utility Consumer Office ("RUCO"), NEV Southwest ("NEV") and the Utilities Division Staff ("Staff") of the Commission appeared through counsel. At the conclusion of the hearing, the matter was adjourned pending submission of briefs on October 29, 1999. The briefing schedule was subsequently extended at the request of the parties as they attempted to reach a settlement on this matter. Simultaneous briefs were filed on November 17, 1999.

DISCUSSION

A new EFPS was proposed in April 1999. It expanded the previous Solar Portfolio Standard to include additional environmentally friendly resources such as solar electric, solar water heating, wind, hydro power, landfill gas, biomass and geothermal energy.

In general, all the parties supported an environmentally friendly standard. However, they aligned themselves into two primary groups: (1) those in favor of mandated environmental standards ("EFPS Standard No. 1"), and (2) those in favor of voluntary environmental standards ("EFPS Standard No. 2").

The groups supporting EFPS Standard No. 1 consisted of the Clean Industries, Land and Water Fund, the Grand Canyon Trust[2], Grand Canyon Chapter of the Sierra Club[2], the City, and Staff of the Commission. The groups supporting EFPS Standard No. 2 consisted of APS, AEPCO, TEP, the Companies[3], Calpine, Commonwealth, NEV, RUCO, Arizona Community Action Association and New West Energy.

EFPS No. 1 – kWh Requirement

Staff, solar advocates, and environmental groups recommended an aggressive approach with

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[2] Collectively, called the Environmental Intervenors.

[3] The position of the Companies was also supported by the Arizonans for Electric Choice and Competition which is a coalition of companies and associations in support of competition that includes: Cable Systems International, BHP Copper, Motorola, Chemical Lime, Intel, Honeywell, Allied Signal, Cyprus Climax Metals, Asarco, Phelps Dodge, Homebuilders of Central Arizona, Arizona Mining Industry Gets Our Support, Arizona Food Marketing Alliance, Arizona Association of Industries, Arizona Multi-housing Association, Arizona Rock Products Association, Arizona Restaurant Association, Arizona Retailers Association, Boeing, Arizona School Board Association, National Federation of Independent Business, Arizona Hospital Association, Lockheed Martin, Abbot Labs and Raytheon.

the objective of more rapidly increasing the use of renewables and clean electric genera technologies in Arizona.

EFPS No. 1 is consistent with New Rule 1609 proposed in April 1999. According to Staff, the kWh requirements has a number of advantages over the voluntary standard proposal:

- The kWh approach is designed to get results;
- The kWh approach would create a "critical mass" of technology purchases that will provide incentives for manufacturers to build facilities in Arizona;
- The kWh approach provides incentives to build solar power plants in Arizona;
- The kWh approach will bring national focus to Arizona for solar and clean energy technologies; and
- The kWh approach will enable Arizona to change from a net energy import state.

The Clean Industries indicated that a number of manufacturers of clean electricity generators are considering Arizona as a manufacturing site because of the incentives that are included in the proposed mandatory EFPS No. 1.

A Clean Industries witness from the Sacramento Municipal Utility District ("SMUD") described an ongoing "Sustained Orderly Development" purchase of 10 MW of solar generators over five years that has induced manufacturers to significantly reduce prices in response to large volume purchases as contemplated in the mandatory EFPS No. 1. The SMUD actual contract terms for the year 2002 are less than one third of the costs estimated by the parties who claim solar is too expensive.

Both Staff and Clean Industries submitted results of a national survey conducted by the Electric Power Research Institute that showed that 84% of respondents nationwide would forgo a 5% discount in electricity prices to select power from renewable sources.

Both Staff and the Land and Water Fund testified that past efforts at encouraging "voluntary" renewables efforts have failed to produce desired results. They opined that the 19 MW renewables goals established by the Commission in the 1993 Integrated Resource Planning proceeding have been mostly ignored by three of the four Affected Utilities that were given goals. Staff and the Land a

Water Fund concluded that, as a result of these poor results, the mandatory portfolio is preferred over a "voluntary" program.

Staff recommended the mandatory EFPS No. 1 based on an environmental imperative. Staff claimed that the free market does a poor job controlling pollution and other externalities that result from electric power plants. Staff cited the environmental impacts and externalities mentioned in the Commission-sponsored "Report of the Externalities Prioritization Working Group," which was published in 1994.

The Land and Water Fund, speaking for the Environmental Intervenors, calculated the millions of pounds of air pollutants that the mandatory EFPS No. 1 would avoid.

Staff provided the results of an economic input-output analysis that showed the positive economic impact of the mandatory EFPS No. 1 on Arizona's economy.

The Clean Industries provided testimony about the costs of solar technologies that relied on cost projections from the federal National Renewable Energy Laboratory (NREL), from various national industry leaders, as well as actual five-year contract prices for large volume solar purchases by SMUD. These future price projections and actual contract prices are significantly lower than projections by the Affected Utilities that are parties in this docket.

Staff provided renewable cost projections based on information from the American Wind Energy Association, NREL, Salt River Project, Strategies Unlimited, Science Applications International Corporation, York Research, SMUD, and Bechtel Corporation. Staff's future cost projections were generally lower than those of the Affected Utilities.

EFPS No. 2 – Standard Voluntary Funding Levels

The Affected Utilities, ESPs, and residential and commercial customer groups recommended an approach which would allow the Affected Utilities to fund an EFPS with existing funds.

According to Staff, the following are advantages of utilizing EFPS Standard No. 2:

- No requirement to increase costs on customers;
- Allows longer learning curve for utilities to adapt to newer renewables and clean energy technologies; and
- Allows utilities to invest in out-of-state renewable power plants, such as wind, geothermal

and biomass.

In its post-hearing brief, APS opined that a negotiated settlement among the stakeholders is a reasonable way to resolve this proceeding. However, APS indicated there are core policy decisions upon which the parties have not been able to reach consensus which underlay the potential adoption of an EFPS. According to APS, the three core questions that must be resolved by the Commission are as follows:

- Will the proposed EFPS truly be an "Environmentally Friendly" program or will it be a "Solar Industry-Friendly" program, with a "set-aside" or quota for solar technologies intended more to provide a subsidy to solar energy equipment vendors than to either materially improve the environment or increase fuel diversity?
- Who bears the cost overrun risk of a predominantly solar-based EFPS – the utilities and their customers or the vendors of these mandated solar technologies?
- Does the Commission intend to negate a portion of the rate decreases associated with APS's and TEP's competition settlements (and actually increase rates for other Affect Utilities), or will it require EFPS programs to live within a budget that redirects existing resources to renewable energy acquisition and development?

APS went on to discuss the following four issues:

1. APS opined that solar energy is far more expensive per kW or kWh than other forms of renewable energy such as wind, geothermal, landfill gas, etc. Further, APS indicated that some of these other forms are more beneficial to the environment than solar. APS also noted that Arizona is less than an optimal solar resource because the intense heat diminishes the efficiency of solar photovoltaic generation. According to testing done by APS, the City of Flagstaff is a better solar electric site than Phoenix. In spite of that, APS indicated that if the Commission desired for a specific solar set-aside in the EFPS, APS urged it be dollar-based rather kWh-based. Further, because solar is expensive relative to the other forms of renewable energy, APS opined that a 50 percent solar kWh-based standard means that 90 percent of the money would go to solar. APS proposed the following phase-in of any solar set-aside:

- 2000 – at least 50 percent solar electric/no more than 20 percent solar hot water/no more

than 30 percent other "environmentally friendly" resources or research and development ("R&D") on solar electric resources, but with no more than 20 percent on R&D

- 2001 – at least 55 percent solar electric/no more than 20 percent solar hot water/no more than 25 percent other "environmentally friendly" resources or R&D on solar electric resources, but with no more than 15 percent on R&D
- 2002 – at least 60 percent solar electric/no more than 20 percent solar hot water/no more than 20 percent other "environmentally friendly" resources or R&D on solar electric resources, but with no more than 10 percent on R&D
- 2003 – at least 65 percent solar electric/no more than 20 percent solar hot water/no more than 15 percent other "environmentally friendly" resources or R&D on solar electric resources, but with no more than 5 percent on R&D
- 2004 through 2012 – at least 70 percent solar electric/no more than 20 percent solar hot water/no more than 10 percent other "environmentally friendly" resources or R&D on solar electric resources, but no more than 5 percent on R&D.

