December 10, 2018

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RE: Docket UG-180920, Avista Utilities Petition for an Order Authorizing Approval of Changes to the Company's Natural Gas Line Extension Tariff and Associated Accounting and Ratemaking Treatment

The NW Energy Coalition (NWEC or the Coalition) appreciates the opportunity to comment on this petition from Avista Utilities, which seeks to extend its Line Extension Allowance Program (LEAP) pilot for another three years. The Coalition was not involved in the docket that established the original pilot for Avista (UG-152394) or in the workshop docket that discussed any needs for further natural gas expansion and options to implement such expansion (UG-143616), but we have in the past commented generally on Avista's fuel conversion programs, of which we consider the line extension allowance program to be (UE-171091).

Our summary recommendations to the Commission in this matter are:

- In this docket, the pilot that allows the equipment rebate from the excess allowance should be discontinued.
- To the larger question of facilitating natural gas infrastructure expansion, the Commission should revisit the premise that additional economic incentives are needed to expand natural gas infrastructure in Washington.

Pilot Background and Results

In 2014, the Washington legislature considered a bill, HB 2177, that would have directed the UTC to conduct a process that allows customers and utilities to bring forth proposals for the financing and building of natural gas infrastructure, with a particular focus on rural or underserved areas. The bill did not pass the full legislature, but did pass the House. The sponsoring representative requested that the UTC open a docket to fulfill the spirit of this bill, and UTC opened UG-143616 to "discuss the need for natural gas distribution infrastructure expansion, and investigate the options available to implement such expansion."

Following the discussion in the above docket, Avista proposed and the UTC approved a pilot that changed Avista's accounting methodology for calculating line extensions through UG-152394. The previous allowance provided to a customer was three times the annual revenue that a customer was estimated to provide. The pilot used the Perpetual Net Present Value (PNPV) methodology, as mentioned in a paper by the National Regulatory Research Institute:

> *"The maximum level of "economical" investment equals the annual distribution margin divided by the required rate of return. The assumption is that the recovery period approaches infinity."*

Below are summary results from the pilot; all information is from Avista's petition unless otherwise noted.

- At the time of initial approval of Avista's pilot, this new methodology resulted in a $4,492 line extension allowance for residential customers (Schedule 101). The current allowance, given updated rate of return and basic charge revenue, is $4,678, an increase of about 4%.
    - The previous allowance methodology depended on the customer and their expected revenue; on average, the allowance was $1,920.[1]
- So far under the pilot, 4,215 conversions have occurred, and 3,297 participants have claimed the additional equipment rebate.
- The average extension allowance used over the pilot period was $1,908 and the average equipment rebate was $2,772.
- Of the 4,215 conversions, 625 (15%) are from non-Avista customers. Avista does not provide data about how any customers were heating their house previously (e.g., electric resistance heat, oil, propane).
- Avista also currently offers a separate fuel conversion rebate that a customer could link with this program.
    - While the fuel conversion program is a separate program and will be ending at the end of 2019, a customer could currently take advantage of the LEAP pilot, the fuel conversion incentive, and the natural gas efficiency rebate for equipment.
    - For example, using the average equipment rebate with the current fuel conversion incentive, if a customer converted to an efficient natural gas furnace and water heater, the customer could receive:
        - $300 for the efficient furnace and $200 for the efficient water heater[2]
        - $2,250 for converting from electric resistance to natural gas[3]
        - $2,772 for the equipment rebate allowance (average amount)
        - For a total of *$5,522 of incentives for converting from electricity to natural gas*

Since this pilot was approved by the Commission, Cascade Natural Gas and Puget Sound Energy have also adopted the PNPV methodology for calculating line extension allowances, though not the rebate mechanism (UG-160967 and UG-161268).

NWEC Comments

Avista petitions to make the PNPV methodology permanent and to extend the equipment rebate pilot for another three years. Avista cites that the benefits of this program are better

[1] UE-143616. "Avista Line Extension Policy." September 23, 2015.
[2] Avista Utilities. Rebates: Washington. https://www.myavista.com/energy-savings/rebates-washington. Retrieved December 5, 2018.
[3] *Ibid*.

pricing for customers and decreased greenhouse gas emissions, using a comparison to Avista's 2015 electricity generation mix to direct use of natural gas.

Though the Coalition appreciates the thorough report Avista has prepared advocating for extension of the pilot, we dispute that providing a subsidy, which is not based on the cost-effectiveness to the overall system, to a customer for the purchase of personally-owned natural gas equipment, is a suitable use of ratepayer dollars, or that it is fulfilling an environmental policy objective.

While we understand that the upfront costs of new natural gas equipment can be significant for a household, so can the upfront costs of electric equipment and home improvements that would improve efficiency, such as heat pumps, window replacements, and heat pump water heaters, and Avista does not contribute as significantly to these upfront costs as they do in the case of a customer switching to natural gas home or water heating.

The Coalition has in the past advocated for Avista to implement a financing program, such as an on-bill repayment program, that can help many customers overcome these upfront costs. This kind of mechanism, combined with Avista's existing incentives for electric or natural gas conservation is a more reasonable path for helping customers overcome upfront investments, while promoting efficient equipment. Implementing an on-bill repayment program was a commitment in the proposed settlement of the Avista-Hydro One transfer of property docket (U-170970), which was recently denied by the Commission; we hope that Avista will continue to pursue this effort for the benefit of its customers.

