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December 14, 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: UE-160082 – Avista Request for Extension of its "Washington Electric Vehicle Supply Equipment Pilot Program" WN U-28.

Dear Mr. King,

Avista Corporation, dba Avista Utilities (Avista or Company), petitions to modify Order 01 in Docket UE-160082 along with the tariffs approved in said order. As such, the Company submits the following tariff revisions requesting to extend the Company's electric tariff Schedule 77, "Electric Vehicle Supply Equipment (EVSE) Pilot Program" through June 30, 2019:

First Revision Sheet 77	**Canceling**	**3rd Substitute Original Sheet 77**
First Revision Sheet 77a	**Canceling**	**3rd Substitute Original Sheet 77a**
First Revision Sheet 77b	**Canceling**	**3rd Substitute Original Sheet 77b**
First Revision Sheet 77c	**Canceling**	**3rd Substitute Original Sheet 77c**
	New	**Original Sheet 77d**

I. BACKGROUND

On April 28, 2016 the Commission issued Order 01 in Docket UE-160082 approving Avista's tariff Schedule 77 for its EVSE Pilot Program (Program). The two-year installation term of the program began with the first residential EVSE installation on July 20, 2016. Quarterly reports on the status of the program are required through August 1, 2018.

Overall, the program's operations, customer participation and feedback remain positive. Details may be found in the last quarterly report submitted November 1, 2017. As of December 6, 2017, the number of installations for the various EVSE categories are as follows:

Table No. 1 – Current Installation Status

	2-Year Goal of Port Installations	# Ports Installed	# Ports Scheduled for Installation	# Ports Remaining
Residential SFH[1]	120	113	5	2
Workplace\Fleet\MUD[2]	100	48	7	45
Public	45	19	9	17
DC Fast Chargers (DCFC)	7	2	3	2

II. RATIONALE FOR PILOT EXTENSION

As referenced in the Commission's Policy Statement issued in Docket UE-160799, the purpose of Avista's Program is to obtain data and experience that will inform future EVSE programs and rate designs. Given the current state of the Program, the Company anticipates proposing a long-term EVSE program to begin in mid-2019. The Company is still in the installation phase of its Program and the early stages of demand response (load management) experiments. As such, the Company proposes to extend its current Program through June 30, 2019, and requests an increase in the number of maximum allowed port installations, for the following reasons:

- Continue to support early EV adoption in Avista's electric service territory by maintaining program continuity for customers, as a longer-term program proposal is developed;
- Utilize new EVSE entering the market. Current AC Level 2 EVSE with demand response capabilities that meet cost and performance specifications has been limited, and the Company has experienced communication issues that have delayed demand response experiments;

[1] Single Family Home
[2] Multi-Unit Dwelling

- Expand the data set of load profiles for different locations and user profiles, as well as more data on installation and operational costs for both networked and non-networked EVSE;
- Increase the number of customers that will participate in demand response experiments;
- Analyze and model economic impacts for various program and EV adoption scenarios;
- Test additional pricing structures for DCFC;
- Test the impact of customer participation with reduced premises wiring reimbursements;
- Explore the feasibility of utilizing advanced metering infrastructure (AMI) to communicate with EVSE; and
- Develop and implement program elements aimed at delivering benefits to low-income, elderly and/or disadvantaged customers.

III. PROPOSED PILOT PROGRAM EXTENSION

In order to accomplish the goals outlined above, and develop future programs that provide the most benefits to customers, an extension of the Company's pilot program is proposed to allow for additional EVSE installations through June 30, 2019, as follows:

Table No. 2 – Pilot Program Port Installations

	Original Targeted # Port Installations	Additional Port Installations (Max Allowed)	Cumulative Total Port Installations (Max Allowed)
Residential SFH	120	120	240
Workplace/Fleet/MUD	100	75	175
Public	45	15	60
DCFC	7	0	7
Total	272	210	482

If the Company reaches the cumulative total of port installations as shown in Table No. 2 above, it is estimated that the proposed additional installations will result in expenses of $743,113 of capital costs and $345,875 of O&M costs, for a total estimated increase of $1,088,989. Added to the original estimate for the program of $3,095,675, this results in a total EVSE pilot program cost estimate of $4,184,664 through June 30, 2019. If the Company does not reach the cumulative total of port installations listed above, the program cost is expected to be lower than estimated.

In addition to the increase in maximum allowed port installations, the Company proposes the following changes to its tariff Schedule 77:

1. Extend installation period to June 30, 2019.

2. Install approximately 30% of additional residential and 40% of additional workplace/fleet/MUD port connections with non-networked EVSE to allow for testing of different manufacturers' EVSE hardware and more robust cost comparisons.

3. Decrease premises wiring reimbursement to 50% of premises wiring costs up to $1,000 for residential customers and $2,000 per port for non-residential customers. By decreasing the reimbursement it will allow the Company to understand the impact that differing levels of premises wiring reimbursements have on customer participation levels.

