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September 29, 2017

Steven V. King
Executive Director and Secretary
Washington Utilities & Transportation Commission
1300 S. Evergreen Park Drive S. W.
P.O. Box 47250
Olympia, Washington 98504-7250

Re: Docket No. UG-152394 – Avista Natural Gas Line Extension Allowance Program Semi-Annual Report No. 3

Dear Mr. King,

On February 25, 2016, the Commission issued Order 01 in Docket UG-152394 approving Avista Corporation's, dba Avista Utilities (Avista or Company), modifications to tariff Schedule 151 related to its Natural Gas Line Extension rules. As part of the modifications to Schedule 151, the Commission approved, on a temporary basis, for a three-year period, both a change in methodology for calculating the amount of the natural gas line extension allowance provided to customers, as well as allowing the Company to provide any unused or excess portion of the allowance amount as an equipment rebate back to customers who are converting to natural gas service.

The excess allowance rebates are only available to residential Schedule 101 customers who are converting to natural gas from any other fuel source. In addition, the rebates are only available to customers who install high efficiency space and/or water heating equipment. New construction homes do not qualify for the excess allowance equipment rebate, as it is estimated that over 90% of new homes that have natural gas available at the time of construction choose to install natural gas.

As part of Order 01, the Commission ordered the Company to file semi-annual reports with the Commission showing the impact of the increased allowance and excess allowance equipment rebates during the three-year pilot period from March 1, 2016, to February 28, 2019. This report is the third semi-annual report to the Commission and covers the time period from March 1, 2016, through August 31, 2017. The contents of what is to be provided in the semi-annual reports, as

shown in items A – G below, was discussed with Commission Staff prior to filing the first semi-annual report.

A. Historical Residential Schedule 101 Hook-ups per Year

Table No. 1 below shows the historical Washington residential Schedule 101 hook-ups per year. The data included in this table is based on when a new customer was first billed, which will differ from when the construction to install natural gas piping was completed and a meter was installed. This table is included for comparison purposes to help understand the impacts from the change in methodology for calculating the line extension amount and providing excess allowance equipment rebates.

Table No. 1

Calendar Year	Residential
2005	3,521
2006	3,489
2007	2,866
2008	2,644
2009	1,723
2010	1,562
2011	1,482
2012	1,705
2013	2,030
2014	2,499[1]
2015	2,174
2016	3,075
2017 – YTD August	2,552

New residential Schedule 101 hookups continue to be above expectations for 2017, primarily due to the increases line extensions allowance and providing excess allowance rebates to customers.

B. New Residential Schedule 101 Hook-ups from March 1, 2016 to August 31, 2017

The number of new customer hook-ups from March 1, 2016 to August 31, 2017, broken down by conversion vs. new construction is as follows:

[1] The Company experienced an increase in conversions in 2014 due, in part, to the privatization of housing at Fairchild Air Force Base ("FAFB"). As a part of the privatization effort, each residential unit, approximately 425, was required by FAFB to be individually metered. Prior to 2014, FAFB housing was master-metered (i.e., a few natural gas meters served hundreds of homes.

Table No. 2

New Developments Hook-ups	1,517
New Construction (i.e., infill of existing developments or single lots)	767
Conversions	2,230
Total New Residential Customer Hook-ups	4,514

The data in Table No. 2 is construction data, which differs than the data provided in Table No. 1, which is representative of the calendar year in which new customers were first billed. The data sets will differ as there may be a lag in time from when construction is completed to when a customer is first billed. Table No. 1 is provided to show a historical perspective of the number of new residential customers added per year.

C. Conversions from Avista and Non-Avista Customers

The number of conversions separated by Avista and non-Avista customers is as follows:

Table No. 3

Conversions From Avista-Electric Customers	1,965
Conversions From Non-Avista Customers	265
Total Conversions	2,230

D. Average Amount of Estimated Line Extension

The average amount of the estimated construction costs for line extensions of new construction (excluding new developments) and conversions is as follows:

Table No. 4

Average Amount of Estimated Construction Costs for New Construction and Conversions[2]	$1,570

E. Number of Customers that Received Equipment Rebate and Average Rebate Amount

[2] New development hookups are not included.