APS also urged that any comprehensive review of the EFPS should be delayed until late 2002 or early 2003 in order to be a fair evaluation of whatever EFPS program is implemented.

2. APS asserted that the "percent of sales" proposed in the EFPS requires the Affected Utilities and Electric Service Providers ("ESPs") to purchase so much energy, regardless of costs. As a result, APS opined that all of the cost risk is on the electric provider and its customers. APS recommended that the "percent of sales" proposal in the EFPS rule should be retained only as targets rather than mandatory quotas and that any penalties should be deferred until at least 2004.

APS also opined that there was considerable consensus that the "percent of sales" in the proposed EFPS should be reduced in the earliest years and the 2001 "bump" should be smoothed out. APS recommended the target should be .25 percent for the first two years and increased by .15 percent per year thereafter until it reaches one (1) percent in 2006.

3. According to APS, there was widespread agreement that the EFPS program would have to be funded by a systems benefit charge ("SBC"). APS indicated it currently has $7 million dollars in the annual SBC approved in its recent rate settlement for demand-side management and

conservation ("DSM"), renewable energy, and low-income programs. APS proposed to redirect additional $3 million from its DSM programs to renewables. The annual SBC has $1 million related to low-income programs. APS asserted that its proposal would result in substantial increase in resources devoted to renewables without any increase in rates or any reduction in the contemplated rate reductions.

4. APS questioned the legality of a Commission imposed solar mandate and the accompanying noncompliance penalties. APS asserted that the Commission has required for years that APS affirmatively engage in an integrated resource planning process that "will tend to minimize the present value of the total cost of meeting the demand for electric energy services." According to APS, the Commission is now attempting to mandate the use of very costly resources. APS further opined that while the Commission's objective to improve the environment is laudatory, the benefits are to all the citizens of Arizona while the cost burden would only go to the ESPs, Affected Utilities, and their customers. APS asserted that civil penalties assessed by the Commission are limited to $5,000 and are paid into the State's General Fund. As a result, APS questioned whether t Commission could assess a penalty and use the proceeds to fund a solar energy project that benefits a particular group or solar vendor.

ACAA, Cyprus, New Energy, New West Energy, RUCO, and TEP (collectively, "Six Parties") filed a Joint Post-Hearing Brief ("Joint Proposal")[4]. The Six Parties recommended the following points should serve as guiding principles for the development of the renewables program:

- All parties want to encourage the development of renewable resources through a careful program designed to achieve maximum benefit for the money spent.
- Customers do not want the imposition of a renewable portfolio standard to eliminate or reduce the hard-fought price cuts gained in the competition proceeding.
- Customers want to be sure that their money is spent efficiently and that the expenditure of money will be reviewed through a public process.
- The money for an Environmental Portfolio Standard (EPS) should initially come from

[4] The positions set forth in this joint brief are also supported by ASARCO, Inc. and Arizonans for Electric Choice and Competition.

distribution utilities.

- The distribution utilities are willing to pledge millions to EPS without eliminating or reducing the price decreases approved in recent settlement agreements.
- The focus should be on dollar commitments rather than percent of kWh sales to protect electric customers from highly uncertain hardware costs.
- Programs benefiting low-income customers that are funded by the Systems Benefit Charge should not be reduced below current funding levels.

Pursuant to the Joint Proposal, the Affected Utilities would be required to commit and the Salt River Project ("SRP")[5] would voluntarily commit to a schedule of expenditures on environmentally friendly technologies. The funding for years 2000-2003 would be guaranteed, while the years 2004-2012 would be contingent on approval by the Commission and/or SRP Board. The funding levels for SRP and TEP are as follows:

Funding Levels for SRP Renewable Programs

Year	Funding Level
2000	$8,200,000
2001	$7,000,000
2002	$7,000,000
2003	$7,000,000
2004	$12,000,000
2005	$12,000,000
2006	$12,000,000
2007	$12,000,000

Funding Levels for TEP Renewable Programs

Year	Funding Level
2000	$1,500,000
2001	$1,600,000

[5] During the hearings, New West Energy advanced a proposal put forward by SRP management. The Joint Proposal has been developed in conjunction with, and is supported by, SRP management.

2002	$1,800,000
2003	$2,000,000
2004	$2,250,000
2005	$2,250,000
2006	$2,250,000
2007	$2,250,000

The Joint Proposal would require other Affected Utilities to have obligations proportionate to those reflected for SRP and TEP with the proviso that there will be no rate increase. In addition, the Cooperatives can opt out of the program until 2004 if they are unable to fund such a program within currently authorized rates.

The Joint Proposal would require the Commission and SRP to establish measurable goals in at least the following areas:

- The success of the industry in meeting price targets for eligible technologies.
- The demonstrated market support for "green energy products."
- The success of the program in creating a wholesale "green energy" market capable of sustaining itself without ongoing subsidies.
- The cost-effectiveness of the program in creating new jobs and businesses in Arizona.
- The cost-effectiveness of the program in improving air quality in Arizona.

According to the Joint Proposal, it is anticipated that the following "environmentally friendly" technologies will be eligible for support:

- Photovoltaics – both central station and distributed.
- Solar domestic hot water heating that displaces electricity usage.
- Hydroelectric generation units smaller than 5 MWp.
- Geothermal generation.
- Wind generation.
- Generation which makes use of Arizona landfill gas, sewage digester gas or waster biomass.
- Through the year 2003, limited funding may be allowed for demonstration of fuel cells

which are projected to convert fuel to electricity at efficiencies of over 40 percent, reduce the level of emissions for a given energy use or reduce the need for transmission expansion.

- Limited funding for public information, program administration and R&D will be allowed.

The Joint Proposal recommended the Commission would postpone review of the EFPS until fiscal year ("FY") 2003. At that time, there would be an all-encompassing examination of all aspects of the EFPS program, including but not limited to: funding levels, energy source quotas, rate impacts, penalty provision impacts, results achieved by both utilities and the solar industry, and the cost-effectiveness of the program from the viewpoints of electric supply acquisition, environmental protection, and economic development.

The Six Parties supported the following fund allocation guidelines:

- 2000 – at least 50 percent solar electric/no more than 20 percent solar hot water/no more than 30 percent other "environmentally friendly" resources or research and development on solar electric resources, but with no more than 20 percent on R&D
- 2001 – at least 55 percent solar electric/no more than 20 percent solar hot water/no more than 25 percent other "environmentally friendly" resources or R&D on solar electric resources, but with no more than 15 percent on R&D
- 2002 – at least 60 percent solar electric/no more than 20 percent solar hot water/no more than 20 percent other "environmentally friendly" resources or R&D on solar electric resources, but with no more than 10 percent on R&D
- 2003 – at least 65 percent solar electric/no more than 20 percent solar hot water/no more than 15 percent other "environmentally friendly" resources or R&D on solar electric resources, but with no more than 5 percent on R&D
- 2004 through 2012 – at least 70 percent solar electric/no more than 20 percent solar hot water/no more than 10 percent other "environmentally friendly" resources or R&D on solar electric, but no more than 5 percent on R&D.

Per the Joint Proposal, SRP, TEP and other Affected Utilities would be permitted to recover

their costs of compliance through an SBC or similar mechanism. Further, the recovery methods w ensure that direct access customers do not pay for both standard offer renewable costs as well as any mandatory renewable costs for competitive ESPs.

