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September 9, 2021

Jan Noriyuki, Secretary  
Idaho Public Utilities Commission  
11331 W. Chinden Blvd. Bldg. 8, Ste. 201-A  
Boise, Idaho 83714

RE: Case No. AVU-E-21-13

Dear Ms. Noriyuki:

Attached for filing with the Commission is Avista Corporation's, doing business as Avista Utilities', application requesting that the Commission authorize the Company to implement pilot electric transportation programs as outlined in the attached Application.

Please direct any questions regarding this filing to Linda Gervais at 509-495-4975 ([linda.gervais-falkner@avistacorp.com](mailto:linda.gervais-falkner@avistacorp.com)) or me at 509.495.8620 ([Patrick.ehrbar@avistacorp.com](mailto:Patrick.ehrbar@avistacorp.com)).

Sincerely,

*/s/ Patrick Ehrbar*

Patrick Ehrbar  
Director of Regulatory Affairs

Enclosure

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10 **BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION**

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12 IN THE MATTER OF THE APPLICATION OF ) CASE NO. AVU-E-21-~~13~~  
13 AVISTA CORPORATION FOR AN ORDER )  
14 AUTHORIZING PILOT PROGRAMS FOR THE )  
15 RESEARCH AND DEVELOPMENT OF ) APPLICATION OF  
16 ELECTRIC TRANSPORTATION ) AVISTA CORPORATION  
17 \_\_\_\_\_)

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19 **I. INTRODUCTION**

20 In accordance with IDAPA 31.01.01 (Rules of Procedure, or RP), RP 052 and RP  
21 201, et seq., Avista Corporation, doing business as Avista Utilities (hereinafter Avista or  
22 Company), hereby respectfully makes application to the Idaho Public Utilities  
23 Commission (IPUC or the Commission) for an order authorizing the Company to  
24 implement pilot electric transportation programs. The Company proposes to offer these  
25 programs under its electric tariff Schedule 90, “Electric Energy Efficiency Programs”,  
26 specifically under the Market Transformation Program and associated Research and  
27 Development (R&D), and fund the programs under its electric tariff Schedule 91,  
28 “Energy Efficiency Rider Adjustment”, effective November 1, 2021.

29 The Company requests that this filing be processed under the Commission’s  
30 Modified Procedure rules through the use of written comments.

1           Communications in reference to this Application should be addressed to:

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11           The Company has included the following attachments in support of this filing,

12           which are also referenced below:

- 13           a) Exhibit No. 1 – Avista Electric Vehicle Supply Equipment Pilot Final Report
- 14           b) Exhibit No. 2 – Avista Transportation Electrification Plan

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## **II. BACKGROUND**

17           In November 2020, NARUC President Paul Kjellander announced the theme for

18           his term, “Connecting the Dots: Innovative/Disruptive Technology and Regulation.”

19           This theme seeks to explore the many different emerging technologies and innovations

20           that will impact electricity, natural gas, telecommunications, and water utilities. This

21           theme highlights how the utility sector faces unprecedented pressure created by energy

22           policy shifts, growing consumer expectations, and rapidly evolving technological

23           advancements that could fundamentally alter the utility landscape. Concerns about deep

24           decarbonization, electrification, grid modernization, the need for more renewable energy

25           resources, cybersecurity, and the surge of distributed energy resource development are

26           among the many drivers that will alter this landscape. There remains uncertainty as to

27           which emerging technologies and innovations will carry the industry forward and what

28           impact those changes will have on the current regulatory regime. As utilities confront the