Table No. 5

Year	# of LEAP Rebates	Total Amount of Rebates	Average Rebate Amount
2016	531	$1,444,044.25	$2,719.48
2017 – YTD August	1142	$3,371,365.90	$2,952.16
Total	1,673	$4,815,410.15	$2,878.31

The average amount of the excess allowance equipment rebate that customers received through the first 18 months, or half, of the program continues to be higher than original expectations. The Company did expect to see conversions with lower construction costs convert first as the customer cost in some situations for the conversion was $0. Between the energy efficiency rebates and availability of the excess allowance equipment rebate, the cost of both the construction and appliances, including installation, was completely covered for some customers. Many of the conversions continue to for Avista electric customers living in mobile homes. In many instances the gas main was already ran throughout the mobile home park, but several homes had not hooked up to natural gas.

It is important to note that Avista has not marketed the LEAP program. It has provided education to HVAC dealers upon request. In turn, many HVAC dealers have done their own marketing of the program and have focused on conversions of specifically mobile home parks where the cost to convert would likely be completed covered for many customers. This activity has both pushed the number of conversions up beyond original expectations, as well as increased the average LEAP allowance amount. In the Company's view, the conversion of mobile homes is very positive as it allows typically lower-income customers to have access to a more efficient and less costly fuel, which should help to reduce their energy burden.

The number of customers that received an excess allowance equipment rebate is lower than the number of conversions for many reasons, such as:

- Cost of construction was higher than the line extension allowance;
- Timing delay of customer applying for rebate after completion of construction;
- Customer was unaware or did not apply for rebate;
- Customer did not install high efficiency appliances; or,
- Customer did not install qualifying equipment (e.g., gas fireplace).

F. Evaluation of Heating-Season kWh Usage of Avista Electric Conversion Customers

In discussing the data and information to be included within the Company's semi-annual reports in early 2016, Commission Staff inquired about the potential for the Company to perform an evaluation of heating-season kWh usage of Avista electric conversion customers. The Company agreed to perform some type of evaluation, however, at the time did not know what the evaluation may look like or include. In the first two semi-annual reports (September 2016 and March 2017), the Company did not have enough data available to perform an evaluation of heating-season usage

due to the program beginning March 1, 2016. In order to perform the analysis the Company needed to wait until it had a full heating-season worth of data available (2016-2017 heating-season).

For the purposes of the evaluation, the Company looked at the population of Avista electric customers that participated in the LEAP program and converted to natural gas between March 2016 and August 2016. After an initial review, it was determined that only 95 of the customer accounts had sufficient baseline and/or post conversion data points available to perform a regression analysis. Out of the 95 accounts, 62 showed a strong correlation (> 0.80 R square regression value) between the baseline Heating Degree Days (HDD) and the electric heating load BTUs and the post HDD and gas heating load BTUs. For the other 33 accounts, for the most part they did not show a clear correlation between HDD and the baseline/post heating load BTUs with the limited data points available during the regression (i.e., regression analysis was limited to six data points before and after conversion).

Overall, the average BTU savings of the 95 accounts for their heating usage post-conversion was 295,889 BTUs. Excluding the accounts that did not show great correlation between HDD and heat load BTUs, the results show an average of 6,141,744 BTUs savings in their heating usage. On a kWh equivalent basis this represents a 1,800 kWh savings (6,141,744 / 3413). What this evaluation shows from the pre- and post-conversion heating usage, based on a limited number of data points, is that the average heating usage profile of a an Avista electric customer that converts to natural gas is lower or more efficient than an electric heating customer.

G. Customer Survey Data

As part of the customer application for receiving a natural gas line extension allowance equipment rebate, customers are asked to fill out a voluntary survey regarding their conversion to natural gas. The questions below are asked as part of the survey. As of the time of preparing this report, the Company had received 375 completed surveys. Of the surveys responses received thus far, the following are the general responses to the questions listed above in the same order.

Question 1 - Why were you interested in converting to natural gas? (Check all that apply: Cost Savings, Appliance Choices, Environmental Benefits, Other)

Summary of responses – 94% of respondents chose cost savings as the primary reason they were interested in converting. Many respondents chose a combination of factors, with 27% of respondents selecting environmental benefits, 18% choosing appliance choices, and 11% selecting all three options as the reason they chose to convert.