Per the Joint Proposal, TEP and the other Affected Utilities would submit their EFPS expenditure plan for the year 2000 on or before January 4, 2000. Interested parties would have 20 days to provide comments, after which the Utilities Division Director ("Director") of the Commission would approve or modify the plans by March 1, 2000. Thereafter, Affected Utilities would submit EFPS plans on or before October 1 for the following year's expenditure plan. There would be a similar comment and review period for each year's plan.

Pursuant to the Joint Proposal, SRP and each Affected Utility would prepare semi-annual reports regarding expenditures, results, problems, and any other relevant information.

The Joint Proposal set forth percentage of sales' targets for the EFPS as follows:

Portfolio Percentage for All Sales

Year	Percentage
2000- 2001	0.25%
2002	0.40%
2003	0.55%
2004	0.70%
2005	0.85%
2006	1.00%
2007 – 2012	1.1%

According to the Joint Proposal, ESPs would be exempted from the EFPS Program through 2004. However, they could voluntarily elect to participate.

Cyprus Metals also filed a separate brief regarding this matter. Cyprus Metals indicated the parties had unsuccessfully attempted to reach a consensus position. According to Cyprus Metals, those efforts centered on three main issues: (1) the measure of funding and funding levels for the Renewable Portfolio Standard; (2) the method of recovery of committed funds; and (3) the allocat of funds.

Cyprus Metals asserted the EFPS will result in cost increases that will effectively negate the rate reduction achieved through recent settlement agreements. Cyprus Metals opined that the cost to a residential customer is contemplated to result in as much as a 4.6 percent rate increase. Cyprus Metals indicated that a large customer such as a mine could have an annual increase in the million dollar range. Cyprus Metals further argued that the EFPS would result in an increase in rates that would require a rate proceeding. Similarly, Cyprus Metals asserted that a deferral of costs would also result in a rate increase.

Cyprus Metals also argued that the Commission lacks authority to promulgate rules mandating the source of electricity furnished by Utility Distribution Companies ("UDCs") and Electric Service Providers ("ESPs"). According to Cyprus Metals, such an attempt by the Commission impermissibly interferes with the management of the UDC or ESP. In the event the Commission determines that it can adopt the EFPS, Cyprus Metal requested the program be sized so that no rate increases are necessary.

AEPCO indicated that it and its six Class A member distribution cooperatives have a primary goal of delivering electricity to rural Arizona at the lowest cost. Consistent with that goal, AEPCO and its member distribution cooperatives have assisted their customer owners in implementing solar applications when cost justified. Because of requirements from the Rural Utilities Service ("RUS"), AEPCO asserted that it has not and could not add solar or other renewable facilities because they are not necessary and they cannot be cost justified. AEPCO opined that all the witnesses agreed that the EFPS would increase customer bills. Depending on the assumptions in different testimonies, AEPCO indicated the impact on residential monthly bills ranged from $1.00 to more than $4.00 per month. While such increases would wipe out the majority of the APS rate reduction, AEPCO asserted it would result in net increases to rural customers since they have no renewable costs built into their existing rate structures. AEPCO also pointed out that the survey conducted by the Behavior Research Center on behalf of Staff indicated that Arizonans by a two-to-one margin reject paying higher bills for solar-generated electricity. In addition, the majority of residents responding to the survey opined that those people who choose to receive solar-generated electricity should pay for the additional costs. Lastly, AEPCO asserted that consistent with the Commission's policies in other

areas, the Commission should be moving to allow consumer choice.

AEPCO recommended the Commission allow customer choice by doing the following:

- Encourage voluntary renewable and green programs;
- Allow the market to dictate economic outcomes;
- Trust consumers to make decisions; and
- Do not turn to government mandated programs such as the EFPS.

The Land and Water Fund, Environmental Intervenors, and the Clean Industries (collectively, "Three Parties") filed a joint brief urging the Commission to adopt the EFPS with the following modifications:

- Include a new section that provides a funding mechanism to support the requirements of the portfolio standard;
- Reduce the EFPS requirement in the initial years and "smooth-out" the growth in the portfolio standard percentages;
- Delay the review process proposed in Section B.2 until 2003 to allow the parties opportunity to gain sufficient market experience; and
- Extend the Early Installation Extra Credit Multiplier by one year.

The Three Parties acknowledged that the voluntary fund proposals of the Affected Utilities have the advantage of no ratepayer impact. The Three Parties asserted that an increase of 0.5mills/kWh was necessary to support the EFPS. According to the Three Parties, the residential monthly impact of such an increase would be as follows:

Utility	Proposed Funding	Equivalent Rate Year 2000	Proposal to Achieve ½ Mill	Residential Impact
APS	$6.0 million	0.28 mills/kWh	0.22 mills/kWh	22c/month
TEP	$0.2 million*	0.03 mills/kWh	0.47 mills/kWh	47¢/month
SRP	$7.0 million	0.33 mills/kWh	0.17 mills/kWh	17¢/month
AEPCO	$0.0	0.00 mills/kWh	0.50 mills/kWh	50¢/month
Citizens	$0.0	0.00 mills/kWh	0.50 mills/kWh	50¢/month
Navopache	$0.0	0.00 mills/kWh	0.50 mills/kWh	50¢/month
Total	$13.2 million			

*TEP did indicate a willingness to shift funding from its DSM programs to support the EFPS.

Stirling Energy Systems, Inc. ("Stirling Energy") filed a brief in support of the EFPS. Stirling Energy emphasized the following points:

- The program should be designed to make a significant and lasting impact on the environment of Arizona;
- The costs for the EFPS should be borne by the general population through a charge per kWh;
- The EFPS should be based on the percent of electricity generated with extra credit multipliers;
- All electric sales should contribute to the EFPS; and
- Green power should be mandated.

In response to arguments from other parties, Staff asserted that the Commission has the authority pursuant to Article XV, Section 3 of the Arizona Constitution as well as statutory provisions such as A.R.S. §§ 40-321 and 40-331 to prescribe terms and conditions of service to the public. As part of such authority, Staff argued that the Commission may impose penalties for the failure to meet an EFPS. According to Staff, this also applies to voiding an ESP's contracts if an ESP's provision of solar energy is consistently deficient.

In response to a request that the EFPS should not apply to the cooperatives, Staff opined that it is appropriate for the Commission to adopt a standard that is in the public interest. Staff asserted that if the Cooperatives are unable to meet the standard, they may petition the Commission for a waiver.

Staff argued that the kWh method could be implemented without raising the price to consumers. According to Staff, the monies could be obtained by reducing or eliminating the promised rate reductions in the APS and TEP Settlement Agreements.

The City of Tucson ("City") supported the EFPS. According to the City, the EFPS represents the best overall opportunity to implement an effective renewables program in the State. The City opined that without a mandated standard, little or no new renewable generation capacity will be installed in the State in the near term. The City was critical of the State's electric utilities for being slow to implement renewable programs.

New Energy Southwest, L.L.C. ("New Energy") opined that voluntary environmer programs are more consistent with a competitive energy market than the mandatory EFPS. Further, a mandatory EFPS would substantially reduce the potential savings expected from competition. New Energy indicated that evidence at the hearing placed the costs of renewable energy in the range of 15 to 30 cents per kWh, which would be a premium of 12 to 27 cents per kWh over traditional energy sources. Because of the large cost difference, New Energy opined that even a small mandated environmental portfolio standard can have a significant impact on the potential savings from competition.

New Energy also expressed concern that the proposed EFPS is not competitively neutral as it would raise the cost and prices of competitive ESPs relative to the incumbent utilities. Although a voluntary environmental program is preferred, New Energy recommended if any mandatory program is adopted that it be delayed until after 2005. New Energy opined that by waiting until 2005, the competitive transition charge for both SRP and APS will have been retired, APS and TEP will have had rate cases, the phased-in rate reductions for APS and TEP will be completed, and APS and T. will have transferred their generation assets to an affiliate.