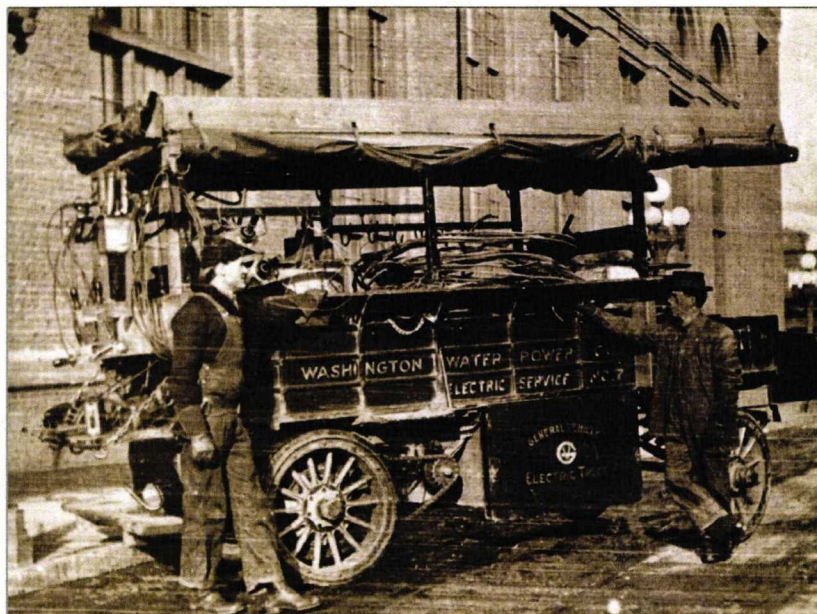


1 changes that could significantly alter the value proposition of their services, what role  
2 should regulators play in the integration of these potentially disruptive technologies and  
3 innovations?

4 Avista recognizes that innovation often happens through a series of incremental,  
5 smaller steps, rather than in a great leap forward. In this spirit, the Company proposes a  
6 relatively small set of electric transportation programs in Idaho, which could lead to larger  
7 scale innovations and benefits in the long run. The programs also align with the need to  
8 “connect the dots” in transportation electrification, now poised to make dramatic impacts  
9 on the energy industry and society as a whole over the next several decades.

10 This isn’t the Company’s first venture in electric transportation. Back in the early  
11 1900s, Avista (then Washington Water Power) briefly partnered with the General Vehicle  
12 Company to market and sell electric vehicles, including cars and trucks. It also invested  
13 in public electric transportation in the form of electric trolleys to help expand early growth  
14 in the Inland Northwest.

15 **Illustration No. 1**



1 Over a century has passed since the internal-combustion engine achieved  
2 dominance in the transportation sector. However, modern advances in battery technology  
3 and costs, and the global imperative to reduce greenhouse gas emissions and air pollution,  
4 positions electric transportation to transform both the transportation and energy sectors –  
5 not just in the light-duty passenger vehicle market, but also in medium- and heavy-duty  
6 segments, including freight and material transport of all kinds – on the road, by rail, and  
7 even over air and water in some cases.

8 Today, driving a light-duty electric vehicle (EV) fueled by Avista’s electricity  
9 costs less than an equivalent \$1 per gallon of gasoline at a stable price, saves \$300 per  
10 year in maintenance expenses, and results in zero tailpipe emissions, for a total CO<sub>2</sub>  
11 emissions reduction of 80%.<sup>1</sup> If all light-duty vehicles were electric, this would result in  
12 regional savings of over \$1 billion per year – creating a powerful ripple effect for the  
13 economy – and avoided annual emissions of 2.5 million tons of CO<sub>2</sub>, using local and  
14 relatively clean energy sources.<sup>2</sup> Other electrified transportation beyond light-duty  
15 passenger vehicles could result in even greater reduced emissions and operational  
16 savings. In addition, electric transportation provides grid benefits for all utility customers,  
17 in the form of net revenue that helps pay for fixed utility infrastructure costs. By 2050,  
18 electric transportation may represent 20% or more of overall utility electric load, as  
19 modeled by the National Renewable Energy Laboratory. This is illustrated below:

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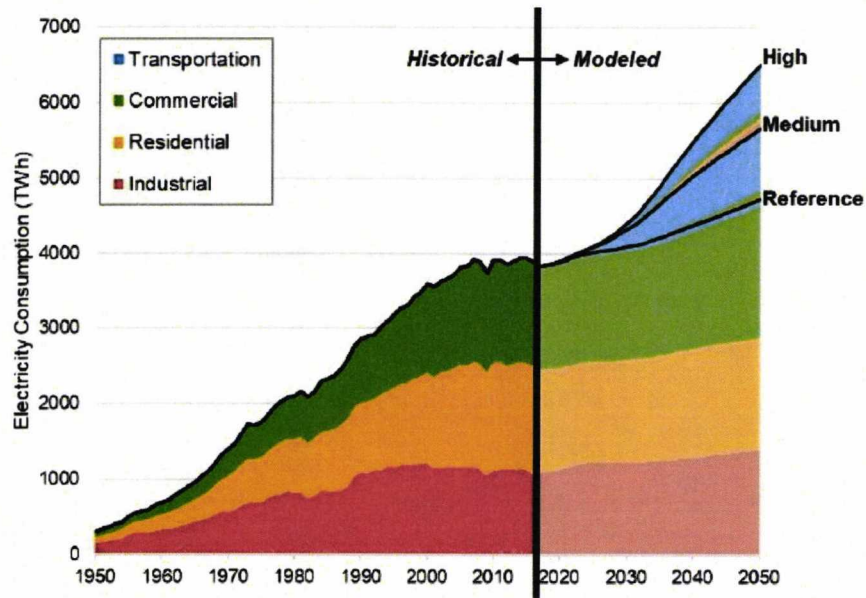
<sup>1</sup> Estimates assume Avista’s current mix of electric generation sources, 3.3 miles/kWh and \$0.11/kWh for EVs, and \$3/gallon, 26 mpg for conventional vehicles.

<sup>2</sup> Avista Transportation Electrification Plan (2020), p. 4 and 40-43.



1 **Illustration No. 2 – U.S Historical and Projected Annual Electricity Consumption<sup>3</sup>**

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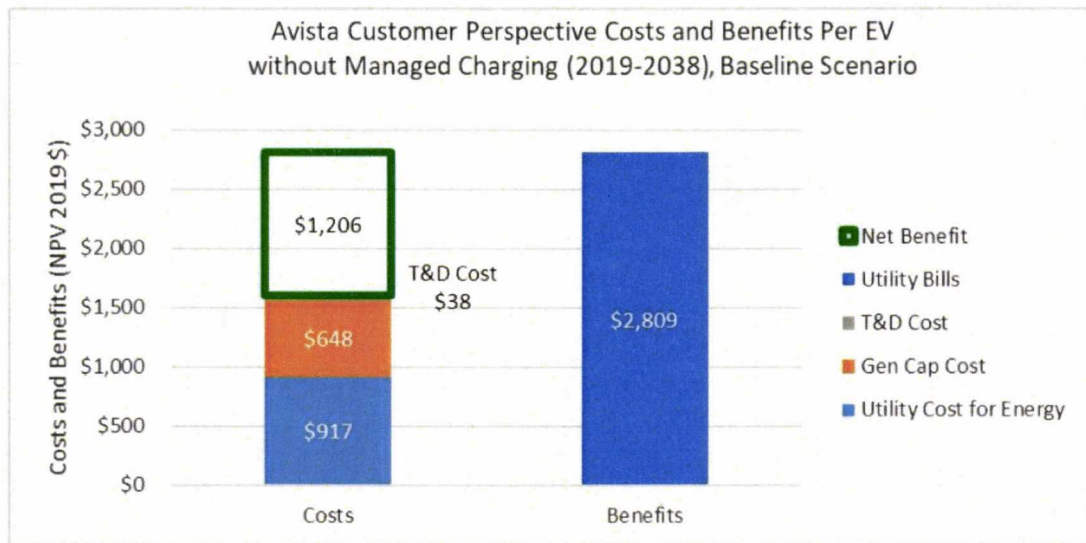


11            Fortunately, transportation loads are very flexible, in that a large portion of  
12 charging may occur when equipment is idled, such as while a personal EV is parked at  
13 work during the day or at home overnight. In the future, the greatest benefits may be  
14 realized by capitalizing on this flexibility, charging EVs when grid resources are less  
15 constrained, and/or when renewable energy resources such as solar and wind are  
16 abundant. In other words, electric transportation can benefit all customers and society as  
17 a whole – not just those using EVs and other forms of electrified transportation equipment  
18 – by using a cheaper and cleaner fuel, more efficiently utilizing grid infrastructure, and  
19 integrating renewable energy resources that energize a more efficient and sustainable  
20 economy. Initial modeling indicates positive net benefits both from a regional and a  
21 customer rate-impact perspective, which may be further amplified when charging off-  
22 peak:

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<sup>3</sup> Electrification Futures Study: Scenarios of Electric Technology Adoption and Power Consumption for the United States, p. xiv. National Renewable Energy Laboratory, 2018.

