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DONOVAN E. WALKER  
DEPUTY ATTORNEY GENERAL  
IDAHO PUBLIC UTILITIES COMMISSION  
PO BOX 83720  
BOISE, IDAHO 83720-0074  
(208) 334-0357  
IDAHO BAR NO. 5921

Street Address for Express Mail:  
472 W. WASHINGTON  
BOISE, ID 83702-5983

Attorney for the Commission Staff

**BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION**

**IN THE MATTER OF AVISTA CORPORATION )**  
**DBA AVISTA UTILITIES' 2005 INTEGRATED )** **CASE NO. AVU-E-05-8**  
**RESOURCE PLAN (IRP). )**  
**)** **COMMENTS OF THE**  
**)** **COMMISSION STAFF**  
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The Staff of the Idaho Public Utilities Commission, by and through its Attorney of record, Donovan E. Walker, Deputy Attorney General, respectfully submits the following comments in response to Order No. 29887, issued on October 6, 2005.

**BACKGROUND**

On September 1, 2005, Avista Utilities (Avista, Company) filed its 2005 Electric Integrated Resource Plan (IRP) with the Idaho Public Utilities Commission (Commission) pursuant to Order No. 22299. This is the Company's ninth Integrated Resource Plan. The Commission requires regulated electric utilities to file an IRP every two years that projects future load requirements and explains how the Company plans to deliver low-cost, reliable energy to its customers.

## **ANALYSIS**

### **Public Process**

Avista's 2005 IRP was developed with the participation of its Technical Advisory Committee (TAC). TAC members include customers, Commission Staff, consumer advocates, academics, utility peers, government agencies and other interested parties. The Company sponsored seven TAC meetings, which were held between October 23, 2003 and June 23, 2005. Each meeting focused on specific planning topics, reviewed the status and progress of planning activities, and solicited ongoing input as the IRP was developed.

Staff actively participated throughout the process. Moreover, Staff was in close contact with Avista throughout the IRP process and provided its opinions and input. Staff thoroughly reviewed the draft IRP and provided extensive comments. The Company satisfactorily addressed Staff's comments in preparing the final IRP document.

Although participation in the 2005 IRP process was improved over previous plans, it continues to be difficult to achieve full participation from a broad cross section of customers and interest groups. Staff suggests that in future IRPs, Avista try making direct invitations to key customers, customer group representatives, environmental organizations, and others to attempt to obtain a more comprehensive and balanced representation on the Technical Advisory Committee.

### **Load Forecast**

Avista predicts its electricity sales to grow 2.1 percent annually through 2026. Absent new generation, energy deficits would begin in 2010 with loads exceeding resource capability by 40 aMW. Energy deficits rise to 360 aMW in 2016 and 640 aMW in 2026. Load growth and expiration of some long-term contracts account for the significant majority of increasing deficits during this period. As a general guideline, the annual energy position is used to determine when the Company needs to acquire additional base-load energy resources.

On a monthly basis, Avista expects to encounter energy deficits during some months in all years of the forecast. In 2007, for example, the Company position is deficit in January, March, August, September, October, and December even though the annual position is surplus by 82 aMW. In other months, particularly during spring runoff, Avista is in a surplus position. As usual, the Company plans to balance its monthly positions through short-term market purchases or sales, exchanges or other arrangements. However, over the long term, the

Company's strategy is not to rely on long-term market purchases to serve future base load requirements.

Avista currently has sufficient capacity resources, due primarily to the relatively large amount of hydroelectric generation in its resource portfolio. However, capacity deficits begin in 2009 with the Company being short by 5 MW. Capacity deficits grow to 508 MW in 2016 and 901 MW by the end of the study in 2026. For the most part, future capacity requirements will be met through the acquisition of new resources, which provide both capacity and energy.

Avista's capacity and energy positions are summarized in the table below.

Year	Energy Position (aMW)	Capacity Position (MW)
2007	82	118
2008	50	71
2009	12	-5
2010	-40	-75
2011	-157	-256
2016	-360	-508
2021	-491	-673
2026	-640	-901

Avista has added 35 MW of wind generation, 140 MW of gas-fired generation and 8 MW of conservation to its portfolio since the 2003 IRP.

Staff believes that the load forecast prepared and used by Avista for its 2005 IRP is reasonable. In addition to considering a base case forecast, "high" and "low" economic forecasts were also prepared to evaluate plausible changes in load due to population change within the Company's existing service area.

