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ARIZONA SOLAR ENERGY INDUSTRIES ASSOCIATION



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May 26, 1998

RE: 00000 C-94-D165

Renz Jennings  
Arizona Corporation Commission  
1200 W Washington Ave.  
Phoenix, AZ 85007

Corporation Commission  
**DOCKETED**

MAY 29 1998

DOCKETED BY *[Signature]*

Dear Commissioner Jennings,

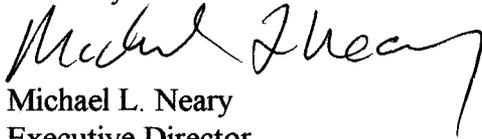
As you know, we have long advocated that solar water heating should be included in the **Solar Portfolio Standard**. When we last met, we discussed those benefits and would appreciate your support on this matter. We feel that this will provide a market based method for electric service providers in Arizona to meet a portion of the SPS. We do not believe, as some have suggested that if solar thermal is included, that it will take up the entire portfolio standard, but feel that it will provide a cost effective method for those who choose to become involved, to meet a portion of the SPS. I believe that this will particularly benefit some of the providers in rural areas to more cost effectively meet the standard's goals and develop the solar industry in their areas.

In order to insure that there will be room for all technologies in the Standard, we propose that solar water heating be limited to twenty or thirty percent of the SPS. This would provide benefits for solar thermal water heating, yet insure that the majority of the SPS would be left for solar electric technologies. Benefits for solar thermal that have been suggested under the Systems Benefit Charge could be directed to all solar technologies and possibly be linked to the Department of Energy's Million Roofs Initiative. The Initiative's goal is to install one million American built solar systems across America by the year 2010. If coordinated efforts were made to link programs under restructuring, I believe that we could greatly enhance the economic development and air quality benefits that solar energy has to offer our state.

I have enclosed the Guidelines for Federal and State Electric Utility Restructuring from the Solar Energy Industries Association, in Washington DC, which is our parent organization. As you can see, it has been endorsed by a wide range of solar firms, including many involved in the photovoltaics and solar thermal electric side of the industry. Nationally, the industry supports the inclusion of solar water heating under restructuring.

I have reviewed the 2<sup>nd</sup> draft of the proposed changes to the Solar Portfolio Standard and feel that language adopting solar water heating into the standard should be included in that document. I hope that you will consider supporting the addition of such language. As always, I am available to answer any questions that you may have.

Sincerely

A handwritten signature in black ink, appearing to read "Michael L. Neary". The signature is written in a cursive style with a long, sweeping tail on the final letter.

Michael L. Neary  
Executive Director



# SEIA

SOLAR ENERGY INDUSTRIES ASSOCIATION

**SOLAR THERMAL TECHNOLOGIES  
FOR  
RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL  
WATER AND SPACE HEATING APPLICATIONS  
*A PRIMER FOR PORTFOLIO STANDARD ISSUES IN REGARD TO  
ELECTRIC UTILITY RESTRUCTURING***

## **Introduction**

Current draft utility restructuring legislation does not include solar thermal water or space heating technologies within the definition of renewable energy technologies in regard to renewable energy portfolio standards (RPS). As a result, the legislation favors large-scale grid-tied projects over small-scale residential renewable energy producers. The Solar Energy Industries Association (SEIA) has drafted this primer in an effort to change this definition as it currently stands by demonstrating the value and necessity of including solar thermal technologies in a proposed RPS. First, here are some facts regarding today's solar thermal water and space heating industry:

- Today, over 1 million buildings utilize solar thermal generated energy to offset conventional water heating technology, which is primarily electricity.
- The industry consists of experienced small manufacturers that currently produce the highest quality solar thermal technologies in the world today.
- The non-profit Solar Rating and Certification Corporation and the Florida Solar Energy Center offer the most comprehensive rating and certification options available to solar manufacturers in the world. Ratings are based on actual field performance, thus resulting in one of the only few 'real world' appliance certifications available today.
- In a recent study performed by the Florida Solar Energy Center (FSEC), if the potential market for solar water heaters in the US was fully realized, 41 million kWh equivalent would be generated per year - equivalent to the output of eight 100 MW fossil-fueled generating plants.

## **Proposed Change**

Each of the proposed bills define renewables in the following manner:

“The term ‘renewable energy’ means electricity generated from solar, wind, waste, except for municipal solid waste, biomass, hydroelectric, or geothermal resources.”

