BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION
DOCKET NO. LET. 05
DOCKET NO. UE-05
EXHIBIT No(RRP-2)
RONALD R. PETERSON
REPRESENTING AVISTA CORPORATION

AVISTA'S RESOURCE PLANNING AND POWER OPERATIONS

Company-Owned Resources

The Company owns and operates two hydroelectric projects on the Clark Fork River, and six hydroelectric projects on the Spokane River. These projects are listed below, along with the number of generating units at each project, the dependable capacity of each project.

Hydroelectric Projects Capacity Summary

Generating Project	<u>Units</u>	Dependable Capacity (MW)
Clark Fork River		` ,
Noxon Rapids	5	527
Cabinet Gorge	<u>4</u> 9	<u>261</u>
Subtotal	9	<i>788</i>
Spokane River		
Post Falls	6	18
Upper Falls	1	10
Monroe Street	1	15
Nine Mile	4	25
Long Lake	4	88
Little Falls	<u>4</u>	<u>36</u>
Subtotal	<u>20</u>	<u>192</u>
Total Hydro	29	980

The estimated amount of hydroelectric energy production from the Clark Fork River system projects and Spokane River system projects under both average (normal) streamflow conditions and "critical" streamflow conditions are listed in the following table.

	Hydroelectric	Projects	Energy	Summary
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Generating <u>Project</u>	Average <u>Water</u> ¹ (aMW)	Critical <u>Water</u> ² (aMW)
Clark Fork River Subtotal	318	207
Spokane River Subtotal	<u>122</u>	<u>98</u>
Total Hydro	440	305

In addition, the Company owns or leases six thermal generating projects. Those projects are listed below, including the number of generating units, primary fuel, dependable capacity and estimated amount of energy generated based upon maximum operation with reductions to reflect maintenance outages, emissions operating limits, and unplanned outages

Thermal Projects Summary - 2006

Generating		Primary		
Project	<u>Units</u>	<u>Fuel</u>	Capacity (MW)	Energy (aMW)
Colstrip ³	2	Coal	222	184
Kettle Falls ⁴	1	Wood waste	53	42
Kettle Falls CT ⁵	1	Gas	7	6
Rathdrum ⁶	2	Gas	176	132
Northeast ⁷	2	Gas	67	10
Coyote Springs 2 ⁸ Boulder Park ⁹	1	Gas	285	243
Boulder Park ⁹	<u>6</u>	Gas	<u>25</u>	<u>23</u>
Total Thermal	15		835	640

¹ Based on NWPP 2003-04 60-year (1928-88) continuous study, revised per Kalich testimony.

² Based on NWPP 2003-04 Final Regulation study, which includes reductions in Clark Fork project capacity due to Hungry Horse draft of storage prior to the Nov. 02-Apr. 03 critical period.

³ Avista owns 15% of Units 3 and 4, which are operated by PP&L Montana.

⁴ Kettle Falls is owned and operated by Avista Utilities.

⁵ Kettle Falls CT is a natural gas turbine that was installed at the site of the existing wood waste project. High temperature exhaust from the CT is used to produce steam in a boiler. The CT boiler steam is added to the steam from the wood-waste boiler in the main plant to increase output.

[§] Rathdrum was constructed by Avista, but is leased through a sale and lease-back arrangement. Avista operates the project. Air

emission restrictions currently limit each unit's operation to 8,424 hours per year per unit.

Northeast is owned and operated by Avista. Air emission restrictions currently limit each unit's operation to 1700 hours per year. The units are to only operate on natural gas fuel and must operate at 100% output capability.

⁸ Avista owns the Coyote Springs 2 combined-cycle combustion turbine project, including the duct burner. Avista has contracted with PGE to operate the plant.

⁹ Boulder Park is owned and operated by Avista Utilities.

Retail Electric Load Forecast

Each year the Company prepares a ten-year electric retail load forecast. The forecast includes the Company's needs for both energy and capacity to serve its retail load requirements. In developing the retail load forecast, the Company uses econometric models to produce kilowatt-hour sales and customer forecasts. The econometric models are systems of algebraic equations that relate past economic growth and development in the geographic communities with the past customer growth and power consumption in those same communities. Each year the forecast incorporates changes that occur in the regional and national economy which affect the Company, such as industrial activity, residential use, population growth and income levels.