### **Planning Reserve**

Planning reserves accommodate situations at times when loads exceed expectations because of adverse weather, forced outages, poor water conditions or other contingencies. Historically, Avista's planning reserves have not been based on generating unit size or resource type. Instead, planning reserves have been set at a level equal to ten percent of the one-hour system peak load, plus 90 MW. Together, these have equated to approximately a 15 percent planning reserve margin during the Company's peak hour load.

In addition to considering a simple planning reserve, Avista also considers what it calls “confidence interval planning.” The Company uses a 90 percent confidence interval based on the monthly variability of load and hydroelectric generation. This results in a ten percent chance of the combined load and hydro variability exceeding the planned criteria for each month. In other words, there is a ten percent chance the Company would need to purchase energy from the market in any given month. This level is similar to critical water planning on an annual basis but is more precise, because it is based on the monthly chance of exceedance rather than an annual figure.

In the 2005 IRP process, Avista also began studying “sustained peaking capacity,” which is a tabulation of loads and resources over a period exceeding the traditional one-hour definition. It is also a measure of reliability and recognizes that peak loads do not stress the system for just one hour. Further study of this planning concept may be warranted in future IRPs because Staff believes that 90 percent confidence interval planning could be overly conservative. Further analysis of sustained peaking capacity should help the Company to better evaluate the adequacy of its planned capacity resources.

### **Demand Side Management**

The 2005 IRP supports increasing conservation acquisitions from approximately 4.6 aMW per year to 6.9 aMW per year. This equals a nearly 50 percent increase from the 2003 IRP, due primarily to higher avoided cost estimates used in the analysis. As in previous IRPs, Avista included a 10 percent adder over generation-based acquisition to reflect transmission and distribution savings and the risk reduction values inherent in conservation resources. On a cumulative basis, the acquisition of conservation will offset 69 aMW of new generation by 2016, and in 2026 customer loads are estimated to be 138 aMW lower due to conservation efforts. Meeting these ambitious conservation targets will require increasing the incentives available, which will necessitate increases in conservation program funding. In addition to the recently approved increase in the DSM tariff rider, the Company anticipates periodic future increases in the tariff rider.

A significant change to the methodology used in the 2005 IRP was the use of a 20-year hourly-avoided cost price signal. This required the development of unique hourly load shapes for each conservation measure. This also allowed for analysis of load-shifting opportunities.

Analyses for the 2005 IRP found potential savings in all customer sectors. However, the increases over the 2003 IRP levels were derived mostly from additional efforts in the industrial sector, with some increases in the commercial sector, and the residential sector remaining relatively stable. The Company expects to acquire this resource through both utility-sponsored programs and programs acquired on its behalf by third parties through a request for proposal (RFP) process. The Company would also continue its support for regional efforts, such as the Northwest Energy Efficiency Alliance. Avista expects to release an initial RFP for conservation resources following Commission acknowledgement of the plan.

Staff finds the methodology and analysis used by the Company in its analysis of conservation potential and resources to be thorough and comprehensive. As is customary for efforts looking into the future, the analysis of the various measures relies upon numerous assumptions. Staff generally finds the assumptions used by the Company to be reasonable and appropriate. The Company actively sought outside review throughout the process, involving interested parties from the conservation industry as well as the parties upon whom the conservation measures would be performed. Staff from both the Idaho and Washington Commissions, as well as other state agencies with interest in conservation provided input during the analysis.

### **Preferred Resource Strategy**

Avista's Preferred Resource Strategy (PRS) represents the Company's planned mix of new resources over the 20-year IRP planning horizon. The PRS primarily includes wind generation, coal-fired generation, and other small renewables. It also contains upgrades to existing Avista generating plants and a significant increase in conservation acquisition from today's levels. Significantly, the PRS does not recommend additional natural gas-fired generation due to the high level of gas-fired generation already in the Company's portfolio, the high price of natural gas, and the resource's tendency to introduce additional volatility into the Company's portfolio. The capacity additions included in the PRS are shown in the table below.

**Preferred Resource Strategy Cumulative Capacity Additions (MW)**

PRS Resources	2007	2008	2009	2010	2011	2016	2021	2026
New Conservation	2	5	7	9	12	23	35	46
Plant Upgrades	20	34	41	52	52	52	52	52
Wind <sup>1</sup>	0	0	0	19	50	100	138	163
Other Renewables	0	0	0	0	20	80	120	180
Coal	0	0	0	0	0	250	350	450
Market	0	0	0	0	125	25	0	25
<b>Total PRS Resources</b>	<b>22</b>	<b>39</b>	<b>48</b>	<b>80</b>	<b>259</b>	<b>530</b>	<b>694</b>	<b>916</b>

<sup>1</sup>Wind is presented as its contribution to meeting system peak. The IRP assumes a peak contribution for wind of 25 percent. For example, the 100 MW value shown in 2016 equals 400 MW (400 x 25% = 100 MW).