Question 2 - What natural gas appliances did you install? (Check all that apply: Furnace, Hot Water Heater, Stove, Fireplace, Barbeque)

Summary of responses - 39% of survey respondents installed only a furnace, 46% installed a furnace and hot water heater, and 3% installed a furnace, hot water heater, and stove. Less than 2% of respondents noted installing a barbeque and/or fireplace.

Question 3 - Had you previously considered converting to natural gas? (Yes or No)

Summary of responses - Approximately 67% of customers had previously considered converting to natural gas, but chose not to.

Question 4 - What prevented you from previously converting to natural gas? (Check all that apply: Cost of equipment, Cost of construction, Cost of natural gas, Other)

Summary of responses - 77% of respondents noted cost of equipment as a reason they had not previously converted to natural gas. The cost of construction was a concern for 52% of respondents, with 44% of these customers noting a combination of both equipment and construction costs. The cost of natural gas was a concern for 11% of respondents.

Question 5 - Did the amount of Avista's natural gas line extension allowance influence your decision to convert to natural gas? (Yes or No)

Summary of responses – 94% of respondents stated that the amount of Avista's line extension allowance impacted their decision to convert to natural gas.

Question 6 - Did the availability of any excess allowance that could be applied towards the purchase and installation of a natural gas hot water heater or natural gas high efficiency furnace/boiler influence your decision to convert to natural gas? (Yes or No)

Summary of responses – 93% of respondents claimed that the availability of any excess allowance that could be applied towards their purchase of high efficiency equipment influenced their decision to convert to natural gas.

Question 7 - Prior to learning of the excess allowance program, had you planned on installing high efficiency natural gas space heating equipment? (Yes or No)

Summary of responses – 71% of respondents stated that prior to learning about the excess allowance program they had not considered installing high efficiency equipment.

Question 8 - How much was your excess allowance rebate? ($0-$500, $500-$1,000, $1,000-$1,500, $1,500-$2,000, $2,000+)

Summary of responses – 73% of customers received an excess allowance rebate exceeding $2,000.

Question 9 - How did you learn about this program? (From Avista directly, Advertisement, Referral, Other)

Summary of responses – Approximately 40% of respondents heard about the program from Avista directly, 16% were referred from various HVAC contractors and/or appliance dealers, and 10% noted that an advertisement led them to the program. 8% of customers heard about the program

from a family member, friend, or neighbor and 4% were referred from Spokane Neighborhood Action Partners (SNAP).