The forecasted annual retail load energy figures for years 2006 through 2015 are shown on line 1 on page 8 of this Exhibit. The forecast shows an annual average energy load of 1,098 aMW in 2006, including the Potlatch Lewiston plant load. The Company's retail energy load is forecasted to be 1,353 aMW in 2015, a compound growth rate of 2.11 percent per year.

The forecasted annual retail capacity figures for years 2006 through 2015 are shown on line 1 on page 9 of this Exhibit. The capacity figures include the Potlatch Lewiston plant load. The capacity forecast shows 1666 MW in 2006 including the Potlatch Lewiston plant load. The capacity load is forecasted to be 2053 MW in 2015, yielding a compound growth rate of 2.11 percent per year.

The Company's actual retail energy loads grew from 838 aMW in 1991 to 1017 aMW in 2004, yielding a compound annual growth rate of 1.50 percent. The Company's

retail <u>capacity</u> loads grew from 1,479 MW in 1991 to 1766 MW in 2004. The compound annual growth rate was 1.37 percent.¹⁰

Long-Term Loads and Resources Picture

The tables on pages 8 and 9 of this Exhibit show a tabulation of Avista's Loads and Resources (L&R) on an annual basis for the next ten years.

The Energy L&R (Load and Resource) Forecast on page 8 of this Exhibit includes a tabulation of Avista's expected average energy for the twelve-month period for both load requirements and resources.

The Peak (capacity) L&R Forecast on page 9 of this Exhibit shows the highest one-hour forecasted capacity requirement in January of each year. The resource peak numbers represent the maximum available capacity output from the Company's resources to serve the one-hour peak.

The Company's requirements are shown on lines 1-3 on pages 8 and 9. These requirements include the Company's retail native load shown on line 1, long-term firm wholesale contract obligations on lines 2. The expected reduction in retail native load due to Company demand-side management acquisition programs is included in the load amount on line 1.

Resources available to the Company are shown on lines 4-8 of page 8, on the energy L&R, and on lines 4-9 of page 9, on the capacity L&R. The Company's owned hydroelectric generation on the Clark Fork and Spokane Rivers is included on line 5 as well as the "Mid-Columbia" hydroelectric generation, which includes the contracts

¹⁰ These figures represent the <u>actual</u> loads, including losses, experienced by the Company and reflect the actual temperatures that occurred during each of the respective periods, which would affect the calculated annual growth rate.

Avista has with Douglas, Chelan and Grant County PUDs for a portion of the output from the Wells, Rocky Reach, Wanapum and Priest Rapids hydroelectric projects on the middle section of the Columbia River. It also incorporates a contract extension with Grant County PUD for output from their Priest Rapids and Wanapum projects. The figures for hydroelectric generation in the Energy L&R tabulation reflect energy that could be produced under <u>average</u> water conditions.

Line 4 show the Company's long-term contract rights and obligations. Lines 6 and 7 show the Company's thermal generating resources.

For long-term planning, the Company shows peaking turbine annual energy output based on the amount those units would be expected to operate on an annual basis to serve load under extreme load or hydroelectric generation conditions. A comparison of the total resources with the total system requirements yields the Company's net position, based on average hydroelectric generation and load conditions. The energy net position is shown on line 9 of page 8 and the capacity net position is shown on line 10 of page 9.

The Company adjusts the net position each year through use of an 80 percent confidence interval that accounts for the combined statistical variation due to abnormal weather and below-average hydroelectric capability. In its 2003 Integrated Resource Plan, the Company explained that use of the 80 percent confidence interval produces results similar to those of critical water planning on an annual basis, but provides better information on a monthly basis. On a monthly basis for 2006, the 80 percent confidence level varies between 94 aMW and 258 aMW. The annual 80 percent confidence interval reduction to the net position under average water conditions is show on line 10 of page 8.

Line 11 of the Energy L&R tabulation shows the amount that Company's net resource position is further reduced by the Company's WNP-3 contract with BPA. That contract has a return of energy provision equivalent to an annual energy obligation of 33 aMW. Because the contract is most likely exercised only under adverse system conditions, such as high load and/or low hydroelectric generation conditions, the Company reduces its net position by the amount shown on line 11.