Cumulatively, the PRS in 2016 consists of a total installed capacity of 400 MW of wind, 250 MW of coal, and 80 MW of other small renewables. Resource requirements are 69 MW lower because of conservation and 52 MW lower because of efficiency upgrades to existing generating plants. By 2026, Avista plans to have added a total of 1,332 MW of new capacity, which would be comprised of 650 MW of wind, 450 MW of coal, 180 MW of other renewables and 52 MW of plant efficiency upgrades. Needs would be 138 MW lower because of conservation programs.

**Differences from the 2003 IRP**

The 2005 PRS mix differs significantly from the resource mix chosen in the 2003 IRP as shown in the table below.

**Comparison between 2003 to 2005 IRPs**

Time Period	Resource Type	2003 IRP	2005 IRP
2007-2016	Coal	350	215
	Wind	25	122
	Gas	178	121
	Other Renewables	0	65
	Conservation and Plant Upgrades	46	105
2007-2026	Coal	770	388
	Wind	25	188
	Gas	178	121
	Other Renewables	0	145
	Conservation and Plant Upgrades	92	174

One of the most significant differences between the 2003 and 2005 plans is the replacement of a significant portion of the coal-fired generation with wind and other renewable resource projects. The 2003 IRP called for only 25 MW of installed wind and much more coal capacity. The 2005 plan commits to reducing greenhouse gas emissions by building significantly more renewable resources than recommended in the 2003 IRP. Although not assumed in the base case, national studies and proposed legislation for a federal carbon tax point to risks in relying too heavily on coal-fired power.

Several factors explain the other differences between the 2003 IRP and the 2005 plan. First, the acquisition of the second half of Coyote Springs 2 in January 2005 brought 140 MW of natural gas-fired combined cycle combustion generation into the Company's portfolio. That purchase fulfilled much of the 2003 IRP gas goal displayed in the table. Second, higher forecasted natural gas and electricity prices have allowed resources that previously were uncompetitive, namely wind and other renewable resources, to now become competitive. In addition, wind integration studies and actual experience with integrating wind into the Company's system lead Avista to believe that it can rely more heavily on this resource.

### **Avista's Planning Assumptions**

Results of the 2005 IRP analysis indicate that substantial amounts of wind would be cost-effective within certain limits. However, Avista limited the amounts of wind its planning model could choose to 400 MW in 2016 and 650 MW in 2026. The limitation reflects Company agreement with the Northwest Power and Conservation Council (NPCC) that a limited amount of economically viable wind potential exists in the Northwest. The NPCC estimates Northwest wind potential to be 5000 MW. Avista serves approximately five percent of Northwest loads, so the prorated Company share is 250 MW. Therefore, the 650 MW target by 2026 is substantially higher than the Company's share of Northwest wind potential. Staff believes that it is reasonable to limit the overall level of wind energy within Avista's resource portfolio.

Avista also limited the amounts of coal its planning model could choose to 250 MW in 2016 and 550 MW in 2026. Limits on more coal-fired power reflect the Company's concerns about the risks of future carbon tax legislation and efforts to diversify its generation portfolio. Avista currently relies on coal-fired generation to meet 18 percent of its needs, with 225 MW of capacity and 185 aMW of energy. The PRS contains 250 MW of coal-fired generation entering service in 2016. In 2026, coal-fired generation equates to 450 MW, or 30 percent of the

Company's new requirements. Staff believes that coal is a reasonable element of the PRS, but believes also that it is wise to limit its contribution.

The IRP accounts for transmission costs necessary to bring distant generation sources into the Northwest (e.g., Montana coal and wind). To account for new transmission construction, the capital and operating costs of the new transmission are appropriately added to the costs of new generation resources.

The gas price forecast used by Avista in the IRP was developed in April 2005. It uses a blend of NYMEX forward prices and Global Insight Inc.'s Gas Escalation Forecast. NYMEX monthly forward prices for Henry Hub were obtained on April 6, 2005, for 2007 through 2010. Global Insight's escalation rates are used from 2011 through the duration of the forecast period. Staff acknowledges that gas prices have changed dramatically in the past year, and recognizes how sensitive the analysis of resource alternatives can be to gas price. Nevertheless, while the most up to date forecast is desirable, Staff recognizes the practical necessity of locking in assumptions during the analysis process. To the extent that Avista's gas forecast proves inaccurate, Staff believes that the risk analysis performed by the Company adequately captures reasonable fuel price variation.

