

AVU-E-05-08

**Comments of the Renewable Northwest Project and the NW Energy Coalition  
on Avista's 2005 Integrated Resource Plan**

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The NW Energy Coalition and Renewable Northwest Project are pleased to provide comments about Avista's 2005 Electric Integrated Resource Plan. Avista has conducted a robust analysis that led to significant positive changes in its Preferred Resource Strategy (PRS) when compared with its 2003 Plan. We regret not being able to participate more fully in this IRP process and appreciate the opportunity to provide these comments.

We are pleased to see Avista's plans to increase its conservation acquisition, exceeding its share of the region's efficiency potential identified by the Northwest Power and Conservation Council. And we are thrilled that the PRS identifies 650 MW of wind and 180 MW of other renewables to be acquired over the planning period instead of complete reliance on coal and gas to meet new resource needs as envisioned in the Company's 2003 Plan. Our comments regarding this plan focus on Avista's analysis of energy efficiency, renewable energy, coal, and greenhouse gas emissions.

**Energy Efficiency**

Avista demonstrated the proficiency and resolve of its conservation staff during the 2000-2001 energy crisis. Since then, in its effort to pay back "overexpenditures," the Company has relied heavily on low cost / no cost methods for meeting its tariff goals, while recognizing that these are not sustainable over the long-term. We are pleased to see the Company's plan to ramp up its efforts as it transitions to its 2006 conservation business plan.

We support the current IRP's recognition of energy efficiency as a resource rather than a decrement to load (Table 2.6). We have advocated for this modification in previous utility planning documents.

Section 6.4 refers to an analysis conducted by the Company to quantify costs if Avista doubled its conservation acquisition levels, with the result that program costs would rise to 2.5 times the PRS level. We recommend using a more robust analysis in the next IRP to show whether accelerating energy efficiency acquisitions at varying times through the planning period would affect cost and risk. In its Fifth Plan, the Northwest Power and Conservation Council found that higher levels of efficiency development in the earlier years of the planning period are justified. Earlier conservation development allows decisions regarding generating resources to be deferred -- decisions that bear relatively greater risks given the uncertainties the region faces. In its 2003 and 2005 IRPs, Puget Sound Energy found that accelerating the acquisition of energy efficiency reduces both cost and risk when compared to pursuing efficiency in equal annual amounts. Further, accelerated efficiency combined with fuel conversion resulted in the lowest cost portfolio.

Finally, an explicit analysis showing the potential savings and costs due to converting from electric energy to high efficiency gas would be valuable in the next IRP. And we look forward to seeing the results of the Company's assessment of load-shifting programs referenced in its 2005 Action Plan.

### **Wind & Other Renewables**

Avista is to be commended for the depth of its renewables analysis in this IRP. The focus on wind modeling combined with the "real world" experience gained from the Stateline contract has resulted in a comprehensive examination of renewables for Avista's system and a robust plan for acquiring significant new renewable resources to serve customers. We focused our comments on a few key aspects of the Company's analysis.

#### **Wind Contribution to Peak**

We agree with the Company that this IRP benefits from significant wind modeling enhancements, such as the use of hourly wind speed data from different sites in the Northwest. By using a mix of data from scattered sites, the Company concludes that wind has a capacity value of approximately 25 percent. And that value is then rightly used to evaluate wind's contribution to meeting system peaks. This is a significant improvement over the last IRP when wind was assigned a zero capacity value.

#### **Early Acquisition**

The IRP notes that acquisition of wind may begin as early as 2007 to help ensure the Company is able to acquire smaller portions of geographically diverse projects, even though the Company's energy and capacity deficits do not commence until 2010 and 2009 respectively. We encourage Avista to move forward with these advance acquisitions. The federal PTC has just been extended in the energy bill until the end of 2007. We predict this will mean substantial new development in the region, giving the Company access to a wide variety of viable projects over the next 2+ years.

#### **Tier 1 & Tier 2**

The IRP assumes two tiers of wind development in the Northwest. Tier 1 equals 33% capacity factor in the Northwest and 35% in eastern Montana.<sup>1</sup> (We note that the Judith Gap project purchased by Northwestern Energy and currently under construction has a 37% capacity factor, a level we think could be modest for Montana wind sites). Tier 2 is assumed to have a lower capacity factor, 80% of Tier 1 levels.

