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Surrebuttal Testimony of Amanda Ormond

on behalf of Interwest Energy Alliance

Docket No. E-01345A-05-0816

September 27, 2006

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on behalf of Interwest Energy Alliance
Docket No. E-01345A-050816

INTRODUCTION

Q. PLEASE STATE YOUR NAME AND YOUR BUSINESS ADDRESS?

A. My name is Amanda Ormond. My business address is 7650 S. McClintock Drive, Suite 103-282, Tempe, Arizona 85284.

Q. DID YOU PROVIDE DIRECT TESTIMONY IN THIS DOCKET?

A. Yes, I provided direct testimony representing Interwest Energy Alliance dated August 18, 2006.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. My testimony supports the proposed Wind Integration Cost Study detailed in Mr. Pat Dinkel's rebuttal testimony and make suggestions for study parameters and organizations to serve as advisors. My testimony clarifies why an Independent Evaluator is necessary for RFP procurement processes and why an auditor, as outline in the proposed REST, will not suffice. Further, I clarify why consistent and orderly acquisition of renewable energy resources is beneficial to the APS customer base and hedges against uncertainties of fossil fuel availability and quality.

WIND INTEGRATION STUDY

Q. DOES INTERWEST SUPPORT THE WIND INTEGRATION COST STUDY PROPOSED BY APS?

Yes. Interwest supports APS' efforts to conduct a wind integration study and believes that it will provide valuable information to assist the utility in understanding the costs and technical issues of integrating a substantive amount of wind into their system.

Q. DO YOU HAVE SPECIFIC SUGGESTIONS FOR THE WIND STUDY?

A. I agree with Mr. Dinkel when he stated that the study should quantify the system impacts and associated costs of integrating wind projects in the APS system. Interwest suggests the following to ensure a complete and valuable study:

- APS should study different wind penetration rates to quantify the impacts and costs of future scenarios. Penetration rates of 5, 10, 15, 20 or 25 percent are reasonable rates to consider for study. APS should choose a near term penetration rate such as 5 or 10 percent, a medium term such as 15, and longer term rate, 20 or 25 percent.
- The study should evaluate reliability and operating (including regulation, load following and unit commitment) impacts of wind penetration and costs associated with each.
- As Mr. Dinkel points out, obtaining sufficient detailed wind data for a study can be challenging. As part of the study a meteorological wind forecasting firm should be engaged to create a data set for use in the study from meso-scale simulations.
- To the extent possible, APS should follow the guidance found in the Utility Wind Interest Group's *Utility Wind Integration State of the Art* report provided in with my direct testimony.

Once the study is complete APS should apply the study findings to future purchases of wind-generated electricity and train staff on the potential system impacts in anticipation of having wind energy on the APS system.

Q. CAN YOU DISCUSS THE IMPORTANCE OF A TECHNICAL ADVISORY COMMITTEE?

A Technical Advisory Committee (or Technical Review Committee) will provide expertise to guide development of the study. Non-utility personnel with wind performance, modeling, and system expertise brought together with APS' system experts will create a strong technical committee. The committee should be convened at the beginning of the study to provide input on study assumptions, processes, and methods and meet periodically throughout the study to provide guidance.

Based on the integration studies completed to date, Interwest recommends the following organizations for members of the technical advisory committee:

- National Renewable Energy Laboratory
- Northern Arizona University
- Wind Integration and Wind Modeling Consultants
- Local Transmission and Energy Experts

INDEPENDENT EVALUATOR

Q. DO YOU THINK PERFORMING A WIND INTEGRATION STUDY NEGATES THE NEED FOR AN INDEPENDENT EVALUATOR (IE)?

No. A wind integration study will provide valuable system-specific information on cost impacts for integrating wind-generated electricity. However, the study will not provide information for other renewable energy technologies. Unlike fossil-fuel generation some renewable energy technologies are rapidly changing, creating the need for an expert on the state-of-the-art of technology. The IE will serve as a renewable energy resource expert to the utility and ensure fair evaluation of a technology's potential and good fit within the system. Due to lack of experience with many commercial scale renewable energy technologies assignment of unreasonable costs is possible with technologies other than wind. An IE would provide expertise in all technologies, not just wind.

A second need, sited in my direct testimony for an IE, is to help review any set reference price for conventional resources from which renewable energy prices will be judged. If the reference price is set using unreasonably low natural gas prices or depreciated capital assets instead of new fossil fuel energy acquisitions/plant costs, then renewable energy projects will appear more expensive.

Q. APS STATES THAT AN IE IS NOT NECESSARY BECAUSE THE REST REQUIRES AN INDEPENDENT AUDIT OF PROCEDURES. DO YOU AGREE?

The REST proposed rules, if adopted, would require that the procedures used by an affected utility to procure renewable energy resources be certified by an independent auditor as fair and unbiased and appropriately applied. This audit will provide assurance to the Commission of a fair process. However, the audit requirement is in the section on Compliance Reports (Docket RE00000C-05-0030, R14-2-1812). Compliance reports must be submitted to ensure fulfillment of program for the previous calendar year. The purpose of an IE proposed here is to be proactive and assist the utility in designing a fair RFP process, assignment of integration costs, reference price and review of bids. Providing an audit, after the fact, does not serve the same purpose.