Further, Avista asserts that converting from electric resistance heating and water heating to a natural gas furnace is better from a greenhouse gas emissions standpoint, when comparing against Avista's 2015 electricity fuel mix:

> "*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 up to 37% of CO_2.*"[4]

To that assertion, the Coalition notes the following:

- As renewables continue to drop in price, as coal retires from the system, and as more market options become available for hydroelectricity resources in the region—and as public sentiment and policy move toward cleaner fuels—we expect that Avista's electricity fuel mix will become cleaner.
    - Indeed, comparing Avista's 2015 electricity fuel mix (used for the analysis in Avista's petition) to its 2017 fuel mix, we see significant changes—in 2015, coal and natural gas made up 19.29% and 38.44%, respectively, of Avista's electric

[4] UG-152394. Avista Natural Gas Line Extension Allowance Program Semi-Annual Report No. 5. September 28, 2018.

fuel mix, while in 2017, these generations were 14.31% and 31.09%, respectively.[5]

- The Company did not compare the emissions effects of converting from an electric resistance heating system to an air source or ductless electric heat pump, or from an electric resistance water heater to a heat pump water heater. We would, of course, expect to see reductions in electricity use, and thus emissions, with these measures.
    - For example, for conversion from a forced air electric furnace to a ductless heat pump in heating zone 2 (covering many of Avista's customers in Washington), the Regional Technical Forum (RTF) estimates the measure saving 2,570 kWh annually.[6] Using the company's 2015 electricity fuel mix, the average customer is much closer in the greenhouse gas emissions comparison to a natural gas furnace—and using the 2017 fuel mix or a more forward-looking fuel mix, we can expect an even more favorable position for efficient electric options compared the natural gas.
    - In various venues, Avista has asserted that heat pumps do not work well for their climate zone, as the traditional heat pump turns to an electric resistance heating back-up around 30'F. However, there are cold-climate heat pumps available on the market, that can work well until 5'F, and the Northeast Energy Efficiency Partnerships (NEEP) has developed a specification to identify these heat pumps that work in colder climates.[7] In addition, a recent Southwest Energy Efficiency Project (SWEEP) study found that, even in the varied climates and utility fuel mixes of cities in the intermountain west and southwest—the same climate zones as Avista—the use of a ductless heat pump was less emissions-intensive than the use of a combination gas furnace and central air conditioner.[8]
- Finally, Avista's analysis does not account for the methane leakage rate in our natural gas system that researchers have found is much more significant than previously estimated.[9] Though research into the west's natural gas distribution network indicates it is less "leaky" than the east,[10] methane is still a potent natural gas, and when comparing conversion of electric uses to natural gas uses, these emissions must be considered.

To the broader question of whether natural gas utilities and the UTC should still be aggressively removing barriers to the expansion of natural gas infrastructure in Washington State: given

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[5] Washington State Department of Commerce. Fuel Mix Disclosure Reporting. https://www.commerce.wa.gov/growing-the-economy/energy/fuel-mix-disclosure/

[6] Regional Technical Forum. *Residential Ductless Heat Pump on Forced Air Furnace, Version 2.1*. December 7, 2018. https://rtf.nwcouncil.org/measure/ductless-heat-pump-forced-air-furnace-sf-and-mh

[7] Northeast Energy Efficiency Partnerships (NEEP). "Cold Climate Air Source Heat Pump." https://neep.org/initiatives/high-efficiency-products/emerging-technologies/ashp/cold-climate-air-source-heat-pump Retrieved December 10, 2018.

[8] SWEEP, Kolwey and Geller. *Benefits of Heat Pumps for Homes in the Southwest.* June 2018. http://www.swenergy.org/Data/Sites/1/media/documents/publications/documents/heat-pump-study-final-2018-06-18-small-file.pdf

[9] Alvarez, Ramón, et al. "Assessment of methane emissions from the U.S. oil and gas supply chain." *Science*. 21 June 2018. http://science.sciencemag.org/content/early/2018/06/20/science.aar7204

[10] Washington State University. *Natural Gas Methane Study. https://methane.wsu.edu/*

methane's potent role as a greenhouse gas, Washington's greenhouse gas emission goals[11], the changing fuel mix of the electric utilities regulated by the UTC, and the significant impacts that climate change is expected to have on Washington and the Northwest[12], providing significant economic incentives to expand new natural gas distribution infrastructure is counter to state policy and a step in the wrong direction. Although renewable natural gas (RNG) is a potential product that could be run with a much smaller carbon impact through the gas lines, it is still in its infancy, and we cannot build out an infrastructure that relies on this outcome. Additionally, sources of RNG are likely to be limited, and it is questionable that the supply would even be sufficient to serve our existing direct use of natural gas needs, let alone further build-out.

Finally, natural gas prices are notoriously volatile and the continuation of recent price favorability of natural gas is uncertain. Recent media reports indicate that this winter's prices for natural gas could increase significantly; the potential for carbon pricing in the near- to mid-term could further add to costs. Additionally, it is worth seriously reconsidering the timeframe over which natural gas infrastructure will remain used and useful. Customer preference and policy are already shifting significantly toward electrification of home heating sources, and the repayment of investment for new natural gas infrastructure could land on fewer and fewer customers— especially those customers without the wherewithal to switch back to electricity.

In light of our state's greenhouse gas emission reduction goals, the impacts that climate change will have on our state and its economy, and the less attractive economics of natural gas moving forward, we think the Commission should revisit the premise that removing the economic barriers to natural gas expansion is in the best interest of Washingtonians. We recommend that the Commission review current utility methodology for calculating line extension allowances.

[11] RCW 70.235.020.
[12] U.S. Global Change Research Program. *Fourth National Climate Assessment.* "Chapter 24: Northwest." https://nca2018.globalchange.gov/chapter/24/. 2018.