4. Increase dealer incentive up to $200 per customer referral. To date, the Company has experienced little to no interest in participation from automobile dealers in the program. Increasing the incentive from $100 to $200 is intended to spur more active participation from dealers. The cap for dealer incentives will remain at $25,000.

5. For DCFC, the Company proposes to have varying rate structures, i.e., banded rates, to test impacts on utilization, revenues and costs. Rate structures would include the options of charging per minute from $0.20 to $0.30/minute, and per kWh from $0.27 to $0.54/kWh. Average charging session characteristics are as indicated in Table No. 3 below, based on the initial charging sessions at the Rosalia and Kendall Yards DCFC locations:

Table No. 3 – Average DCFC Charging Session Results with $0.30/minute User Fee

	Rosalia (n=48)*	Kendall Yards (n=26)*
Charging Session Time	17.4 minutes	25.7 minutes
Power Delivery	33.1 kW	37.7 kW
Energy Consumption	9.6 kWh	16.3 kWh
Fees per Charging Session	$5.85/session	$8.67/session
Fees per kWh Delivered	$0.61/kWh	$0.53/kWh
Gasoline Fuel Price Equivalent	$4.28/gal	$4.22/gal

**n = number of total charging sessions to date*

Upon further analysis of the data, many of the vehicles have not been charging at the rated power of the unit[3], as was originally assumed with the proposed fee of $0.30 per minute. This resulted in much higher costs for certain customers, based on the amount of electricity consumed. For example, assuming an efficiency of 3.3 miles per kWh for an EV and 26 mpg for the equivalent gasoline vehicle, a high number of charging sessions resulted in fuel costs of over $5 per gallon of gasoline equivalent, with some over $10 per gallon. Discussions with several customers indicated that the DCFC usage fee of $0.30/minute is not competitive with a gasoline powered vehicle, and that they will choose to use a gasoline fueled vehicle when making the trip between Pullman and Spokane rather than pay the higher cost to charge their electric vehicle.

In order to be competitive in the market and encourage EV adoption, the DCFC user fee should result in an electric fueling cost at or below an equivalent cost to travel using a gasoline vehicle. Therefore, in order to better understand customer needs and behaviors, the Company believes that altering the DCFC usage fees between the per minute and per kWh bands, as shown in Table No. 4 below, will provide good information on the pros and cons of fees that use a time versus energy basis, and how utilization may change when the cost of electricity is closer to the equivalent cost of gasoline.

Table No. 4 – Projected $/gal Equivalents for Proposed Banded Rate Structure*

Per minute fee	Per kWh fee	Average Power Delivery	$/gal equivalent
$0.30	$0.54	33 kW	$4.28
$0.20	$0.36	33 kW	$2.86
$0.30	$0.40	45 kW	$3.15
$0.20	$0.27	45 kW	$2.10

*These calculations assume an average session time of 17.4 minutes, an average power delivery of 33.1 kW, and a rated steady state power delivery of 45 kW, respectively.

The effect on utility revenues from the proposed flexible banded rate structure is expected to be relatively small over the course of the pilot program. Estimates for this effect are sensitive to charging session assumptions including energy consumption, time of charging, and the number of sessions over a given time frame. Higher levels of energy consumption, time of charging, and number of sessions generally result in higher net revenues from the increased DCFC user fees, relative to the meter billing expense. Less than 30 charging sessions per month at each DCFC station are expected in the near term, given that over the last month 17 charging sessions occurred at Kendall Yards and nine occurred in Rosalia. The number of charging sessions should increase with higher EV adoption, bounded by a practical limit of an

[3] Vehicles have not charged at the rated power of the unity for reasons such as, the state of the EV battery or the make/model of the EV itself. Older generations of certain EVs appear to not be able to charge at a DCFC at higher rates of power.

estimated 450 sessions per month (equivalent to 15 per day) over the long-term. Table Nos. 5 and 6 below provide annual net revenue estimates for the proposed banded rates at 9.6 kWh and 17.4 minutes per charging session, respectively.

Table No. 5 – Annual Net Revenue Estimate for DCFC (time-based fees)

		$0.30/min		$0.20/min	
# of Charging Sessions per Month	**Meter Billing**	**DCFC User Fees**	**Net Utility Revenue**	**DCFC User Fees**	**Net Utility Revenue**
1	$2,390	$63	-$2,327	$42	-$2,348
15	$2,581	$940	-$1,642	$626	-$1,955
30	$2,787	$1,879	-$908	$1,253	-$1,534
90	$3,609	$5,638	$2,029	$3,758	$150
150	$4,431	$9,396	$4,965	$6,264	$1,833
450	$8,299	$28,188	$19,889	$18,792	$10,493

Table No. 6 – Annual Net Revenue Estimate for DCFC (energy-based fees)