ANALYSIS

As set forth in Decision No. 61973[6] (dated October 6, 1999), the Commission supported competition in the generation market because of increased benefits to customers, including lower rates and greater choice (emphasis added). The Commission has also clearly indicated its support for environmentally friendly resources. Because the environmentally friendly resources (especially solar resources), are significantly more expensive than other resources for the foreseeable future, there is a direct conflict with the objective of lower rates resulting from competition. In addition, there is a conflict between customer choice and mandated environmentally friendly resources. This was further supported by the survey conducted by Staff. The consumers represented in this proceeding made it clear they did not want their rates raised to pay for an EFPS.

[6] Generally referred to as Settlement of APS Stranded Costs.

However, national surveys show that a significant majority of consumers would be willing to forgo a rate reduction in order to obtain power from renewable resources. The Commission realizes that the settlement agreements for APS and TEP did not include any consideration of the costs of the Environmental Portfolio Standard, even though the two settlements were signed after the Commission opened the Environmental Portfolio Standard docket and most parties to the settlements were also parties in the Environmental Portfolio Standard docket. The Commission believes that a reasonable Environmental Portfolio Standard with appropriate cost caps has been developed which will allow APS and TEP customers to enjoy rates lower than the rates that existed prior to the signing of the two settlements in 1999.

As for a totally voluntary portfolio approach, the Commission believes that history has shown that the voluntary renewable programs of Arizona utilities have, with one exception, failed to meet Commission-established goals. In order to have the Environmental Portfolio Standard produce any significant results, a combination of a mandatory portfolio combined with existing voluntary efforts is required.

As a result, we find it appropriate for all electric consumers to provide a nominal level of monthly contributions to support environmentally friendly resources, at least through December 2004 and continuing through 2012 based upon cost evaluation results in December 2003. In addition to the monies available in the System Benefit Accounts, a surcharge of up to a maximum of thirty-five cents per month per each residential customer account will be collected. Non-residential customers will pay a maximum monthly surcharge of not more than $13 per month, except for those non-residential customers whose meter's registered demand is 3000 kW or more for 3 consecutive months, who will be subject to a surcharge cap of $39.00 per month per meter. All collected sums are to be restricted for the sole purpose of being used for supporting environmentally friendly resources.

The cost of Environmental Portfolio Electricity will be evaluated by December of 2003, and a decision will be made whether to adjust the portfolio percentage based on a cost benefit analysis. The surcharge caps can not be increased as a result of the cost benefit analysis.

As a result, we will approve an EFPS that is based upon the following central concepts:

- Mandatory Portfolio Requirements

- Voluntary Commitments;
- Good Corporate Citizens;
- Public Review Process; and,
- Consumer Choice.

Mandatory Portfolio Requirements

We believe that purely voluntary efforts will not provide significant clean generation additions to Arizona's generation mix. A small surcharge paid by all customers, with reasonable monthly surcharge caps, is an ideal way to usher in a new century where environmentally clean generators will provide 1% of Arizona's electricity. We realize that 1% of electricity is a small step, but it is a positive step in the right direction.

At a time when 13 major power plant projects are being proposed for Arizona, totaling almost 12,000 MW of new conventional and polluting generation, a few hundred megawatts of clean generators from the mandatory Environmental Portfolio Standard will help, in a small way, to counterbalance the loss of water and increase in air pollutants created by the 13 major plan Further, experience with clean technologies will help the Affected Utilities to prepare for a future where clean, renewable technologies will become an even larger share of Arizona's electricity generation mix.

We believe that the start date for the Environmental Portfolio Standard should be ~~October 1, 2000~~ January 1, 2001. ~~However, for those UDCs and ESPs that will have difficulty meeting that date, we have allowed a grace period into the year 2001 to meet the year 2000 portfolio requirement without penalty~~. We have also made ESPs exempt from the portfolio requirements until 2004, unless they choose to participate sooner. We have modified the rule wording to start the penalty no sooner than 2004 and only after the Environmental Portfolio Cost Evaluation Working Group has had an opportunity to make its recommendations to the Commission and the Commission has acted on such recommendations.

We have included a modified version of the technology phase-in that was suggested by both APS and the Six Parties. We believe that the maximum portfolio percentage should be increased .

1.1% in 2007. The Environmental Portfolio Cost Evaluation Working Group should commence in 2003, allowing two full years of price data for evaluation.

The Commission believes that both solar water heating and solar air conditioning should be allowed to meet a portion of the portfolio requirement. In addition, we believe that Arizona-based non-solar renewable electricity technologies such as in-state landfill gas generators, wind generators and biomass generators should be able to meet A PORTION of the portfolio requirement.

Voluntary Commitments

The voluntary commitments are monies paid to the Affected Utilities through customer rates. While TEP, APS, and SRP have all indicated a voluntary commitment to a schedule of expenditures on environmentally friendly technologies, those voluntary amounts do not reach the dollar amounts required to reach the level of the mandated EFPS. Although the solar proponents have asserted there is generally widespread support for environmentally friendly technologies, the record of this proceeding indicates the support is dramatically less when it involves out-of-pocket support. We find that voluntary commitments are consistent with level playing fields in an increasingly competitive market. In addition, redirecting DSM programs to renewables results in substantial increases in resources devoted to renewables without any rate increases. We concur with APS that any DSM monies currently supporting low-income programs should not be redirected to renewables. Further, while most of the discussion revolved around solar, the Commission wants to encourage all forms of renewable energy. As a result, we will place a cap that no more than 90 percent of the annual monies voluntarily committed will go toward solar.

Good Corporate Citizens

We believe it is appropriate that shareholders also participate in funding environmentally friendly resources. Accordingly, we encourage each of the Affected Utilities to fund from its profits an additional 10 percent of the voluntary commitments or $100,000[7], whichever is greater. This will enable all the Affected Utilities to participate as good corporate citizens in protecting our environment.

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[7] If the APS voluntarily commitment discussed above is $6 million dollars, then APS would need to provide an additional $600,000 from its profits to support renewables.

Public Review Policy

The Commission desires to annually recognize the successes of the Affected Utilities on their environmentally friendly portfolios. As a result, the Commission will initiate an environmentally friendly review Committee ("Committee") chaired by the Director of the Utilities Division. Each of the interested parties is invited to appoint a member to the Committee. The Committee will develop standards, objectives, and measurements to determine which Affected Utility[8] should be awarded the annual Environmentally Friendly Utility Award. Based on the recommendation of the Committee, the Commission would publicly present the award.

Consumer Choice

As previously noted, rate reductions and greater customer choice are the cornerstone to increased competition in the electric utility industry. Since consumers will have to pay the bills, they should have a vote on the amount of monies put into renewables. As a result, all the ratepayers for the Affected Utilities should have the option of voluntarily paying additional amounts per month to support renewables over and above the amounts already established. For example, residen ratepayers should have the option of voluntarily paying anywhere from $.25 per month to $5.00 per month to support renewables.[9] The commercial and industrial customers should have comparable options. All customers should be provided notice regarding this voluntary option that at a minimum indicates the monthly options, the use of the monies, and that there will be an independent review process to insure monies are utilized for renewables.

Conclusion

We find the above resolution should provide sufficient guidance for the parties to resolve the remaining issues in this docket. Accordingly, we will order the parties to meet and file a negotiated settlement consistent with the discussion herein within 30 days of the date of this Decision. At a minimum, the negotiated settlement shall include the following items:

- The Affected Utilities should utilize existing SBC monies to fund the EFPS;
- Monies for DSM programs should be redirected to renewables;

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[8] SRP is invited to participate in this award.

[9] Ideally, consumers would receive tax credits for voluntary monies used for renewables.

