

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

))
DOCKET NO. UE-_____
))
))
In the Matter of Avista’s Energy and))
Emissions Intensity Report in Compliance) COMPLIANCE REPORT OF
with WAC 480-109-300) AVISTA CORPORATION
))
_____))

In compliance with WAC 480-109-300, Avista Corporation (hereinafter Avista or Company) respectfully submits its 2015 energy and emissions intensity report.

I. EXECUTIVE SUMMARY

Table 1 shows the summary of data collected and calculated for the Energy and Emissions Intensity Report for the Washington share of Avista’s customers in 2015. The following sections show the prior 10-year annual metrics for all generating resources serving Washington customers, the trend analysis narrative and graphics, and a list of the appendices included with this filing.

Table 1: 2015 Summary Energy and Emissions Intensity Report

Utility :	Avista	
Reporting for year :	2015	MWh per Capita
Population Served :	528,665	10.85

Energy Intensity Metrics

	MWh at Meter	MWh Proportion	Customer Count	MWH per Customer
Residential Customers	2,458,224	42.8%	201,275	12.2
Commercial Customers	2,223,888	38.8%	22,158	100.4
Industrial Customers	1,055,963	18.4%		
Total Load Served	5,738,075			

Emissions Intensity Metrics

	Busbar MWh	Percent of Total Load	Short Tons CO ₂	
Known Resources Serving WA	2,458,224	120.1%	2,164,022	
Unknown Resources Serving WA	(1,194,623)	-20.1%	(624,668)	% of 1990 CO ₂
	2015 Tons CO ₂		1,539,354	136.0%

1990 Short Tons CO₂ 1,131,957

II. PRIOR 10-YEAR ANNUAL METRICS

WAC 480-109-300 requires reporting of ten years of annual metrics for all generating resources serving Washington customers. Required data includes:

- Average MWh per residential customer;
- Average MWh per commercial customer;
- MWh per capita;
- Annual CO₂ emissions in short tons;
- Ratios of annual CO₂ emissions to CO₂ emissions in 1990
- Subtotal metrics – Energy and emissions from unknown generation sources
 - Annual CO₂ emissions in short tons from unknown generation sources
 - Annual MWh delivered to retail customers from unknown generation sources
 - Percentage of load served by unknown generation source

The first and second annual metrics cover the average MWh per residential and commercial customer over the past 10 years. The results are shown in Table 2. The values per year for both have been fairly consistent from year-to-year, with a slight upward trend in commercial use per customer over the last three years. The trends are discussed in section III of this filing.

Table 2: Average MWh per Residential and Commercial Customer 2006 – 2015

	Average MWh per Residential Customer	Average MWh per Commercial Customer
2006	12.0	96.7
2007	12.3	96.8
2008	12.3	96.7
2009	12.7	97.0
2010	12.7	97.0
2011	12.6	96.2
2012	12.2	96.1
2013	12.7	97.3
2014	12.4	97.8
2015	12.2	100.4

The third annual metric covers the MWh per capita over the past 10 years. The results are shown in Table 3 and the results are discussed in Section III and shown in Chart 2. The trend shows decreasing MWh per capita, which is expected based on the acquisition of all cost effective energy efficiency under the Energy Independence Act.

Table 3: MWh per Capita 2006 – 2015

	MWh per Capita
2006	11.03
2007	10.97
2008	10.80
2009	10.71
2010	10.68
2011	10.93
2012	10.68
2013	10.95
2014	10.84
2015	10.85

The last two annual metrics show the amount of CO2 emissions per year from 2006 through 2015 and the comparison of those annual emissions with Avista’s 1990 emissions. Emissions have

increased over the past two years of the report, but the overall trend is downward as discussed in section III of this report and shown graphically in Chart 3.

Table 4: Annual CO₂ Emissions in Short Tons 1990 and 2006 – 2015

	Annual Emissions	1990 Emissions	% of 1990 CO₂
2006	1,196,410	1,131,957	105.7
2007	1,657,990	1,131,957	146.5
2008	1,700,580	1,131,957	150.2
2009	1,489,752	1,131,957	131.6
2010	1,554,245	1,131,957	137.3
2011	1,249,754	1,131,957	110.4
2012	1,403,194	1,131,957	124.0
2013	1,350,353	1,131,957	119.3
2014	1,382,871	1,131,957	122.2
2015	1,539,354	1,131,957	136.0

The calculations for energy and emissions for each year are included in the workpapers filed with this report. The workpapers for each year includes the annual CO₂ emissions in short tons from unknown generation sources, the annual MWh delivered to retail customers from unknown generation sources, and a calculation of the percentage of load served by unknown generation sources. The adjustments made to the data for this report are described below.

