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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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Surrebuttal Testimony of Amanda Ormond
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**Surrebuttal Testimony of Amanda Ormond
on behalf of Interwest Energy Alliance
Docket No. E-01345A-050816**

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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?

- 1 A. I agree with Mr. Dinkel when he stated that the study should quantify the
2 system impacts and associated costs of integrating wind projects in the APS
3 system. Interwest suggests the following to ensure a complete and valuable
4 study:
- 5 • APS should study different wind penetration rates to quantify the impacts
6 and costs of future scenarios. Penetration rates of 5, 10, 15, 20 or 25
7 percent are reasonable rates to consider for study. APS should choose a
8 near term penetration rate such as 5 or 10 percent, a medium term such as
9 15, and longer term rate, 20 or 25 percent.
 - 10 • The study should evaluate reliability and operating (including regulation,
11 load following and unit commitment) impacts of wind penetration and
12 costs associated with each.
 - 13 • As Mr. Dinkel points out, obtaining sufficient detailed wind data for a
14 study can be challenging. As part of the study a meteorological wind
15 forecasting firm should be engaged to create a data set for use in the study
16 from meso-scale simulations.
 - 17 • To the extent possible, APS should follow the guidance found in the
18 Utility Wind Interest Group's *Utility Wind Integration State of the Art*
19 report provided in with my direct testimony.

20
21 Once the study is complete APS should apply the study findings to future
22 purchases of wind-generated electricity and train staff on the potential system
23 impacts in anticipation of having wind energy on the APS system.

24
25 Q. CAN YOU DISCUSS THE IMPORTANCE OF A TECHNICAL
26 ADVISORY COMMITTEE?

27
28 A Technical Advisory Committee (or Technical Review Committee) will
29 provide expertise to guide development of the study. Non-utility personnel
30 with wind performance, modeling, and system expertise brought together with
31 APS' system experts will create a strong technical committee. The committee
32 should be convened at the beginning of the study to provide input on study
33 assumptions, processes, and methods and meet periodically throughout the
34 study to provide guidance.

35
36 Based on the integration studies completed to date, Interwest recommends the
37 following organizations for members of the technical advisory committee:

- 38 • National Renewable Energy Laboratory
 - 39 • Northern Arizona University
 - 40 • Wind Integration and Wind Modeling Consultants
 - 41 • Local Transmission and Energy Experts
- 42

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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, cited 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.

1 In addition, the audit process is only required of procurement of resources to
2 meet the REST. Renewable energy resources purchased which exceed or are
3 separate from the REST would not be subject to the auditing provision.
4

5 Q. COULD YOU ADDRESS APS' CONCERNS FOR THE COST OF THE
6 INDEPENDENT EVALUATOR?
7

8 While the absolute cost of hiring an IE (estimated at \$65,000-125,000) is not
9 insignificant, it is an insignificant percentage of the cost of energy that will be
10 procured under an RFP process. I believe it to be penny wise and pound
11 foolish to be unwilling to spend funds on an outside expert who can help the
12 utility cost effectively and efficiently procure stable-priced renewable energy
13 resources. If the cost of \$100,000 for an IE is spread over the cost of energy
14 from an RFP procuring 150 MW of renewable energy at \$60 per MWh from
15 projects with an average capacity factor of, say 80%, the IE would be just
16 0.005% of the cost of the energy purchased. This cost would also only be
17 incurred in years where an RFP was put out for bid.
18

19 Small changes in the cost or charges assigned to each MW of renewable
20 energy, as a result of input by an IE, would result in significant overall change
21 in the price of a resource. Using the same figures, if the utility adds just 50
22 cents to each MWh, the cost of the project just mentioned would escalate by a
23 over a half million dollars, much more than the cost of an IE.
24

25 Interwest understands that some of the functions of an IE and a REST
26 program compliance auditor may be similar and suggests that in years where
27 an RFP is released the IE report could suffice to meet the auditing provision of
28 the REST. In years where there is no RFP then costs would be incurred for the
29 auditor just for REST compliance.
30

31
32 **ACQUISITION OF RENEWABLE ENERGY THROUGH A**
33 **SCHEDULED RFP PROCESS**
34

35 Q. DO YOU AGREE THAT APS SHOULD NOT HAVE A MANDATED
36 SCHEDULE FOR RFPs FOR RENEWABLE ENERGY?
37

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

1 APS' interest in renewable energy. While the REST, if passed, will create a
2 requirement for APS to derive a significant percentage of its generation from
3 renewable energy, the requirement is long term. In the short term (between
4 2007 and 2011) APS will only need to procure tens of MWs of renewable
5 energy.
6

7 In its last rate case APS agreed to purchase 10% of its growth capacity each
8 year from renewable energy resources. This is approximately 30 MW per year.
9 Interwest has proposed that APS purchase 25% of the utility's future capacity
10 from renewable energy. This is a modest increase of just 15% from current
11 conditions. Such procurement will: help to diversify APS' electricity
12 generation mix, develop domestic resources, and allow orderly development
13 of renewable generation projects and system planning to integrate new
14 generation into system operations. Interwest believes that regularly scheduled
15 RFPs are an effective and viable method for renewable energy procurement at
16 the best price.
17

18 Q. DO YOU BELIEVE, AS APS DOES, THAT THE PROPER FORM FOR
19 ADDRESSING RENEWABLE ENERGY IS THE R.E.S.T. RULEMAKING?
20

21 The rulemaking process is only one of the appropriate places to deal with
22 renewable energy. The REST is important to provide long-term policy
23 direction for regulated utilities. But, the REST is still a draft rule, and not a
24 final regulation requiring action.
25

26 Current market conditions, such as high and fluctuating natural gas prices,
27 warrant that stable priced renewable energy resources be considered in this
28 rate case as well. Renewable energy resources, purchased in greater amounts,
29 will mitigate some of the current and expected negative fiscal impacts on
30 ratepayers. Not requiring the purchase of renewable energy will further
31 increase ratepayer risks to volatile gas prices. This risk and exposure will
32 increase in the short term as the utility will likely meet load growth for the
33 next few years with more natural gas-fired generation.
34

35 Q. DO YOU HAVE ANY FINAL COMMENTS?
36

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

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

5
6 For coal, pressure is mounting to begin controlling carbon emissions. Carbon
7 regulation could add significantly to the cost of new coal generation. Some
8 utilities add a carbon cost to fossil fuels. For example, in evaluating the costs
9 of new resources in its most recent RFP, Public Service Company of Colorado
10 is assessing all CO₂-emitting resources an imputed cost of \$9/ton of CO₂ for
11 bid evaluation purposes. The imposition of the imputed CO₂ cost will begin in
12 2010 (escalating at 2.5% per year). Coal will also be subject to transportation
13 constraints due to lack of available railroad track capacity and cars to meet
14 growth, and will be controversial in the West due to its large consumptive
15 water use.

16
17 Interwest believes it is in the best interest of the ratepayer for the Commission
18 to carefully consider the risks and costs that consumers may have to pay to
19 maintain our reliance on fossil fuel. Renewable energy resources do not suffer
20 from many of the pricing and environmental uncertainties that might affect the
21 costs and availability of fossil fuels moving forward. A systematic and
22 modest procurement of renewable energy will ease the transition into a more
23 diverse and cost-stable energy future for Arizona's ratepayers.
24
25