The IRP further assumes that new transmission is required for Oregon and Washington wind projects beyond the first 1,000 MWs. However, based on a recent announcement by BPA, additional transmission may be available for wind projects in the region. BPA approved changes to the methodology they use to calculate the transmission capacity available on their system

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<sup>1</sup> There's a discrepancy in the text about capacity factor between pages 5-25 and 5-32, The first refers to a range of 33-37% for Tier 1, while the second refers to 33% in the northwest and 35% in eastern Montana.

(ATC). ATC has increased on all eight flowgates listed. Some flowgates that should be significant for increased development of wind resources in the Eastern part of Washington and Oregon are:

West of McNary increased 330 MW  
West of Slatt increased 501 MW  
Allston-Keeler increased 304 MW  
Paul-Allston increased 106 MW

We believe this new ATC means that there are likely more than 1,000 MWs of new wind projects in the region that do not require new transmission. In addition, to the extent new transmission provides access to additional wind projects in Montana, we would think the capacity factors for Tier 2 sites would be higher than Tier 1, not lower.

#### Integration Costs

We appreciate the Company's study of integration costs and the conclusion that 650 MWs of wind can be integrated cost-effectively. The IRP relies on the integration costs from the NPCC -- \$4.50/MWh for Tier 1 and \$9.00 for Tier 2. The integration costs assumed in the IRP may be on the higher end given other analysis done in the region. We therefore reiterate our earlier recommendation to accelerate plans for acquiring wind and other renewables. We believe additional direct experience integrating these resources is the best way to further refine integration costs.

A growing consensus has emerged around the range of costs for wind integration. A large number of utilities and academics have studied wind integration and these studies have concluded that the costs of wind integration are in the range of \$1.50-\$5.50/MWh. The differences in the studies are attributable to the various levels of installed wind generation, the size and diversity of the different utility systems under examination, and the cost of load following and regulating reserves in different regions of the country. The conclusion of the various analyses and system impact studies has been consistent, namely that there are costs associated with wind integration but those costs are relatively small, they are system-specific, and they depend on the amount of wind generation within a utility's overall system. See Charles J. Smith, Edgar DeMeo, Brian Parsons, Michael Milligan, *Wind Power Impacts on Electric Power System Operating Costs: Summary and Perspective on Work to Date*.

NW Energy Coalition and RNP are co-intervenors in IPC-E-05-22, the Idaho Power PURPA wind suspension case, and have been actively involved along with our counsel, William Eddie of Advocates for the West, in discussions of wind integration issues with Idaho utilities. It is our hope that the pending studies in that case will help inform the integration cost issues in the present case as well.

#### Diversity of Resources

The IRP recognizes that distributed generation resources such as small-scale solar could be a vital part of an energy future but were not modeled in this analysis. When Avista begins its search for resources, we recommend an RFP or section of an RFP dedicated to soliciting proposals for small-scale (e.g., up to 25 MW) clean distributed generation opportunities. While

small-scale projects alone can not meet Avista's need for resources, they provide an excellent opportunity to further diversify the utility's resource portfolio and address transmission constraints.

We are pleased to see the utility's model selected landfill and manure biomass in many of the portfolios, and that the preferred resource strategy includes 180 MW of non-wind renewables by the end of the IRP timeframe. These additional resources will help diversify Avista's mix, further contributing to rate stability.

### 2005 Action Plan

We appreciate the Company's plan to assess wind and biomass potential within its service territory. Exploring local opportunities can help alleviate transmission concerns and while providing economic development benefits within the utility's service territory.

### Coal and Global Warming Emissions

The preferred resource strategy includes 450 MW of coal additions through 2026. The IRP modeled traditional pulverized plants, IGCC plants and IGCC with carbon sequestration. Given that a new coal plant will likely operate for no less than 40 years, the commitment to a coal resource has enormous long-term implications for the Company, its customers and the environment.

At the very least, we recommend delaying any commitment to a new coal plant until further research into IGCC and sequestration is undertaken (something we are pleased to see in the 2005 Action Plan). While IGCC plants with sequestration present some technology risks today, that could change over the next few years. Avista should not commit to a traditional pulverized unit when IGCC with carbon sequestration could be a viable option in the next decade.