The resultant average water net position reduced by the 80 percent confidence interval energy and further reduced by the WNP-3 contract return, and then increased by the energy output from the Company's peaking generation units as shown on line 12, yields an 80% CI Net Position as shown on line 13 of the Energy L&R tabulation. The adjusted net position represents an estimated position that can be expected under most combinations of adverse hydroelectric generation and load variability conditions.

The capacity tabulation provides a view of the Company's forecasted peak loads and peak resources, including capacity reserves. It indicates the maximum hourly load, and the resources available to the Company to meet that load on a firm basis. Values are presented for the month that is most deficit. Thermal and hydroelectric resource capabilities are based on their "dependable capacity" during the month of the deficit. Contracts include the peak capability or obligation identified within them.

Reserves, as shown on line 11 of the Peak L&R tabulation, play an integral part in maintaining system reliability to serve firm loads. The <u>planning</u> reserves shown on this tabulation are carried to provide the Company with adequate generating capacity during periods of extreme weather or unexpected plant outages. Included in the reserve component is capacity to meet the contingencies of temperature affects on retail load

(cold and hot weather), generator-forced outages, and possible river freeze-up at our hydroelectric plants. The Company plans for reserves in an amount equal to ten percent of firm peak loads, plus 90 aMW to account for river freeze-ups and forced outages. On a day-to-day operating basis, the Company is required by the Western Electricity Coordinating Council (WECC) to carry operating reserves equal to 7% of the Company's online thermal resources and 5% of its online hydroelectric resources. Planning reserves in the long-term Peak L&R tabulation provide the Company with the necessary operating reserves coverage.

The L&R Tabulations provide an indication of the Company's need for firm capacity and energy resources over the ten-year forecast period and include the following surpluses and deficiencies for the respective years:

	Surplus/(D	eficiency)
	Capacity	Energy
Year	MW	aMW
2006	160	91
2007	122	87
2008	79	57
2009	3	19
2010	(67)	(34)
2011	(248)	(150)
2012	(328)	(229)
2013	(359)	(243)
2014	(430)	(273)
2015	(481)	(308)

The results show an energy deficient beginning in 2010, although the deficit in the first year is very small. The study also shows a need for capacity beginning in 2010.

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	Last Updated March 28, 2005	Notes	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
L	AVERAGE LOAD & HYDRO P	YDRO PLANNING	U									
	REQUIREMENTS											
_	System Load	_	(1,098)	(1,120)	(1,151)	(1,183)	(1,213)	(1,245)	(1,269)	(1,295)	(1,322)	(1,353)
7	Contract Obligations	7	99	9	9	(09)	(65)	(58)	(57)	(57)	(57)	(57)
m	3 Total Requirements		(1,158)	(1,181)	(1,211)	(1,244)	(1,272)	(1,303)	(1,326)	(1,352)	(1,379)	(1,410)
	RESOURCES											
4	Contract Rights	4	292	295	294	295	294	189	171	172	16	162
5	Hydro	3	510	510	510	206	487	483	466	466	465	465
9	Base Load Thermals	S	226	229	243	228	232	242	231	230	243	231
7	Gas Dispatch Units	9	272	282	268	282	272	282	268	282	273	282
∞	8 Total Resources		1,301	1,316	1,315	1,310	1,285	1,196	1,136	1,150	1,146	1,140
6	POSITION		142	135	104	29	14	(107)	(190)	(202)	(234)	(270)
	CONTINGENCY PLANNING											
10		7	(160)	(160)	(160)	(159)	(155)	(155)	(151)	(151)	(151)	(151)
Ξ	WNP-3 Obligation	œ	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)
12	12 Peaking Resources	6	142	145	145	145	141	145	145	144	146	146
13	13 CONTINGENCY NET POSITION	NO	16	8.7	25	10	(J4)	(150)	(0,00)	(743)	(773)	(308)

Notes:

- 1. Load estimates are from the 2005 load forecast (07-27-2004) including 100% of Potlatch load
- 2. Includes Nichols Pumping and Canadian Entitlement Return contracts. Does not include WNP-3 Obligation.
- 2003-04 Headwater Benefits Study, modified for daily spill. Mid-C numbers reflect the Priest Rapids and Wanapum contract extensions beginning in 2005. 3. Average (60-year) hydro generation for system hydro (Clark Fork and Spokane River projects) and contract hydro (Mid-Columbia) based on NWPP
 - 4. Includes small PURPA contracts, Upriver, El Paso 2004-2006 25 MW flat, Duke 2004-2006 50 MW flat, Morgan Stanley 2004-2006 25 MW flat, El Paso 2007-2010 75 MW flat, BP Energy 2007-2010 25 MW flat, Grant Displacement, PPM Wind, and WNP-3 Receipt.
 - i. Includes Colstrip and Kettle Falls at full capability, adjusted for maintenance and forced outage.
- 6. Includes Coyote Springs 2, Coyote Springs 2 duct burner, Boulder Park, and Kettle Falls CT at full capability, adjusted for maintenance and forced outage.
 - 7. The confidence interval represents the 12-month average of reserve energy necessary to ensure no more than a 10 percent probability of loads exceeding, and/or hydro underperforming, during a given month.
 - 8. Represents highest level of potential obligation to BPA generally exercised under low hydro conditions.
- Northeast is limited to 1,700 hours of operation per year, which has been applied to the period of highest typical market prices. 9. Includes Northeast and Rathdrum at full capability, adjusted for forced outage and maintenance.

LONG-TERM L&R TABULATION—CAPACITY (MW)

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	Last Updated March 28, 2005	Notes	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	PEAK LOAD AND RESOURCE	OURCE PLANNING	NG									
	REQUIREMENTS											
_	Native Load	-	(1,666)	(1,699)	(1,745)	(1,785)	(1,841)	(1,875)	(1,926)	(1,949)	(2,007)	(2.053)
7	Contracts Obligations	7	(169)	(169	(169	(164	(164)	(162)	(162)	(162)	(162)	(162)
3	3 Total Requirements		(1,835)	(1,868)	(1,914)	(1,949)	(2,005)	(2,037)	(2,087)	(2,111)	(2,169)	(2,215)
	RESOURCES											
4	Contracts Rights	3	325	328	328	328	328	209	210	209	210	210
2	Hydro Resources	4	1,108	1,100	1,100	1,066	1,059	1,028	1,006	866	066	686
9	Base Load Thermals	S	272	276	780	280	280	280	280	280	280	280
_	Gas Dispatch Units	9	303	303	308	303	303	307	303	307	308	308
∞	Peaking Units	7	243	243	243	243	243	243	243	243	243	243
6	9 Total Resources		2,251	2,250	2,258	2,220	2,212	2,066	2,042	2,037	2,030	2,029
2	10 PEAK POSITION		417	382	344	271	207	30	94)	(74)	(139)	(186
	RESERVE PLANNING											
Ξ	11 Planning Reserve Margin	80	(257)	(260)	(265)	(569)	(274)	(278)	(283)	(285)	(291)	(295)
12	12 RESERVE PEAK POSITION		160	122	- 61	3	(67)	(248)	(328)	(359)	(430)	(481)

Notes:

Because Avista Utilities' load peaks in the winter, all data is based on monthly peak deficits from period November through February.

- 1. Load estimates are from the 2005 peak load forecast (07-27-2004) including the forecast of Potlatch load.
 - 2. Includes Nichols Pumping, Canadian Entitlement Return, and PGE Capacity contracts.
- 3. Includes small PURPA contracts, Upriver, El Paso 2004-2006 25 MW flat, Duke 2004-2006 50 MW flat, Morgan Stanley 2004-2006 25 MW flat, El Paso 2007-2010 75 MW flat, BP Energy 2007-2010 25 MW flat, Grant Displacement, WNP-3 Receipt, and Potlatch generation.
 - Peak hydro generation for system hydro (Clark Fork and Spokane River projects, excluding maintenance) and contract hydro (Mid-Columbia, including maintenance). Mid-C numbers reflect the Priest Rapids and Wanapum contract extensions beginning in 2005.
 - Includes Colstrip and Kettle Falls, maintenance is assumed to occur outside the November through February timeframe. ۶.
- Includes 100% of Coyote Springs 2 and Coyote Springs 2 duct burner, Boulder Park, and Kettle Falls CT; maintenance is assumed to occur outside the November through February timeframe. ø.
 - Includes Northeast and Rathdrum, maintenance is assumed to occur outside the November through February timeframe.
- Includes 10% of peak load (to approximate load variability) and 90 MW (to approximate the risk of river freeze-up and partial forced outages).