Avista assumed that the federal tax credit for renewables would persist throughout the 20-year IRP timeframe, except in carbon tax scenarios where the credit terminates. Although the Production Tax Credit (PTC) might eventually be eliminated or modified, Avista believes that the PTC is a good alternative to a carbon-based fee, and it likely will remain absent carbon legislation. Staff believes that federal production tax credits are unlikely over the entire 20-year planning horizon, but that some type of carbon tax is likely. Thus, Staff believes Avista's assumptions are reasonable.

### **Risk Analysis**

Avista made considerable analytical effort to evaluate the Preferred Resource Strategy against several alternative strategies under various scenarios of load, hydro, wind and natural gas prices. Overall, the Preferred Resource Strategy performed well, both in the Base Case and under numerous scenarios. The chosen combination of resources provides for a significant reduction of risk at a very modest impact to expected costs. The 2003 IRP Preferred Resource Strategy was based predominantly on a mix of resources defined by weighting cost and risk at 50



percent each. Staff concurs that the Preferred Resource Strategy selected by the Company is superior to the other resource strategies considered in the IRP.

### **Resource Acquisition**

Though aggressive, Avista believes its target to acquire 400 MW of wind by 2016 and 650 MW by the end of 2026 can be achieved. The Company assumes that it will acquire 150 MW of wind within its service territory, 250 MW of Northwest regional wind generation outside of its service territory, and that another 250 MW of wind generation will be available from outside the Northwest (e.g., eastern Montana or Wyoming). Further, Avista believes that taking modest ownership shares in multiple wind projects will benefit its customers by reducing the generation variability within its wind portfolio. This reduction in variability, the Company believes, will lower integration costs, provide a higher level of dependable capacity, and help lower power supply expense volatility.

To acquire a 400 MW portfolio of diversified wind generation assets by 2016, Avista suggests it may begin acquiring this resource as early as 2007. The early start date reflects the Company's belief that acquiring 400 MW of wind from multiple projects over a five-year period beginning in 2010 may not be possible. While this acquisition schedule might bring new generation into the portfolio slightly ahead of new load requirements, Avista believes that the level should be modest and within an historical range of reasonable utility surplus.

New coal is forecast to enter the Company's portfolio in the 2012-15 timeframe at an initial level of 250 MW. Similar to the Company's assumptions around wind and renewable resources, Avista believes that bringing new coal-fired resources into its portfolio by 2012 will be a challenge. Lead times for green field coal development range between seven and ten years. Some time might be shaved off of this estimate were the Company to join with partners in a project already under way. The Company will have to remain flexible when acquiring this resource given the need to work with partners to gain necessary economies of scale.

Staff supports the resource choice in Avista's PRS, but has some concern over whether all of the planned resources can be acquired. For example, much of the wind and coal generation must come from outside of Avista's service territory. This will require transmission additions over which Avista will not have complete control. If the renewables cannot be acquired, and because coal has such a long lead time, the default position may be to build more gas-fired generation, none of which is included in Avista's plans due to high and extremely volatile gas

prices. Even the Company believes that acquiring the amount of wind and biomass included in the PRS will be challenging, especially in light of its preference to acquire smaller portions of geographically diverse projects.

### **Transmission**

A portion of the Preferred Resources Strategy likely requires construction of a combination of new and upgraded transmission capacity to integrate some new generation plants. For example, existing transmission lines out of eastern regions in the Western Interconnect to the Northwest do not have adequate capacity to integrate large coal or wind plant developments. Therefore, acquiring additional transmission is critical to Avista's plans. Without new transmission, the Company's future resource portfolio likely will be different than presented in its 2005 IRP. Consequently, Staff recommends that the Company continue to work with regional entities and other utilities to identify low cost solutions to move power across the Northwest.

In the 2005 IRP, Avista discusses some of the more significant transmission and substation upgrade projects that have either been recently completed, are currently in progress, or are planned for the future. Such projects are necessary to meet capacity requirements, upgrade protective relaying systems, and to meet regional and national reliability standards. Because transmission is so crucial to the Company's obligation to meet future loads, Staff believes that the transmission planning discussion in the IRP is absolutely necessary to fully evaluate future resource alternatives.