1 **Figure No. 1 – Net Benefits from Light-Duty EVs<sup>4</sup>**



10 The electric utility is in a unique position to support electric transportation for the  
11 benefit of all customers, mainly through charging infrastructure investments, education  
12 and outreach, and grid optimization through load management. The industry and markets  
13 continue to rapidly evolve, making constant monitoring and learning a necessity.

14 In 2019, Avista completed a three-year EV pilot in the State of Washington.<sup>5</sup> The  
15 Company had significant learnings from the pilot regarding utility support of light-duty  
16 vehicle electrification – costs and benefits, grid impacts, and customer experience for  
17 example. The utility does play an important role in supporting beneficial electrification,  
18 primarily in areas of charging infrastructure, load management, and education and  
19 outreach. It is clear that the transition to electric transportation will result in significant  
20 economic and environmental benefits for the region and customers over the long term,  
21 e.g. driving an EV costs less than \$1/gallon equivalent, results in an 80% reduction of  
22 CO<sub>2</sub> emissions. Avista believes it is now well positioned to propose initial

<sup>4</sup> Avista Transportation Electrification Plan (2020), p. 37.

<sup>5</sup> <https://www.utc.wa.gov/casedocket/2016/160082>

1 comprehensive pilot strategies and activities for Idaho customers that build upon this  
2 experience, being responsive and flexible to evolving conditions in a variety of market  
3 segments and technologies.

4

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### **III. STRATEGY FOR IDAHO**

6 In order to be successful, the strategy for Idaho must incorporate a regional  
7 approach as summarized in further detail in the Company's Exhibit No. 2 to this  
8 Application – "Avista Transportation Electrification Plan." The intent of these programs  
9 is meant to be scalable. Given the multiple technology and program options, these  
10 programs as proposed will assist with determining future efforts. These proposed  
11 programs will provide experience in Idaho and the ability to examine cost-effectiveness  
12 and customer acceptance, thereby better defining system and infrastructure requirements,  
13 and assessing costs/benefits.

14 Avista proposes electric transportation programs in two areas of focus:

15 1. Integrated Charging, On-site Renewables, and Battery Storage Research

16 The Company has received an increasing number of questions from  
17 commercial customers, interested in the possibility of installing charging  
18 infrastructure integrated with on-site renewable power generation and battery  
19 storage, either connected or isolated from the grid. In addition, with improved  
20 technology and costs, such an integrated system could prove essential to cost-  
21 effectively deploy fast-charging in more remote areas where three-phase,  
22 medium-voltage utility power is not practically available. This includes many  
23 rest-stops along major travel corridors (I-90 from Post Falls to the Montana  
24 Border, and Highway 95 from the Canadian Border to the southern tip of our



1 service territory) and a variety of other public and commercial locations in both  
2 urban and rural locations where charging infrastructure is strategically important.  
3 Finally, a distribution of charging stations less reliant on the grid could prove  
4 especially beneficial in terms of community resiliency in the wake of power  
5 outages, particularly in the future when a high percentage of transportation is  
6 electrified.

7 The Company proposes the following: (1) to develop and implement a  
8 research project and report summarizing the current state of integrated stations,  
9 (2) develop a parametric model used to identify variable cost factors and resulting  
10 charging outputs on an ongoing basis, and (3) a construction project design and  
11 implementation plan with estimated costs and benefits, which may be executed in  
12 the future provided funding from grant and other contributing funds, or at such  
13 time that economic thresholds are met. The Company intends to collaborate and  
14 solicit assistance from local research institutions and industry experts, developing  
15 knowledge and contributing to the general body of knowledge in the industry,  
16 with \$50,000 proposed annually for the research project.