In addition, the audit process is only required of procurement of resources to meet the REST. Renewable energy resources purchased which exceed or are separate from the REST would not be subject to the auditing provision.

Q. COULD YOU ADDRESS APS' CONCERNS FOR THE COST OF THE INDEPENDENT EVALUATOR?

While the absolute cost of hiring an IE (estimated at $65,000-125,000) is not insignificant, it is an insignificant percentage of the cost of energy that will be procured under an RFP process. I believe it to be penny wise and pound foolish to be unwilling to spend funds on an outside expert who can help the utility cost effectively and efficiently procure stable-priced renewable energy resources. If the cost of $100,000 for an IE is spread over the cost of energy from an RFP procuring 150 MW of renewable energy at $60 per MWh from projects with an average capacity factor of, say 80%, the IE would be just 0.005% of the cost of the energy purchased. This cost would also only be incurred in years where an RFP was put out for bid.

Small changes in the cost or charges assigned to each MW of renewable energy, as a result of input by an IE, would result in significant overall change in the price of a resource. Using the same figures, if the utility adds just 50 cents to each MWh, the cost of the project just mentioned would escalate by a over a half million dollars, much more than the cost of an IE.

Interwest understands that some of the functions of an IE and a REST program compliance auditor may be similar and suggests that in years where an RFP is released the IE report could suffice to meet the auditing provision of the REST. In years where there is no RFP then costs would be incurred for the auditor just for REST compliance.

ACQUISITION OF RENEWABLE ENERGY THROUGH A SCHEDULED RFP PROCESS

Q. DO YOU AGREE THAT APS SHOULD NOT HAVE A MANDATED SCHEDULE FOR RFPs FOR RENEWABLE ENERGY?

A. Interwest understands that APS is not interested in scheduled RFPs for purchasing renewable energy and wishes to preserve its ability to purchase resources when deems necessary. The RFP schedule was proposed by Interwest as a method for APS to begin an orderly, modest and regular procurement of renewable energy resources and also signal to the industry

APS' interest in renewable energy. While the REST, if passed, will create a requirement for APS to derive a significant percentage of its generation from renewable energy, the requirement is long term. In the short term (between 2007 and 2011) APS will only need to procure tens of MWs of renewable energy.

In its last rate case APS agreed to purchase 10% of its growth capacity each year from renewable energy resources. This is approximately 30 MW per year. Interwest has proposed that APS purchase 25% of the utility's future capacity from renewable energy. This is a modest increase of just 15% from current conditions. Such procurement will: help to diversify APS' electricity generation mix, develop domestic resources, and allow orderly development of renewable generation projects and system planning to integrate new generation into system operations. Interwest believes that regularly scheduled RFPs are an effective and viable method for renewable energy procurement at the best price.

Q. DO YOU BELIEVE, AS APS DOES, THAT THE PROPER FORM FOR ADDRESSING RENEWABLE ENERGY IS THE R.E.S.T. RULEMAKING?

The rulemaking process is only one of the appropriate places to deal with renewable energy. The REST is important to provide long-term policy direction for regulated utilities. But, the REST is still a draft rule, and not a final regulation requiring action.

Current market conditions, such as high and fluctuating natural gas prices, warrant that stable priced renewable energy resources be considered in this rate case as well. Renewable energy resources, purchased in greater amounts, will mitigate some of the current and expected negative fiscal impacts on ratepayers. Not requiring the purchase of renewable energy will further increase ratepayer risks to volatile gas prices. This risk and exposure will increase in the short term as the utility will likely meet load growth for the next few years with more natural gas-fired generation.

Q. DO YOU HAVE ANY FINAL COMMENTS?

Yes. APS will continue to experience some of the highest electricity growth rates in the nation. It appears that the utility is expecting to rely primarily upon natural gas and coal to meet new load growth, yet both fuels face issues that may significantly change their costs and availability. Natural gas demand is growing worldwide. As the U.S. outstrips North American supplies, the nation is expected to begin importing liquefied natural gas (LNG) from

foreign countries to meet expected shortage. The price and quality of imported gas is uncertain. Recently, concerns have arisen about the quality of the incoming gas and safety related to burning imported natural gas that burns hotter due to a difference in chemical makeup from domestic gas.

For coal, pressure is mounting to begin controlling carbon emissions. Carbon regulation could add significantly to the cost of new coal generation. Some utilities add a carbon cost to fossil fuels. For example, in evaluating the costs of new resources in its most recent RFP, Public Service Company of Colorado is assessing all CO2-emitting resources an imputed cost of $9/ton of CO2 for bid evaluation purposes. The imposition of the imputed CO2 cost will begin in 2010 (escalating at 2.5% per year). Coal will also be subject to transportation constraints due to lack of available railroad track capacity and cars to meet growth, and will be controversial in the West due to it large consumptive water use.

Interwest believes it is in the best interest of the ratepayer for the Commission to carefully consider the risks and costs that consumers may have to pay to maintain our reliance on fossil fuel. Renewable energy resources do not suffer from many of the pricing and environmental uncertainties that might affect the costs and availability of fossil fuels moving forward. A systematic and modest procurement of renewable energy will ease the transition into a more diverse and cost-stable energy future for Arizona's ratepayers.