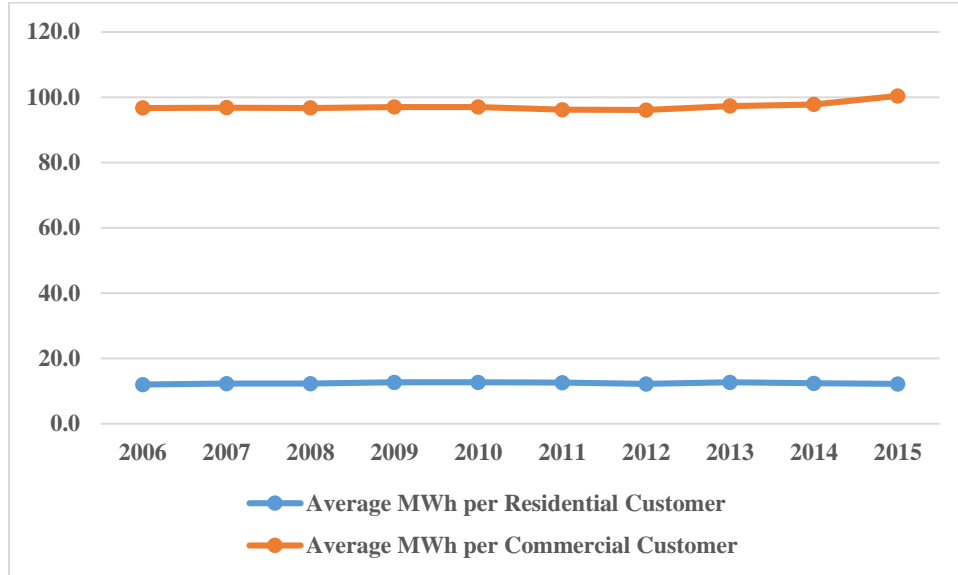
Known resources include all of Avista’s owned generation and contracts from known sources, such as purchases of a percentage of specified Mid-Columbia hydro projects and the power purchase agreement for the Lancaster combined cycle combustion turbine. Purchases from the Bonneville Power Administration (BPA) were assigned as known or unknown percentages based on the fuel mix disclosure on the BPA web site for 2012 through 2014. The remaining years were assigned based on an average of the three years of available fuel mix for BPA purchases. The percentage of assigned BPA purchases were zero emitting resources including biomass and waste,

small and large hydroelectric, nuclear and wind resources. The remaining, or unknown, BPA percentage of purchases were assigned the default regional emissions factor calculated and provided by the Department of Commerce for each year from 2006 through 2014. An average of the previous nine years emissions was used for 2015, because the data was not available for the Department of Commerce to calculate an emissions factor for unknown resources. Resource specifically assigned to serve Idaho load were not included in the emissions calculations. Total sales to non-Avista customers were netted from the emissions calculation in the unknown resources section of the workpapers. The busbar MWh and short tons of CO₂ of the Energy and Emissions Annual Report spreadsheets were multiplied by 65 percent to only show the Washington share of customers.

III. TREND ANALYSIS NARRATIVE AND GRAPHICS

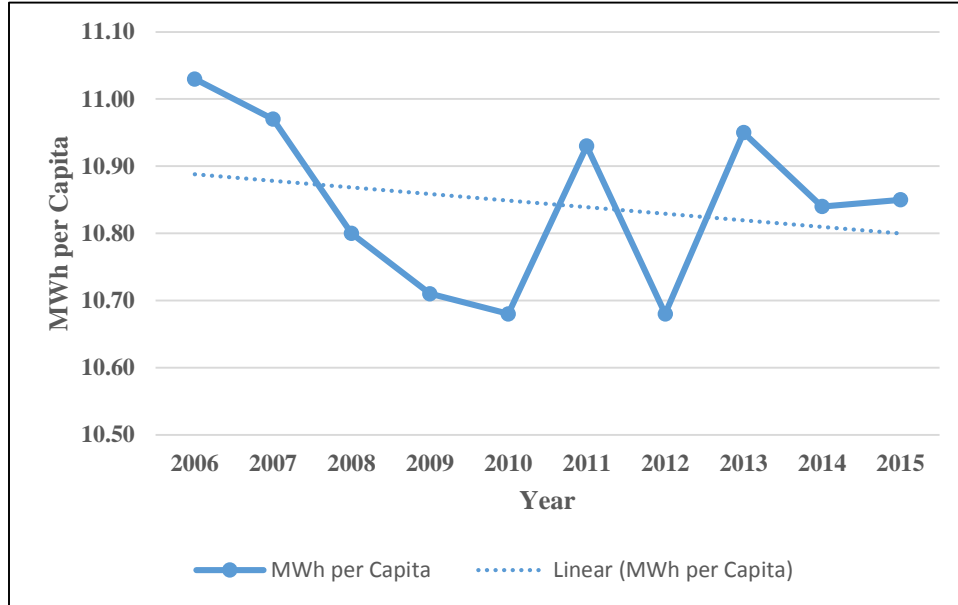
The average MWh use per customer has experienced fairly minor variation from year-to-year. There is a slight increasing trend for commercial customers over the last three years, which may be normal variation or the beginning of a trend for increasing commercial use. The scope of commercial customers is wide enough to make detailed analysis difficult, if not impossible to identify the specific cause. This is based on actual load data and is not normalized for weather.

