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DATE: February 14, 2005

TO: Ray Williamson and the Arizona Corporation Commission

FROM: Southwest Windpower

SUBJECT: Recommended additions to the proposed changes to the environmental Portfolio Standard Rules (Docket NOS. RE-000C-00-0377 and RE-00000C-05-0030)

Arizona Corporation Commission  
**DOCKETED**  
FEB 16 2005  
DOCKETED BY 

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Dear Corporation Commission,

First of all, as a life long citizen of the State of Arizona, I would like to commend you on your efforts to further the expansion of the Arizona Renewable Portfolio Standard.

### BACKGROUND OF SOUTHWEST WINDPOWER:

Southwest Windpower was established in Flagstaff in 1987. The company has grown to be the world's largest producer of small wind generators. In the last 10 years the Company has produced more than 80,000 wind generators primarily for off-grid applications. Recently we have introduced our first utility-tie wind turbines. Southwest Windpower, currently employ's 58 people in Flagstaff who design, manufacture and distribute approximately 8MW per year of small wind turbines. The company's products are distributed through 60 countries. You can learn more at the Company's website at [www.windenergy.com](http://www.windenergy.com). Please note the new address above. We are moving into our new factory effective February 21, 2005.

Southwest Windpower produces approximately 700 wind generators per month. However, less than 1% of these machines are sold in Arizona. The Company has received numerous awards for its efforts which include "Exporter of the Year" by the United States Import/Export Bank of America in 2002 and the "Partnership design" award from the U.S. Department of Energy in 2004.

**COMMENTS REGARDING THE ENVIRONMENTAL PORTFOLIO  
STANDARD RE-0000C-05-0030**

In general, the comments summarized by the staff and in particular, Ray Williamson, are well organized and Southwest Windpower is in support of all of them.

One of the primary directives of the Portfolio Standard was also to foster the local economy of renewable energy products and promote their use within the State of Arizona for the purposes of "broadening their (the utilities) portfolio away from just coal, gas, nuclear, and hydro and toward the addition of new, renewable generation resources."

Specifically an area that has been largely overlooked is small wind energy. This specifically is wind turbines that have a rated output of 100KW or less. Small wind, now a \$50M industry, produces more than 100,000 small wind generators per year. The comments in this report are requesting the inclusion the use of small wind in the RPS.

**ISSUE #1 – Should Arizona increase its commitment to renewable energy by increasing the portfolio percentage?**

Southwest Windpower agrees with the Staff Recommendation

**ISSUE #2 – Should the Environmental Portfolio Standard expiration date of 2012 be eliminated?**

Southwest Windpower agrees with the Staff Recommendations

**ISSUE #3a – What is the appropriate resource mix in the portfolio?**

Southwest Windpower agrees with the Staff Recommendations as long as there is an inclusion for small wind in the definition of "Solar Electric" as recommend later in this memo.

**ISSUE #3b – Should new and emerging technologies be included?**

Southwest Windpower agrees with the Staff Recommendations

**ISSUE # 4 – How should the funding be allocated among the eligible technologies?**

Southwest Windpower agrees with the Staff Recommendations

**ISSUE #5 – Are static technology percentages still justified and if so, should the percentages be reconfigured in A.A.C. R14-2-1618 B.3?**

Southwest Windpower agrees with the Staff Recommendations. However, when the statement references "solar energy" this should include the use of small wind with a rated capacity of less than 10kw per turbine.

**ISSUE #6 – Should the Environmental Portfolio Standard Funding levels be increased?**

Southwest Windpower agrees with the Staff Recommendations

**ISSUE #7 – Should Arizona increase its commitment to renewable energy by increasing the surcharge?**

Southwest Windpower agrees with the Staff Recommendations

**ISSUE #8 – Should demand-Side Management funding be restored?**

Southwest Windpower agrees with the Staff Recommendations

**Re-Definition of "Solar Resource"/"Solar Electricity"**

The final comments related to the "Re-Definition of "solar Resource"/"Solar Electricity" suggested that the definition should be expanded to include other technologies other than those which generate electricity. The Staff recommended that it should NOT include other technologies (i.e. non-electrical producing technologies). The comments specifically stated that "...the original intent of the first Solar Portfolio Standard was to require utilities to broaden their generation portfolio away from just coal, gas, nuclear, and hydro and toward the addition of new, clean renewable generation resources." Specific set-asides were allowed which included solar water heating and solar air conditioning to allow a reasonable but small portion of the portfolio. It is assumed these were established as set-asides because they are technologies that specifically do not produce electricity rather than off-set it. Southwest Windpower is in agreement with this assessment.

However, the use of small wind (which is also a solar resource) does increase the diversification of other energy technologies. Small wind turbines actually compliment photovoltaics as they produce electricity during periods generally when PV cannot. This includes cloudy monsoons and winter periods often found in Arizona. Furthermore, small wind can operate in very low wind speed averages as compared to large wind. Small wind can economically operate in 8+ MPH average winds. Small wind is a small industry as compared to photovoltaics however it will increase the diverse use of renewables as stated in the first Solar Portfolio Standard. The cost of energy from small wind is comparable to solar and its increased demand has the same desired effect of lower energy costs over time.

Small wind has matured significantly over the last few years which has broadened its acceptance as a viable technology that must be expanded on. Southwest Windpower, recommends to the Corporation Commission that the definition of "Solar Resource"/"Solar Electricity" would include the use of small wind generators with a rating of less than 10KW.

If you have any questions regarding these comments and/or you would like to meet with me directly, feel free to contact me at any time. You may also contact me by cell at 928-380-3527.

I look forward to hearing from you soon.

Best regards,



Andrew Kruse  
Vice President