- Low-income programs are not to be redirected;
- A substantial percent of the SBC monies would go to solar but not to exceed 90 percent per year;
- Each of the Affected Utilities should provide notice to its customers of a voluntary program to fund environmentally friendly resources;
- Each of the Affected Utilities should on an annual basis voluntarily fund renewables consistent with the Discussion herein; and
- The Commission shall on an annual basis designate an Affected Utility[10] as the environmentally friendly utility for the year.

* * * * * * * * * *

Having considered the entire record herein and being fully advised in the premises, the Commission finds, concludes, and orders that:

FINDINGS OF FACT

1. On January 11, 1999, the Commission issued Decision No. 61311 which stayed the effectiveness of the Electric Competition Rules and related decisions, and ordered the Hearing Division to issue a Procedural Order to begin consideration of further comment and actions in the docket.

2. Decision No. 61634 eliminated the Solar Portfolio Standard.

3. On April 8, 1999, Commissioner Kunasek filed a copy of a New Portfolio Standard.

4. Our June 16, 1999 Procedural Order set the matter for a public comment hearing regarding the New Portfolio Standard commencing on September 16, 1999 along with an evidentiary hearing regarding any rate impact or cost-benefit analysis.

5. The new EFPS expanded the previous Solar Portfolio Standard to include additional environmentally friendly resources such as solar electric, solar water heater, wind, hydro power, landfill gas, biomass and geothermal energy.

6. On September 16, 1999, a full public hearing commenced before a duly authorized

[10] While SRP is not an Affected Utility, they are invited to voluntarily participate in the competition and selection process.

Hearing Officer of the Commission.

7. In general, all the parties supported an environmentally friendly standard.

8. The parties aligned themselves into two primary groups: (1) those in favor of EFPS Standard No. 1, and (2) those in favor of EFPS Standard No. 2.

9. EFPS Standard No. 1 and EFPS Standard No. 2 both have advantages and disadvantages.

10. Solar energy is more expensive per kWh than other forms of renewable energy such as wind, geothermal, and landfill gas.

11. According to APS, a 50 percent solar kWh-based standard would require that 90 percent of the money would go to solar.

12. APS indicated it currently has $7 million in the annual SBC approved in the recent rate settlement for DSM, renewable energy and low-income programs.

13. APS proposed to redirect $3 million from its DSM programs to renewables.

14. APS proposed to continue to utilize $1 million for low-income programs.

15. For years, the Commission has required that Affected Utilities to affirmatively engage in an integrated resource planning process that "will tend to minimize the present value of the total costs of meeting the demand for electric energy services".

16. An EFPS that requires a "percent of sales" purchase of energy places the cost risk on the Affected Utilities and their customers.

17. The Six Parties recommended the following guiding principles for the development of the EFPS:

- All parties want to encourage the development of renewable resources through a careful program designed to achieve maximum benefit for the money spent.
- Customers do not want the imposition of a renewable portfolio standard to eliminate or reduce the hard-fought price cuts gained in the competition proceeding.
- Customers want to be sure that their money is spent efficiently and that the expenditure of money will be reviewed through a public process.
- The money for an Environmental Portfolio Standard (EPS) should initially come from

distribution utilities.

- The distribution utilities are willing to pledge millions to EPS without eliminating or reducing the price decreases.
- The focus should be on dollar commitments rather than percent of kWh sales to protect electric customers from highly uncertain hardware costs.
- Programs benefiting low-income customers that are funded by the Systems Benefit Charge should not be reduced below current funding levels.

18. A number of manufacturers of clean electricity generators are considering Arizona as a manufacturing site because of the incentives that are included in the proposed mandatory EFPS No. 1.

19. The Sacramento Municipal Utility District ("SMUD") is participating in a "Sustained Orderly Development" purchase of 10 MW of solar generators over five years that has induced manufacturers to significantly reduce prices in response to large volume purchases, similar to those contemplated in the mandatory EFPS No. 1

20. A national survey conducted by the Electric Power Research Institute showed that 84% of respondents nationwide would forgo a 5% discount in electric prices to select power from renewable sources.

21. Past efforts at encouraging "voluntary" renewables efforts have failed to produce desired results.

22. The free market does a poor job controlling pollution and other externalities that result from electric power plants.

23. Environmental impacts and externalities from the production of electricity by conventional power plants are mentioned in the Commission-sponsored "Report of the Externalities Prioritization Working Group," which was published in 1994.

24. Millions of pounds of air pollutants would be avoided by the mandatory EFPS No. 1.

25. An economic input-output analysis showed the positive economic impact of the mandatory EFPS No. 1 on Arizona's economy.

26. Pursuant to the Joint Proposal:

- The Affected Utilities and SRP would voluntarily commit to a schedule environmentally friendly technologies;
- The Commission and SRP would establish measurable goals for the environmentally friendly programs undertaken;
- There would be a variety of eligible environmentally friendly technologies eligible for support;
- There would be an all-encompassing examination of all aspects of the EFPS program in FY 2003;
- A fund allocation guideline would be established with the majority of the monies going toward solar electric but monies would also be set aside for other environmentally friendly resources;
- The costs for the EFPS would be collected through a SBC or similar mechanism;
- The Affected Utilities would submit their EFPS expenditure plan for comments by interested parties followed by approval/modification by the Director of the Utili Division;
- SRP and the Affected Utilities would submit semi-annual reports regarding their EFPS plans;

27. Solar and renewable technologies have a wide range of costs, as do conventional power plants. The evidence presented in this docket is inconclusive as to the future costs of solar and other renewable technologies.

28. The Three Parties urged the Commission to adopt the EFPS with the following modifications:

- Include a new section that provides a funding mechanism to support the requirements of the portfolio standard;
- Reduce the EFPS requirement in the initial years and "smooth-out" the growth in the portfolio standard percentages;
- Delay the review process proposed in Section B.2 until 2003 to allow the parties opportunity to gain sufficient market experience; and

- Extend the Early Installation Extra Credit Multiplier by one year.

29. According to AEPCO, the cooperatives have a primary goal of delivering electricity to rural Arizona at the lowest cost.

30. AEPCO is required by the Rural Utilities Service ("RUS") to issue a solicitation for proposals for all new generation facilities.

31. AEPCO estimated the EFPS would increase its costs by approximately $1.7 to $2.9 million annually.

32. While AEPCO currently has no need for new generating capacity, the EFPS would require it to add more than 3.5 megawatts over the next three years.

33. AEPCO indicated it cannot add solar or renewable facilities because such facilities are not necessary and cannot be cost justified.

34. The impact of the kWh Requirement approach will result in an increase in customer rates or a decrease in previously approved rate reductions.

35. Based on a survey by the Behavior Research Center, the majority of Arizonans reject paying higher bills for solar-generated electricity.

36. The Commission promised ratepayers rate decreases in Decision No. 61973 (APS Settlement) and Decision No. 62103 (TEP Settlement).

37. The consumers represented in this proceeding made it clear they did not want their rates raised to pay for an EFPS.

38. The development of renewable resources should be designed to achieve maximum benefit for the money spent.

CONCLUSIONS OF LAW

1. The Commission has the authority in this matter pursuant to Article XV of the Arizona Constitution and A.R.S. Title 40, generally.

2. An EFPS based upon the central concepts of mandatory portfolio requirements, voluntary commitments, good corporate citizens, public review process, and consumer choice is in the public interest.

3. It is reasonable for Affected Utilities to redirect monies earmarked for DSM, except

those going for low-income programs, to be utilized for renewables.

4. It is in the public interest for shareholders of public utilities to voluntarily fund renewables on an annual basis in the amount of ten percent of the voluntary commitments as defined herein, or $100,000, whichever is higher.

ORDER

IT IS THEREFORE ORDERED that an Environmental Portfolio Standard based on Attachment B of this Order is hereby approved.