### **Action Plan Items**

Avista's IRP contains a review of the 2003 IRP Action Plan including how the Company addressed each item in the 2003 plan. The IRP also contains the Company's Action Plan for 2005. Significant 2005 Action Plan items are listed below.

#### ***Demand Side Management***

1. Review the potential for cost-effective load shifting programs using hourly market prices.
2. Complete the conservation control project currently underway as part of the Northwest Energy Efficiency Initiative for future evaluation as a potential conservation resource.

### ***Supply Side Resource Options***

1. Commission a study to assess wind potential in Avista's service territory.
2. Continue to monitor emissions legislation and its potential effects on markets and the Company.
3. Research clean coal technology and carbon sequestration.
4. Assess biomass potential within and outside Avista's service territory.
5. Continue to study various coal plant locations, including local sites.
6. Work to maintain/retain existing transmission rights on the Company's transmission system, under applicable FERC policies, for transmission service to bundled retail native load.
7. Continue involvement in BPA transmission business practice processes and rate proceedings to minimize costs of integrating existing resources outside of the Company's service area.
8. Continue participation in regional and sub-regional efforts to establish new regional transmission structures (Grid West and TIG) to facilitate long-term expansion of the regional transmission system.
9. Evaluate costs to integrate new resources across Avista's service territory and from regions outside of the Northwest.

The 2005 Action Plan, Staff believes, is a reasonable set of actions that will allow Avista to continue to meet its load obligations cost effectively, while also supporting the preferred resource strategy identified in the IRP and improving the planning process going forward.

### **STAFF RECOMMENDATIONS**

In summary, Avista has no immediate need for additional long-term resources. In fact, the Company does not anticipate a deficit in capacity until 2009. Furthermore, the Company does not anticipate a significant deficit in annual energy until 2010. The Company believes it is prepared, even under low water conditions, to sufficiently meet retail loads through at least 2009 while still maintaining adequate reserve margins.

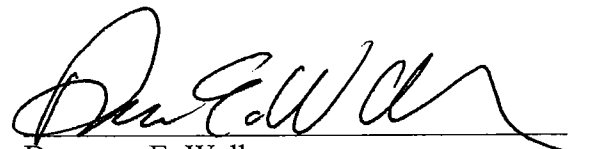
However, while there are no needs for new resources until 2009, Staff believes that Avista should be mindful of the long lead time associated with development of some resource types, particularly coal with its transmission/coal transport requirements. In its next IRP, Staff

recommends greater analysis of site-specific, rather than generic, resource alternatives. Staff believes it would be wise for Avista to closely follow advances in clean coal technology despite its current higher costs, and to explore the potential for joint projects with other regional utilities that also have plans for future coal-fired generation. In addition, Staff recommends that in future IRPs the Company attempt to consider the year-to-year rate volatility that would be caused by various possible portfolios. Portfolios that may have the least cost, least risk over the long term could be quite volatile in the short term. Customers are finding it increasingly difficult to cope with large annual power cost adjustments.

Staff believes that Avista has done a good job in assessing its load-resource conditions, incorporating demand-side management, evaluating new resource alternatives, analyzing risk, and in selecting a reasonable portfolio of new resources. However, Staff believes it is important to recognize that new resource additions are not needed for several years. Consequently, the quantity and mix of Avista's resource selections will likely change in future IRPs as conditions change, fuel prices become more certain, and technology advances.

Staff recommends that Avista's 2005 IRP be accepted and acknowledged.

Respectfully submitted this *18th* day of November 2005.



Donovan E. Walker  
Deputy Attorney General

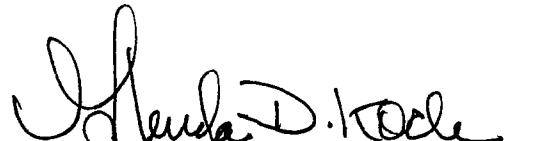
Technical Staff: Rick Sterling  
Lynn Anderson  
Wayne Hart

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## CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 18TH DAY OF NOVEMBER 2005, SERVED THE FOREGOING **COMMENTS OF THE COMMISSION STAFF**, IN CASE NO. AVU-E-05-8, BY MAILING A COPY THEREOF, POSTAGE PREPAID, TO THE FOLLOWING:

CLINT KALICH MANAGER  
RESOURCE PLANNING  
AVISTA CORPORATION  
PO BOX 3727  
SPOKANE, WA 99220-3727  
E-MAIL: [clintkalich@avistacorp.com](mailto:clintkalich@avistacorp.com)

  
SECRETARY