The national solar energy industry requests that this definition be expanded by adding the following phrase, “**or electricity displaced by solar thermal energy technologies.**”

*(over)*

## **Rationale**

The rationale for the proposed change includes the following:

- Many utilities studying the potential of using solar thermal water heating technologies as a tool for distributed generation and renewable energy deployment understand that allowing solar thermal technologies to be included in the definition of renewables may add significant value to future investments in solar water heating technologies.
- Solar thermal water heating systems can be measured in the **exact same manner** by which other end-use renewable energy technologies are measured. The addition of a low-cost Btu meter to the system with a readily available device that converts the Btus directly to kilowatt-hours is an easy way to measure energy output for the purposes of the RPS.
- Utility programs utilizing cost-effective solar thermal technologies may, in many cases, be the lowest cost means of complying with an RPS.
- As currently crafted, photovoltaic systems configured as rooftop distributed generation would be eligible to participate in RPS's, providing at least some electricity for electric water heaters. Heating water with solar thermal technologies can be accomplished at one-tenth the cost.

## **Conclusion**

This change in the definition of renewable energy will most certainly give utilities an option that is low-cost and extremely valuable to fulfill renewable energy portfolio standard requirements and is essential to assuring that the US fully recognize its renewable energy generation potential.



# SEIA

SOLAR ENERGY INDUSTRIES ASSOCIATION

## Guidelines for Federal and State Electric Utility Restructuring

- **Retail Customer Choice:** All customers should be able to choose among the broadest range of electricity options from the largest variety of suppliers as soon as possible.
- **Consumer Right-to-Know and Electricity Product Labeling:** Legislation should require all companies that sell electricity to consumers to provide basic information about the product so consumers can make informed purchase decisions. Information should include disclosure about the total energy generation mix; the amount of each renewable technology in the mix; the amount of imported energy and waste stored; information on compliance with air, water (environment) and safety rules (federal, state and local); and number of power outages (reliability record).
- **Systems Benefit Charge (SBC) or Trust Fund:** Legislation should provide for the creation of a national and/or state trust fund - similar to the National Highway Trust Fund -- for state-level renewable energy deployment, energy efficiency, and low-income energy assistance programs. The Trust should be based on a per kWh line charge, possibly with a federal/state matching requirement. The Trust needs to be designed to promote the deployment of emerging and distributed renewable technologies, including distributed PV, solar thermal electric, and solar water heating. SEIA does not advocate a R&D component to a Federal fund. Federal renewable energy R&D has and should continue to be funded from appropriations, although this would not preclude a state from establishing a R&D fund from its own appropriation or state-level surcharge.
- **Renewables Portfolio Standard (RPS):** Legislation should establish a "portfolio" to encourage development of renewable energy resources. A RPS should encourage a broad portfolio of technologies, not just those which are most cost effective at the present time. Furthermore, the portfolio standard should provide for aggregation of generation from small-scale installations, such as small wind and distributed solar thermal water heating, solar thermal electric, and PV systems.
- **Net Metering and Simple Interconnection for Small Renewable Energy Systems:** Legislation or regulation should provide for open access for interconnection with the grid in a transparent, user-friendly process. To facilitate the use of small-scale renewable energy technologies, states should be required to provide net metering for small-scale renewables with uniform, national interconnection standards for safety and power quality. Federal legislation should, at a minimum, identify and remove any barriers to state implementation of net metering. Legislation should protect solar consumer rights via barring property association restrictive covenants on solar equipment just as the Telecommunications Act barred restriction on the use of satellite antennas.
- **No Exclusion:** Any electricity market restructuring should encourage a broad array of technologies. All solar energy technologies -- solar water heating, PV, and solar thermal electric -- should have the opportunity to compete on their merits for renewable incentives. Thermal technologies should not be excluded just because they do not generate electrons. If their power output is quantifiable in comparative terms (Btu to kWh is a simple mathematical conversion), then thermal technologies deserve to be included in all renewables restructuring initiatives.
- **No Transition Charges on Renewables:** States should be prohibited from subsidizing uneconomic utility investments in conventional generating plants by imposing transition charges or other similar fees on renewable generation or efficiency improvements.
- **Honor PURPA Contracts:** Existing PURPA contracts should be honored, even if PURPA is modified as part of restructuring legislation.