		$0.54/kWh		$0.27/kWh	
# of Charging Sessions per Month	**Meter Billing**	**DCFC User Fees**	**Net Utility Revenue**	**DCFC User Fees**	**Net Utility Revenue**
1	$2,390	$62	-$2,327	$31	-$2,359
15	$2,581	$933	-$1,648	$467	-$2,115
30	$2,787	$1,866	-$921	$933	-$1,854
90	$3,609	$5,599	$1,990	$2,799	-$809
150	$4,431	$9,331	$4,900	$4,666	$235
450	$8,299	$27,994	$19,694	$13,997	$5,697

Although the material effect on utility revenues will be small over the course of the pilot program and in the relative near term, the proposed banded rate structure will allow for effective experimentation and valuable information in terms of customer participation and satisfaction, enabling better modeling and proposals for longer term programs. Customers will be made aware of pricing through the EVSE user interface, which clearly indicates the costs incurred for charging by the minute or by kWh.

6. The Company added a provision to its tariff, such that it may request customers to participate in a time-of-use rate structure for EV charging in the future.

7. Propose to spend up to $100,000 on low-income initiatives. The Company will solicit proposals from agencies supporting low-income customers in Avista's service territory. The Company will select two to four proposals to fund that will demonstrate how an electric vehicle, EVSE, and/or education and outreach activities will provide benefits to the low income

customers served. An example could be providing an electric vehicle to a Community Action Agency that uses the vehicle for outreach events, weatherization audits, transportation services, etc. Another example could be providing an electric vehicle and EVSE to an agency that provides transportation and/or grocery delivery service for low-income customers that are unable to easily access groceries. One more example could be to fund education and outreach opportunities for agencies that serve low-income customers, for both their employees and the customers they serve.

In order to initiate proposals, the Company held a meeting with two Community Action Agencies that provide service to low-income customers on November 1, 2017 to discuss the Company's low-income initiatives. This meeting led to a larger meeting held on December 4, 2017, with representatives from 15 agencies serving low-income customers in attendance. Discussions included basic information about electric vehicles and charging, as well as ideas and opportunities to serve disadvantaged customers. The Company looks forward to continued discussions regarding plans for longer term program collaboration and development during 2018.

8. Propose to move to a semi-annual report filing schedule, instead of the current quarterly reporting. Semi-annual reports will be filed on or before May 1st (data through March 31st) and November 1st (data through September 30th) each year. At quarterly intervals between the semi-annual reports, the Company will provide Staff and other interested parties with an update on the port installation status, pilot-program costs, and utilization of DC Fast Chargers.

IV. JOINT UTILITY ELECTRIC VEHICLE STAKEHOLDER GROUP FEEDBACK

The Company discussed its intent to request an extension of its Program with the newly formed Joint Utility Electric Vehicle Stakeholder Group[4] on October 9, 2017. Following that meeting, the Company provided a draft of the proposed extension details and revised tariff with the stakeholder group, in which it solicited feedback on the proposal. The Company held further discussions with Commission Staff, and after receiving feedback, modified the proposal accordingly. The Company provided its updated proposal to the stakeholder group on November 7th, in order to solicit any additional feedback not already provided.

Further, on October 27, 2017 Avista discussed the proposed Program extension with The Energy Project, specifically as it relates to the low-income element of the proposal, and discussed

[4] The Joint Utility Electric Stakeholder Group includes members from Avista, Puget Sound Energy, PacifiCorp., Public Counsel, WSDOT and the Department of Commerce, in addition to many other interested parties that participated in Docket UE-160799, as well as commented on the Commission's rulemaking related to the implementation of RCW 80.28.360, electric vehicle supply equipment.

the pilot and proposed extension with the Northwest Energy Coalition on November 30, 2017. To date, no stakeholders have objected to the proposal. The feedback from stakeholders has been supportive and especially so as it related to the low-income element of the proposal.

V. INTERIM EVALUATION OF THE EVSE PILOT PROGRAM

Attachment A provides an interim evaluation of the Company's EVSE Pilot Program, including a synopsis of progress made towards the Program's primary objectives, lessons learned thus far, and the Company's future direction with EVSE.

VI. SUMMARY

In summary, the pilot program has been successful to date, and building upon this with the proposed adjustments and request to extend the program will assist in an effective long-term program, while maintaining support for early EV adoption. Significant public and private investments on a global scale, technology advances, and academic studies continue to accumulate, pointing toward the tremendous economic and environmental benefits of electric transportation, and potential impacts on the electric grid. The utility may not be able to influence some barriers to this transition, such as upfront vehicle costs and product variety, however it can play an essential role in addressing other barriers such as EVSE infrastructure and customer awareness, and has a responsibility to help shape the transition in a way that brings the most net benefits to all customers served.

Avista requests the tariff revisions described herein become effective February 1, 2018. If you have any questions regarding this filing please contact Shawn Bonfield at 509-495-2782 or shawn.bonfield@avistacorp.com.

Sincerely,

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Enclosures