Appendix E

May 31, 2013 Wanapum Hydroelectric Project Qualifying Upgrade Report

Avista Corporation

Introduction

This appendix provides details about the calculation of qualifying renewable energy output from incremental hydroelectric upgrades on the Company's share of the Priest Rapids Project.

Under certain circumstances, incremental electricity produced as a result of efficiency improvements completed after March 31, 1999 may qualify as an eligible renewable resource for purposes of compliance with Washington's Energy Independence Act, RCW 19.285.030(10)(b). Three methodologies may be used to calculate the amount of incremental hydro electricity associated with efficiency improvements. All of the acceptable methodologies consider the state of the hydroelectric project in question without the incremental improvements, then with the incremental improvements, and the resulting difference between the generation before and after the incremental improvements constitutes the amount of generation applicable to the Company's goals under the Energy Independence Act.

The accepted methodologies under Docket UE-110523 include:

1. "Annual calculation using hydroelectric model and actual inflows or generation;"
2. "One-time calculation of renewable electricity percentage using an historical period of inflow or generation;" or
3. "One-time calculation of renewable electricity using an historical period of inflow or generation."

Avista is utilizing the third method using historical inflows from 1978 through 1990. This method entails the use of historical inflow or generation based on a minimum of five years or up to the available inflow record of generation. Grant County PUD used this method for their Energy Independence Act filing.

Wanapum Fish Bypass

As part of the “meaning priority”, “surplus product”, and “surplus conversion” purchase from Grant County PUD, Avista receives all environmental attributes from the Priest Rapids Project, specifically the Wanapum Fish Bypass (see the attached letter from Grant PUD). To be consistent with the measurement of the incremental output of other qualifying hydroelectric upgrades for the Washington Energy Independence Act, included in Table 1 is the amount of incremental energy (MWh) from the hydro upgrade for each year from 1978 through 1990. Table 2 illustrates the quantity of qualifying incremental energy for the compliance periods 2012-2014. The supporting documentation for Table 1 is in the confidential work papers for this filing.

Table 1: Annual Incremental Energy (2012 qualifying year)

Year	MWh	aMW	Avista Share (%)	Avista aMW	Avista MWh
1978	636,912	72.71	3.98%	2.9	25,349
1979	542,431	61.92	3.98%	2.5	21,589
1980	556,316	63.51	3.98%	2.5	22,141
1981	640,905	73.16	3.98%	2.9	25,508
1982	367,366	41.94	3.98%	1.7	14,621
1983	669,846	76.47	3.98%	3.0	26,660
1984	479,623	54.75	3.98%	2.2	19,089
1985	552,878	63.11	3.98%	2.5	22,005
1986	558,930	63.80	3.98%	2.5	22,245
1987	513,807	58.65	3.98%	2.3	20,450
1988	524,156	59.84	3.98%	2.4	20,861
1989	544,703	62.18	3.98%	2.5	21,679
1990	665,327	75.95	3.98%	3.0	26,480
Average	**439,004**	**50.1**	**3.98%**	**2.5**	**22,206**

Table 2: Avista's share of qualifying MWh for 2012-2014

	2012	2013	2014
Avista Share	3.98%	3.93%	3.77%
Total (MWh)	22,206	21,927	21,034

The incremental energy is a result of an added fish bypass system, this new system lowers the required amount of flow spill during spring and summer months. Prior to the bypass system upgrade, 43 percent of the flow was spilled between April 21st and June 30th and 49 percent of the flow between July 1st and August 18th each year. With the new fish bypass system, the spill requirement is reduced to 22 percent of flow between April 21st and August 18th of each year.

Since this upgrade does not change the generation or turbine configuration, a simple H/K factor (measurement of energy per unit of flow) analysis is used to quantify the

incremental energy from the fish bypass system on a monthly basis. The analysis maintains all license constraints, such as generation capacity limits and spill requirements.

Attachments

The following attachments to this document provide detailed information submitted to and received from the I-937 Technical Working Group concerning the Wanapum Hydroelectric development, as well as the letter from the Grant County Public Utility District concerning Avista's share of the qualified renewable energy generated at the Wanapum facility. Copies of the relevant contracts are included in the Company's confidential work papers.

Attachment A – Letter to the I-937 Technical Working Group
Attachment B – Response from the I-937 Technical Working Group
Attachment C – Grant County PUD Priest Rapids Project Purchased Attributes
Attachment D – Grand County PUD Calculation of Incremental Energy (Located in Confidential Work Papers)