Chart 1: Average MWh per Commercial Customer 2006 – 2015



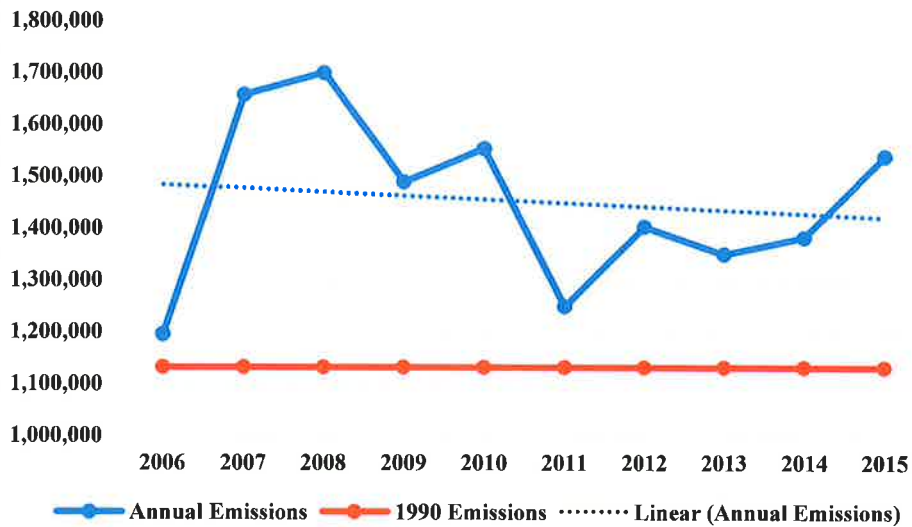
The next metric covers the amount of MWh per capita from 2006 through 2015. The specifics underlying the calculation of the population for Avista’s service territory can be found in Appendix B – Population Methodology. The trend line shows a slight decreasing MWh per capita trend, which is less than one tenth of a megawatt-hour per capita. This is a small enough trend to make it difficult, if not impossible, to determine the root cause.

Chart 2: MWh per Capita 2006 – 2015



The last two metrics include the annual CO₂ emissions in short tons from 2006 through 2015 and comparison of those emissions with the 1990 emissions data. Chart 3 shows the emissions data for this report. Emissions have increased over the past two years covered in this report, but the overall trend is downward as shown by the trend line of annual emissions. There is an expectation that emissions will decrease over time as a higher percentage of zero emitting resources are added to the regional mix under the Energy Independence Act. This trend is expected to accelerate after final resolution of the Clean Power Plan. However, CO₂ emissions from year-to-year may still increase in any given year because the regional generation system is based on reliably serving load while keeping costs at minimum reasonable levels. The addition of any formal CO₂ emissions cost will drive future emissions down. Also, regional emissions will be affected by the variable amount of hydroelectric and wind generation in any given year.

Chart 3: Annual CO₂ Emissions in Short Tons and 2006 – 2015



IV. APPENDICES


The following appendices provide details about Avista's 2016 Energy and Emissions Intensity Report. The spreadsheets with the raw data are included in the workpapers for this filing.

Appendix A: Summary Energy and Emissions Intensity Reports for 2006 – 2015

Appendix B: Population Methodology

RESPECTFULLY SUBMITTED this 1st day of June 2016.

AVISTA CORPORATION

By: 
Kelly O. Norwood
Vice President, State and Federal Regulation