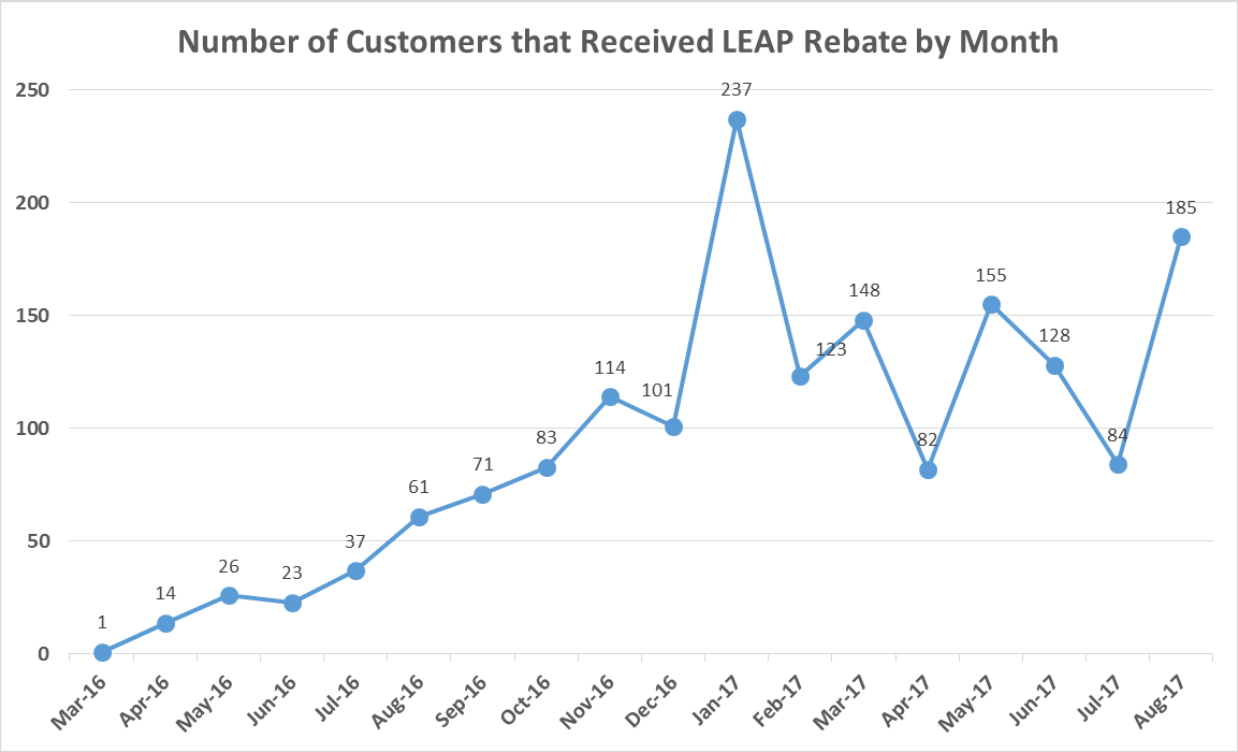
Question 10 - Have you or will you recommend that others participate in this program or converting to natural gas? (Yes or No)

Summary of responses – 100% of customers stated they had or would recommend others participate in the program.

Survey results continue to show that the availability of the excess allowance equipment rebate is impacting customers' decision to convert to natural gas. Out of those that provided a response to the survey, over 67% said that they previously considered converting to natural gas, but chose not to. Additionally, 77% of the survey respondents noted that the cost of equipment had been a deterrent in converting to natural gas before learning about the program and 94% of respondents stated that the amount of Avista's line extension allowance impacted their decision to convert to natural gas. Without the availability of the excess allowance equipment rebate, many of these customers may have continued without natural gas services and the associated therm savings from the installation of their high efficiency equipment would have been a lost opportunity.

The following chart shows the monthly number of customers that converted to natural gas and received an excess allowance equipment rebate:

Chart No. 1



In addition to the kWh savings from customers converting from electric space and/or water heating to natural gas space and/or water heating, there is an associated environmental benefit. For each home that converts from electric to natural gas there is an annual reduction of over 35% of CO_2. The emissions profile for the average customer that uses electric space heat and hot water is as follows:

Table No. 6

Average Electric (Resistance) Customer			
End Use	**Electric Use (kWh)**	**AVA Mix CO_2 lbs/yr[3]**	**AVA Mix CO2 Metric Tons/Year**
Furnace	7,485	5,809	2.636
Water Heat	3,790	2,941	1.335
Combined	**11,275**	**8,750**	**3.970**

The emissions profile for a customer that uses natural gas as their fuel source for space heating and water heating as required to receive a LEAP allowance is as follows:

Table No. 7

Average Natural Gas Customer			
End Use	**Therms @ 90% Efficient Furnace and 67% Water Heat**	**CO_2 lbs/yr**	**Direct Use Metric Tons/Year**
Furnace	284	3,321	1.507
Water Heat	193	2,259	1.025
Combined	**477**	**5,580**	**2.532**

Based on the information in the tables above, the savings range of CO_2 for a customer that converts their space heat and/or hot water heat through the LEAP program is 0.31 – 1.44 metric tons per year.

If you have any questions regarding this report, please contact me at 509-495-2782 or shawn.bonfield@avistacorpcom.

Sincerely,

Shawn Bonfield

Sr. Regulatory Policy Analyst

[3] The AVA $C0_2$ lbs/yr is calculated using Avista's 2015 fuel mix supply and the 2015 regional emissions data from the Fuel Mix Disclosure information provided by the Washington State Department of Commerce.