The Company is right to recognize that "some form of GHG emissions regulation will occur at some point in the future" and the IRP benefits greatly by the analysis of the McCain-Lieberman legislation and the NCEP recommendations. But we believe the analysis is deficient for not including a carbon tax adder in the Base Case. We believe, at this point, that a carbon adder is the best proxy for anticipating the impact of future carbon regulation. Other utilities in the region rely on an adder in their IRP base case. PacifiCorp uses around an \$8/ton adder and Idaho Power included an adder of \$12.30/ton in its most recent IRP. We note too the April 7, 2005 California Public Utilities Commission Order which adopted imputed costs for CO<sub>2</sub> emissions to be used by the utilities as the "greenhouse gas adder" in long-term planning and procurement. (See CPUC Decision 05-04-024, Conclusion of Law 7.) These are: a net present value of \$8 per ton CO<sub>2</sub>, based on a cost stream of \$5 per ton CO<sub>2</sub> in the near term, \$12.50/ton by 2008, and \$17.50/ton by 2013. These imputed costs were developed by the Rocky Mountain Institute and Energy and Environmental Economics (E3) as part of the new avoided costs for use in evaluating energy efficiency programs. (See [http://www.ethree.com/cpuc\\_avoidedcosts.html](http://www.ethree.com/cpuc_avoidedcosts.html).)

Further, potential risks of a new coal resource outside of operational risk are not quantified within the IRP. Assessments of coal as an energy resource should consider the human health and environmental impacts of extraction, transportation and generation of power. According to the Union of Concerned Scientists, a traditional 500-megawatt coal plant annually emits 10,000 tons of acid rain-causing sulfur dioxide, 10,200 tons of smog-producing nitrogen oxide and 3.7 million tons of climate-changing carbon dioxide. Other pollutants emitted by coal burning include carbon monoxide, mercury, arsenic, airborne particulates, toxic heavy metals and trace amounts of uranium. The IRP should include a qualitative analysis of these risks as a first step toward better addressing externalities.

We urge the Company to also evaluate the risk associated with transport of coal, if a new project is not mine mouth. On July 1, a story ran on the Reuters news service out of New York which tells of the woes of rail service nationally and the fact that service is down 20% out of the Powder River Basin in Wyoming. The story says coal prices are likely to go up and the limits on delivery will push utilities into the power market and reduce output at their coal projects. PacifiCorp and Idaho Power have had great difficulty with their rail service provider for the Valmy coal plant in northern Nevada, such that they have been trucking coal to the plant off and on for the past two years, at tremendous additional cost to ratepayers.

The Company's preferred portfolio is designed in part to insulate customers from price volatility by avoiding reliance on natural gas plants and market purchases. Increasing coal in the Company's portfolio will lead to increased greenhouse gas emissions, which ultimately will yield the most volatility for customers in the form of global warming. In modeling the potential effects of the McCain-Lieberman bill, the draft IRP notes that "lowering emission levels across the Western Interconnect will come at a high cost to customers." In our view, not lowering emissions will come at an even higher cost. The Climate Impacts Group at the University of Washington says global warming could lead to a nearly 60-percent loss of Northwest snow pack in 50 years, fundamentally altering the natural-resource cycle that sustains this region. Less snow results in reduced spring and summer river flow for hydropower production, agriculture, fishing, and recreation.

Finally, we understand the rationale for assuming the PTC is terminated when federal carbon legislation is enacted. But we ask that this assumption be reevaluated in the next IRP. An ongoing financial incentive to invest in clean energy resources is not necessarily mutually exclusive with a federal requirement to limit emissions.

### **Other**

1) The Preferred Resource Strategy meets more than half of load growth with conservation, wind, and other renewables. We would like to see an analysis in the next IRP showing the cost and risk of one or more portfolios that meet Avista's entire load growth with energy efficiency and new renewable resources – this could be added to the section concerning alternative portfolio strategies.

2) Figure 6.9 compares resource costs and risks in a single graphic. A graphic that portrays nuclear power as low cost and low risk is puzzling. The introductory text recognizes that the

figure addresses only operational risks from changing fuel and market prices and does not account for other costs and risks. While we understand not including potential cost overruns for new coal or nuclear plants in the comparison, it is difficult to accept ignoring disposal of nuclear waste – or all of the safety-related costs and risks associated with this technology.