IT IS FURTHER ORDERED that Staff commence a rule making process to adopt rules consistent with this Decision and the Commission's Findings and Conclusions.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

BY ORDER OF THE ARIZONA CORPORATION COMMISSION.

CHAIRMAN COMMISSIONER COMMISSIONE

IN WITNESS WHEREOF, I, BRIAN C. McNEIL, Executive Secretary of the Arizona Corporation Commission, have hereunto set my hand and caused the official seal of the Commission to be affixed at the Capitol, in the City of Phoenix, this 4th day of MAY, 2000.

BRIAN C. McNEIL
EXECUTIVE SECRETARY

DISSENT _____

SERVICE LIST FOR: GENERIC INVESTIGATION – SOLAR PORTFOLO STANDARD

DOCKET NO. E-00000A-99-0205

Service List for E-00000A-99-0205

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ATTACHMENT A

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

CHAPTER 2. CORPORATION COMMISSION – FIXED UTILITIES

ARTICLE 16. RETAIL ELECTRIC COMPETITION

(As adopted in Decision No. 61272, December 11, 1998, with proposed language from the April 8, 1999, Kunasek letter.)

R14-2-1609. Solar and Environmentally-Friendly Portfolio Standard

A. Starting on January 1, 1999, any Electric Service Provider selling electricity or aggregating customers for the purpose of selling electricity under the provisions of this Article must derive at least .2% of the total retail energy sold competitively from new solar energy resources, whether that solar energy is purchased or generated by the seller. Solar resources include photovoltaic resources and solar thermal resources that generate electricity. New solar resources are those installed on or after January 1, 1997.

B. The portfolio percentage shall increase after December 31, 2000.

1. Starting January 1, 2001, the portfolio percentage shall increase annually and shall be set according to the following schedule:

YEAR	PORTFOLIO PERCENTAGE
2001	.4%
2002	.5%
2003	.6%
2004	.8%
2005-2012	1.0%

2. The Commission would continue the annual increase in the portfolio percentage after December 31, 2002 only if the cost of solar electricity has declined to a Commission-approved cost/benefit point. The Director, Utilities Division shall establish, not later than January 1, 2001, a Solar Electricity Cost Evaluation Working Group to make recommendations to the Commission of an acceptable solar electricity cost/benefit point or solar kWh cost impact cap that the Commission could use as a criteria for the decision to continue the increase in the portfolio percentage. The recommendations of the Working Group shall be presented to the Commission not later than December 31, 2001.

C. The solar portfolio requirement shall only apply to competitive retail electricity in the years 1999 and 2000 and shall apply to all retail electricity in the years 2001 and thereafter.

D. Electric Service Providers shall be eligible for a number of extra credit multipliers that may be used to meet the solar portfolio standard requirements:

1. Early Installation Extra Credit Multiplier: For new solar electric systems installed and operating prior to December 31, 2003, Electric Service Providers would qualify for multiple extra credits for kWh produced for 5 years following operational start-up of the solar electric system. The 5-year extra credit would vary depending upon the year in which the system started up, as follows:

YEAR	EXTRA CREDIT MULTIPLIER
1997	.5
1998	.5
1999	.5
2000	.4
2001	.3
2002	.2
2003	.1

The Early Installation Extra Credit Multiplier would end in 2003.

2. Solar Economic Development Extra Credit Multipliers: There are 2 equal parts to this multiplier, an in-state installation credit and an in-state content multiplier.

   a. In-State Power Plant Installation Extra Credit Multiplier: Solar electric power plants installed in Arizona shall receive a .5 extra credit multiplier.

   b. In-State Manufacturing and Installation Content Extra Credit Multiplier: Solar electric power plants shall receive up to a .5 extra credit multiplier related to the manufacturing and installation content that comes from Arizona. The percentage of Arizona content of the total installed plant cost shall be multiplied by .5 to determine the appropriate extra credit multiplier. So, for instance, if a solar installation included 80% Arizona content, the resulting extra credit multiplier would be .4 (which is .8 X .5).

3. Distributed Solar Electric Generator and Solar Incentive Program Extra Credit Multiplier: Any distributed solar electric generator that meets more than one of the eligibility conditions will be limited to only one .5 extra credit multiplier from this subsection. Appropriate meters will be attached to each solar electric generator and read at least once annually to verify solar performance.

a. Solar electric generators installed at or on the customer premises in Arizona. Eligible customer premises locations will include both grid-connected and remote, non-grid-connected locations. In order for Electric Service Providers to claim an extra credit multiplier, the Electric Service Provider must have contributed at least 10% of the total installed cost or have financed at least 80% of the total installed cost.

b. Solar electric generators located in Arizona that are included in any Electric Service Provider's Green Pricing program.

c. Solar electric generators located in Arizona that are included in any Electric Service Provider's Net Metering or Net Billing program.

d. Solar electric generators located in Arizona that are included in any Electric Service Provider's solar leasing program.

e. All Green Pricing, Net Metering, Net Billing, and Solar Leasing programs must have been reviewed and approved by the Director, Utilities Division in order for the Electric Service Provider to accrue extra credit multipliers from this subsection.

4. All multipliers are additive, allowing a maximum combined extra credit multiplier of 2.0 in years 1997-2003, for equipment installed and manufactured in Arizona and either installed at customer premises or participating in approved solar incentive programs. So, if an Electric Service Provider qualifies for a 2.0 extra credit multiplier and it produces 1 solar kWh, the Electric Service Provider would get credit for 3 solar kWh (1 produced plus 2 extra credit).

E. Electric Service Providers selling electricity under the provisions of this Article shall provide reports on sales and solar power as required in this Article, clearly demonstrating the output of solar resources, the installation date of solar resources, and the transmission of energy from those solar resources to Arizona consumers. The Commission may conduct necessary monitoring to ensure the accuracy of these data.

F. If an Electric Service Provider selling electricity under the provisions of this Article fails to meet the requirement in R14-2-1609(A) or (B) in any year, the Commission shall impose a penalty on that Electric Service Provider that the Electric Service Provider pay an amount equal to 30¢ per kWh to the Solar Electric Fund for deficiencies in the provision of solar electricity. This Solar Electric Fund will be established and utilized to purchase solar electric generators or solar electricity in the following calendar year for the use by public entities in Arizona such as schools, cities, counties, or state agencies. Title to any equipment purchased

by the Solar Electric Fund will be transferred to the public entity. In addition, if the provision of solar energy is consistently deficient, the Commission may void an Electric Service Provider's contracts negotiated under this Article.

1. The Director, Utilities Division shall establish a Solar Electric Fund in 1999 to receive deficiency payments and finance solar electricity projects.
2. The Director, Utilities Division shall select an independent administrator for the selection of projects to be financed by the Solar Electric Fund. A portion of the Solar Electric Fund shall be used for administration of the Fund and a designated portion of the Fund will be set aside for ongoing operation and maintenance of projects financed by the Fund.

G. Photovoltaic or solar thermal electric resources that are located on the consumer's premises shall count toward the solar portfolio standard applicable to the current Electric Service Provider serving that consumer.

H. Any solar electric generators installed by an Affected Utility to meet the solar portfolio standard shall be counted toward meeting renewable resource goals for Affected Utilities established in Decision No. 58643.

I. Any Electric Service Provider or independent solar electric generator that produces or purchases any solar kWh in excess of its annual portfolio requirements may save or bank those excess solar kWh for use or sale in future years. Any eligible solar kWh produced subject to this rule may be sold or traded to any Electric Service Provider that is subject to this rule. Appropriate documentation, subject to Commission review, shall be given to the purchasing entity and shall be referenced in the reports of the Electric Service Provider that is using the purchased kWh to meet its portfolio requirements.

J. Solar portfolio standard requirements shall be calculated on an annual basis, based upon electricity sold during the calendar year.