My company/organization would like to add its name to the list of SEIA members endorsing this statement:

Name: \_\_\_\_\_ Company/Organization: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

*Please fax or mail completed forms to Laurie Jodziewicz, Associate Director, Photovoltaics Division, 202/383-2670 (fax).*

As of 5/18/98

**Companies Who Have Endorsed This Document Include:**

(companies in boldface are national members)

By Company Name

<b>Advanced Energy Systems</b>	<b>Wilton</b>	<b>NH</b>
American Solar Energy - Jacksonville	Jacksonville	FL
American Solar Energy - Lakeland	Lakeland	FL
<b>Arizona Solar Energy Industries Association</b>	<b>Phoenix</b>	<b>AZ</b>
<b>Asension Technology</b>	<b>Lincoln</b>	<b>MA</b>
<b>Atlantic Solar Products, Inc.</b>	<b>Baltimore</b>	<b>MD</b>
<b>Atlantis Energy</b>	<b>Colfax</b>	<b>CA</b>
<b>Bradley Builders and Developers, Inc.</b>	<b>Philadelphia</b>	<b>PA</b>
<b>California Solar Energy Industries Association</b>	<b>Sacramento</b>	<b>CA</b>
<b>Colorado Solar Energy Industries Association</b>	<b>Denver</b>	<b>CO</b>
Conifer Solar Consulting	Conifer	CO
Conservative Energy Systems, Inc.	Mesa	AZ
<b>Daggett Leasing Corporation</b>	<b>Yorba Linda</b>	<b>CA</b>
Desert Sun Solar, Inc	Phoenix	AZ
Energy Service Company	Eugene	OR
FAFCO Solar	Cape Coral	FL
<b>Florida Solar Energy Industries Association</b>	<b>Longwood</b>	<b>FL</b>
<b>Foster-Miller</b>	<b>Waltham</b>	<b>MA</b>
Fully Integrated Residential Solar Technologies, Inc. (FIRST)	Hopewell	NJ
<b>Great Lakes Solar Energy Industries Association</b>	<b>Sand Lake</b>	<b>MI</b>
<b>Heartland Solar Energy Industries Association</b>	<b>Lenexa</b>	<b>KS</b>
<b>Heliocol USA Inc.</b>	<b>Atlantic Springs</b>	<b>FL</b>
<b>Heliodyne, Inc.</b>	<b>Richmond</b>	<b>CA</b>
<b>Heliotrope General</b>	<b>Spring Valley</b>	<b>CA</b>
<b>Hutton Communications (GA)</b>	<b>Lawrenceville</b>	<b>GA</b>
<b>Independent Energy (CA)</b>	<b>La Mesa</b>	<b>CA</b>
Inter-Island Solar Supply	Honolulu	HI
<b>Kyocera America</b>	<b>San Diego</b>	<b>CA</b>
<b>Lakeland Dept. of Electric &amp; Water Utilities</b>	<b>Lakeland</b>	<b>FL</b>
<b>Mid-Atlantic Solar Energy Industries Association</b>	<b>Hopewell</b>	<b>NJ</b>
<b>New England Solar Energy Industries Association</b>	<b>Lincoln</b>	<b>MA</b>
<b>New Mexico Solar Energy Industries Association</b>	<b>Albuquerque</b>	<b>NM</b>
<b>New York Solar Energy Industries Association</b>	<b>Endicott</b>	<b>NY</b>
<b>Oregon Solar Energy Industries Association</b>	<b>Eugene</b>	<b>OR</b>
<b>Pennsylvania Solar Energy Industries Association</b>	<b>Philadelphia</b>	<b>PA</b>
Pioneer Solar	Englewood	CO
PowerLight Corporation	Berkeley	CA
<b>Real Goods Trading Company</b>	<b>Ukiah</b>	<b>CA</b>
<b>Renewable Energy Consultants, Inc.</b>	<b>Washington</b>	<b>DC</b>
Ron Yachabach Company	Lakeland	FL
Solar City, Inc.	Tampa	FL
<b>Solar Depot, Inc.</b>	<b>San Rafael</b>	<b>CA</b>
Solar Energy Systems	Ft. Pierce	FL
Solar Source	Clearwater	FL
Solar Techniques	Philadelphia	PA

**SOLAR ENERGY INDUSTRIES ASSOCIATION**

Solar Works In Michigan	Sand Lake	MI
Solarex Corporation	Frederick	MD
Southwest Photovoltaic Systems	Tomball	TX
Sun Systems, Inc.	Scottsdale	AZ
SUN Utility Network	Los Angeles	CA
Sun, Wind and Fire Company	Portland	OR
Sundance Solar Designs	Placerville	CO
SunEarth Inc.	Ontario	CA
Sunnyside Solar, Inc.	Brattleboro	VT
Superior Solar Systems Inc.	Longwood	FL
Texas Solar Energy Industries Association	Austin	TX
Western Solar Services	Mission Viejo	CA
WorldWater Corporation	Pennington	NJ