K. An Electric Service Provider shall be entitled to receive a partial credit against the solar portfolio requirement if the Electric Service Provider or its affiliate owns or makes a significant investment in any solar electric manufacturing plant that is located in Arizona. The credit will be equal to the amount of the nameplate capacity of the solar electric generators produced in Arizona and sold in a calendar year times 2,190 hours (approximating a 25% capacity factor).

1. The credit against the portfolio requirement shall be limited to the following percentages of the total portfolio requirement:

1999	Maximum of 50 % of the portfolio requirement
2000	Maximum of 50 % of the portfolio requirement

2001	Maximum of 25 % of the portfolio requirement
2002	Maximum of 25 % of the portfolio requirement
2003 and on	Maximum of 20 % of the portfolio requirement

2. No extra credit multipliers will be allowed for this credit. In order to avoid double-counting of the same equipment, solar electric generators that are used by other Electric Service Providers to meet their Arizona solar portfolio requirements will not be allowable for credits under this Section for the manufacturer/Electric Service Provider to meet its portfolio requirements.

L. The Director, Utilities Division shall develop appropriate safety, durability, reliability, and performance standards necessary for solar generating equipment to qualify for the solar portfolio standard. Standards requirements will apply only to facilities constructed or acquired after the standards are publicly issued.

M. An Electric Service Provider shall be entitled to meet up to 20% of the portfolio requirement with solar water heating systems purchased by the Electric Service Provider for use by its customers, or purchased by its customers and paid for by the Electric Service Provider through bill credits or other similar mechanisms. The solar water heaters must replace or supplement the use of electric water heaters for residential, commercial, or industrial water heating purposes. For the purposes of this rule, solar water heaters will be credited with 1 kWh of electricity produced for each 3,415 British Thermal Units of heat produced by the solar water heater. Solar water heating systems shall be eligible for Early Installation Extra Credit Multipliers as defined in R14-2-1609 D.1 and Solar Economic Development Extra Credit Multipliers as defined in R14-2-1609 D.2.

N. An Electric Service Provider shall be entitled to meet up to 10% of the portfolio requirement with electricity produced by environmentally-friendly renewable electricity technologies approved by the Commission after a hearing. Systems using such technologies shall be eligible for Early Installation Extra Credit Multipliers as defined in R14-2-1609 D.1 and Solar Economic Development Extra Credit Multipliers as defined in R14-2-1609 D.2.

Attachment B

R14-2-~~1618.~~ Environmental Portfolio Standard

A. Starting on ~~October 1, 2000~~ January 1, 2001, any Electric Service Provider selling electricity or aggregating customers for the purpose of selling electricity under the provisions of this Article must derive at least .2% of the total retail energy sold from new solar resources or environmentally-friendly renewable electricity technologies, whether that energy is purchased or generated by the seller. Solar resources include photovoltaic resources and solar thermal resources that generate electricity. New solar resources and environmentally-friendly renewable electricity technologies are those installed on or after January 1, 1997.

1. Competitive ESPs, that are not UDCs, are exempt from portfolio requirements until 2004, but could voluntarily elect to participate. ESPs choosing to participate would receive a pro rata share of funds collected for portfolio purposes to acquire eligible portfolio systems or electricity generated from such systems.

2. Utility Distribution Companies would recover part of the costs of the portfolio standard through current System Benefits Charges, if they exist, including a re-allocation of demand side management funding to portfolio uses. Additional portfolio standard costs will be recovered by a customer Environmental Portfolio Surcharge on the customers' monthly bill. The Environmental Portfolio Surcharge shall be $.000875 per kWh of retail electricity purchased by the customer. There shall be a surcharge cap of $ .35 per month for residential customers. There shall be a surcharge cap of $13 per month per meter or per service if no meter is used for all non-residential customers, except for those non-residential customers whose meter's registered demand is 3000 kW or more for 3 consecutive months, who will be subject to a surcharge cap of $39.00 per month per meter.

3. Customer bills shall reflect a line item entitled "Environmental Portfolio Surcharge, mandated by the Corporation Commission."

4. Utility Distribution Companies or ESPs that do not currently have a renewables program may request a waiver or modification of this section due to extreme circumstances that may exist.

B. The portfolio percentage shall increase after December 31, 2000.

1. Starting January 1, 2001, the portfolio percentage shall increase annually and shall be set according to the following schedule:

YEAR	PORTFOLIO PERCENTAGE
2001	~~.4~~ .2%
2002	~~.5~~ .4%
2003	.6%
2004	.8%
2005	1.0%

2006	1.05%
2007-2012	1.1%

2. The Commission would continue the annual increase in the portfolio percentage after December 31, 2004 only if the cost of environmental portfolio electricity has declined to a Commission-approved cost/benefit point. The Director, Utilities Division shall establish, not later than January 1, 2003, an Environmental Portfolio Cost Evaluation Working Group to make recommendations to the Commission of an acceptable portfolio electricity cost/benefit point or portfolio kWh cost impact maximum that the Commission could use as a criteria for the decision to continue the increase in the portfolio percentage. The recommendations of the Working Group shall be presented to the Commission not later than December 31, 2003. In no event, however, shall the Commission increase the surcharge caps as delineated in R14-2-1618.A.2 above.

3. The requirements for the phase-in of various technologies shall be:

~~a. In 2000, the Portfolio kWh makeup shall be at least 55 percent solar electric, with no more than 20 percent solar hot water, and no more than 25 percent other environmentally-friendly renewable electricity technologies or research and development ("R&D") on solar electric resources, but with no more than 15 percent on R&D.~~

~~b.~~ a. In 2001, the Portfolio kWh makeup shall be at least 50 percent solar electric, and no more than 50 percent other environmentally-friendly renewable electricity technologies or solar hot water or R&D on solar electric resources, but with no more than 10 percent on R&D.

~~c.~~ b. In 2002, the Portfolio kWh makeup shall be at least 50 percent solar electric, and no more than 50 percent other environmentally-friendly renewable electricity technologies or solar hot water or R&D on solar electric resources, but with no more than 5 percent on R&D.

~~d.~~ c. In 2003, the Portfolio kWh makeup shall be at least 50 percent solar electric, and no more than 50 percent other environmentally-friendly renewable electricity technologies or solar hot water or R&D on solar electric resources, but with no more than 5 percent on R&D..

~~e.~~ d. In 2004,through 2012, the portfolio kWh makeup shall be at least 60 percent solar electric with no more than 40 percent solar hot water or other environmentally-friendly renewable electricity technologies.

C. The portfolio requirement shall apply to all retail electricity in the years ~~2000~~ 2001 and thereafter.

D. Electric Service Providers shall be eligible for a number of extra credit multipliers that may be used to meet the portfolio standard requirements:

1. Early Installation Extra Credit Multiplier: For new solar electric systems installed and operating prior to December 31, 2003, Electric Service Providers would qualify for multiple extra credits for kWh produced for 5 years following operational start-up of the solar electric system. The 5-year extra credit would vary depending upon the year in which the system started up, as follows:

YEAR	EXTRA CREDIT MULTIPLIER
1997	.5
1998	.5
1999	.5
2000	.4
2001	.3
2002	.2
2003	.1

The Early Installation Extra Credit Multiplier would end in 2003.

2. Solar Economic Development Extra Credit Multipliers: There are 2 equal parts to this multiplier, an in-state installation credit and an in-state content multiplier.
   a. In-State Power Plant Installation Extra Credit Multiplier: Solar electric power plants installed in Arizona shall receive a .5 extra credit multiplier.
   b. In-State Manufacturing and Installation Content Extra Credit Multiplier: Solar electric power plants shall receive up to a .5 extra credit multiplier related to the manufacturing and installation content that comes from Arizona. The percentage of Arizona content of the total installed plant cost shall be multiplied by .5 to determine the appropriate extra credit multiplier. So, for instance, if a solar installation included 80% Arizona content, the resulting extra credit multiplier would be .4 (which is .8 X .5).

3. Distributed Solar Electric Generator and Solar Incentive Program Extra Credit Multiplier: Any distributed solar electric generator that meets more than one of the eligibility conditions will be limited to only one .5 extra credit multiplier from this subsection. Appropriate meters will be attached to each solar electric generator and read at least once annually to verify solar performance.
   a. Solar electric generators installed at or on the customer premises in Arizona. Eligible customer premises locations will include both grid-connected and remote, non-grid-connected locations. In order for Electric Service Providers to claim an extra credit multiplier, the Electric Service Provider must have contributed at least 10% of the total installed cost or have financed at least 80% of the total installed cost.
   b. Solar electric generators located in Arizona that are included in any Electric Service Provider's Green Pricing program.
   c. Solar electric generators located in Arizona that are included in any Electric Service Provider's Net Metering or Net Billing program.
   d Solar electric generators located in Arizona that are included in any Electric Service Provider's solar leasing program.

e. All Green Pricing, Net Metering, Net Billing, and Solar Leasing programs must have been reviewed and approved by the Director, Utilities Divisio order for the Electric Service Provider to accrue extra credit multipliers fr... this subsection.

4. All multipliers are additive, allowing a maximum combined extra credit multiplier of 2.0 in years 1997-2003, for equipment installed and manufactured in Arizona and either installed at customer premises or participating in approved solar incentive programs. So, if an Electric Service Provider qualifies for a 2.0 extra credit multiplier and it produces 1 solar kWh, the Electric Service Provider would get credit for 3 solar kWh (1 produced plus 2 extra credit).

E. Electric Service Providers selling electricity under the provisions of this Article shall provide reports on sales and solar power as required in this Article, clearly demonstrating the output of solar resources, the installation date of solar resources, and the transmission of energy from those solar resources to Arizona consumers. The Commission may conduct necessary monitoring to ensure the accuracy of these data.

F. If an Electric Service Provider selling electricity under the provisions of this Article fails to meet the requirements of this rule as modified by the Commission after consideration of the recommendations of the Environmental Portfolio Cost Evaluation Working Group ~~in R14-2-1618 (A) or (B) in any year~~, the Commission shall impose a penalty, beginning January 1, 2004, on that Electric Service Provider that the Electric Service Provider pay an amount equal to 30¢ per kWh to the Solar Electric Fund for deficiencies in the provision of solar electricity. This penalty, which is in lieu of any other monetary penalty which may be imposed by the Commission, may not be imposed for any calendar year prior to 2004. This Solar Electric Fund will be established and utilized to purchase solar electric generators or solar electri in the following calendar year for the use by public entities in Arizona such as schools, citie counties, or state agencies. Title to any equipment purchased by the Solar Electric Fund will be transferred to the public entity. In addition, if the provision of solar energy is consistently deficient, the Commission may void an Electric Service Provider's contracts negotiated under this Article.

1. The Director, Utilities Division shall establish a Solar Electric Fund in ~~2000~~ 2004 to receive deficiency payments and finance solar electricity projects.
2. The Director, Utilities Division shall select an independent administrator for the selection of projects to be financed by the Solar Electric Fund. A portion of the Solar Electric Fund shall be used for administration of the Fund and a designated portion of the Fund will be set aside for ongoing operation and maintenance of projects financed by the Fund.

~~3. For the first year of the portfolio requirement, UDCs and ESPs that are subject to these rules shall be allowed an extension until June 30, 2001, to fully meet the year 2000 portfolio requirements without penalty. However, any eligible portfolio kWhs produced in 2001 to meet the 2000 requirement shall not be double-counted to meet the 2001 requirement.~~

G. Photovoltaic or solar thermal electric resources that are located on the consumer's premises shall count toward the solar portfolio standard applicable to the current Electric Service Provider serving that consumer.

H. Any solar electric generators installed by an Affected Utility to meet the solar portfolio standard shall be counted toward meeting renewable resource goals for Affected Utilities established in Decision No. 58643.

I. Any Electric Service Provider or independent solar electric generator that produces or purchases any solar kWh in excess of its annual portfolio requirements may save or bank those excess solar kWh for use or sale in future years. Any eligible solar kWh produced subject to this rule may be sold or traded to any Electric Service Provider that is subject to this rule. Appropriate documentation, subject to Commission review, shall be given to the purchasing entity and shall be referenced in the reports of the Electric Service Provider that is using the purchased kWh to meet its portfolio requirements.

J. Environmental Portfolio Standard requirements shall be calculated on an annual basis, based upon electricity sold during the calendar year.

K. An Electric Service Provider shall be entitled to receive a partial credit against the portfolio requirement if the Electric Service Provider or its affiliate owns or makes a significant investment in any solar electric manufacturing plant that is located in Arizona. The credit will be equal to the amount of the nameplate capacity of the solar electric generators produced in Arizona and sold in a calendar year times 2,190 hours (approximating a 25% capacity factor).

1. The credit against the portfolio requirement shall be limited to the following percentages of the total portfolio requirement:

~~2000~~	~~Maximum of 50 % of the portfolio requirement~~
2001	Maximum of ~~25~~ 50 % of the portfolio requirement
2002	Maximum of 25 % of the portfolio requirement
2003 and on	Maximum of 20 % of the portfolio requirement

2. No extra credit multipliers will be allowed for this credit. In order to avoid double-counting of the same equipment, solar electric generators that are used by other Electric Service Providers to meet their Arizona portfolio requirements will not be allowable for credits under this Section for the manufacturer/Electric Service Provider to meet its portfolio requirements.

L. The Director, Utilities Division shall develop appropriate safety, durability, reliability, and performance standards necessary for solar generating equipment and environmentally-friendly renewable electricity technologies and to qualify for the portfolio standard. Standards requirements will apply only to facilities constructed or acquired after the standards are publicly issued.

M. An Electric Service Provider shall be entitled to meet up to 20% of the portfolio requirement with solar water heating systems or solar air conditioning systems purchased by the Electric Service Provider for use by its customers, or purchased by its customers and paid for by the Electric Service Provider through bill credits or other similar mechanisms. The solar water heaters must replace or supplement the use of electric water heaters for residential, commercial, or industrial water heating purposes. For the purposes of this rule, solar water heaters will be credited with 1 kWh of electricity produced for each 3,415 British Thermal Units of heat produced by the solar water heater and solar air conditioners shall be credited with kWhs equivalent to those needed to produce a comparable cooling load reduction. Solar water heating systems and solar air conditioning systems shall be eligible for Early Installation Extra Credit Multipliers as defined in R14-2-1618 D.1 and Solar Economic Development Extra Credit Multipliers as defined in R14-2-1618 D.2.b.

N. An Electric Service Provider shall be entitled to meet the portfolio requirement with electricity produced in Arizona by environmentally-friendly renewable electricity

technologies that are defined as in-state landfill gas generators, wind generators, and biomass generators, consistent with the phase-in schedule in R14-2-1618 B.3. Systems using such technologies shall be eligible for Early Installation Extra Credit Multipliers as defined in R14-2-1618 D.1 and Solar Economic Development Extra Credit Multipliers as defined in R14-2-1618 D.2.b.

Section R14-2-1601 Definitions shall be amended to include the following definitions, and shall be renumbered accordingly.

"Green Pricing" means a program offered by an Electric Service Provider where customers elect to pay a rate premium for renewable-generated electricity.

"Net Metering" or "Net Billing" is a method by which customers can use electricity from customer-sited solar electric generators to offset electricity purchased from an Electric Service Provider. The customer only pays for the "Net" electricity purchased.

"Solar Electric Fund" is the funding mechanism established by this Article through which deficiency payments are collected and solar energy projects are funded in accordance with this Article.