17 2. Workplace, Fleet, and Rural Access Charging Infrastructure

18 This program makes it easy and less costly for commercial customers to  
19 install workplace and/or fleet charging infrastructure on their property, for a  
20 variety of beneficial uses, and provides significant benefits in overcoming barriers  
21 to early adoption and enables Avista to develop load management capabilities.  
22 Low-cost and reliable charging infrastructure would be installed by Avista, with  
23 customers contributing a minimum cost share of 50% of the dedicated circuit  
24 wiring from their electric supply panel downstream of the utility meter, to the EV

1 chargers.

2 Charging infrastructure installed at locations designated for public rural  
3 access utilization would not require a customer cost share, as the specific site hosts  
4 in the smaller rural towns across Avista's service territory may be limited in  
5 means, which would be a significant barrier to adoption. In all cases, commercial  
6 customers would pay for the additional electricity supplied by their existing  
7 metered service to the EV chargers on their regular monthly bill, with options to  
8 collect user/usage fees to help offset modest electricity costs and agree to  
9 participate in load management experiments.

10 Charging infrastructure is proposed to be installed at an estimated 30 sites  
11 per year, broken down by 20 workplace, 5 fleet, and 5 rural access locations, at  
12 an estimated cost of \$345,000. Ongoing maintenance and load management costs  
13 are estimated at \$15,000 per year. The Company intends to verify that workplace  
14 charging stands out as a powerful catalyst for EV adoption, while simultaneously  
15 providing grid benefits from reduced EV charging at home during the evening  
16 peak hours.

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18 **IV. BUDGET AND REPORTING**

19 The Company proposes to fund the programs under its electric tariff Schedule 91,  
20 as they will be provided under the Market Transformation Program and associated  
21 Research and Development (R&D) outlined in tariff Schedule 90.<sup>6</sup> In its Order No.

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<sup>6</sup> On August 30, 2013, Avista applied for an order authorizing it to accumulate and account for customer revenues that provided funding for selected electric energy efficiency research and development (R&D) projects, proposed and implemented by the state of Idaho's four-year Universities. On October 31, 2013, Order No. 32918 was issued authorizing the Company's R&D efforts. Avista now recovers up to \$300,000 per year of revenue for research R&D from the Company's Schedule 91 Energy Efficiency Rider tariff.

1 35129, at page 9, (the Company’s request for a prudency determination of its 2018-2019  
2 electric and natural gas energy efficiency), the Commission stated “that the Company  
3 may continue with its R&D programs that it has already committed to fund but before  
4 committing to future R&D programs the Company shall propose and seek approval of an  
5 updated R&D program that includes metrics and measurable targets.”

6 As provided earlier in this application, and in support of the Commission’s Order  
7 referenced above, the intent of these programs is meant to be scalable given the multiple  
8 technology and program options. These proposed programs will provide experience in  
9 Idaho and the ability to examine cost-effectiveness and customer acceptance, thereby  
10 better defining system and infrastructure requirements, and assessing costs/benefits.

11 Total annual spending is estimated at \$410,000. Avista is not requesting an  
12 additional change in the Schedule 91 funding, Avista’s tariff Schedule 91 is “trued up”  
13 on a regular basis to match revenues with expenses.

14 **Table No. 1**

<b>Activity</b>	<b>Capital</b>	<b>O&amp;M</b>	<b>Total</b>
Workplace, Fleet, and Rural Access Charging Infrastructure	\$345,000	\$15,000	\$360,000
Integrated Charging, On-site Renewables, and Battery Storage Research	-	\$50,000	\$50,000
<b>Total</b>	<b>\$345,000</b>	<b>\$65,000</b>	<b>\$410,000</b>

15  
16 Financial reporting will be included in Avista’s annual Demand Side Management  
17 (DSM) Report due to the connection of both DSM, Market Transformation, and the R&D  
18 programs to Schedule 91. Given the desire to implement these programs within the  
19 market transformation and research and development defined in Avista Tariff Schedule  
20 90, the reports will not be accompanied by the traditional cost-effectiveness tests. Avista  
21 hosts semi-annual energy efficiency Advisory Group meetings plus webinars on current



1 topics of public interest, attended by the Commission Staff, among other interested  
2 stakeholders. The Company will include electric transportation activities on the regularly  
3 scheduled meeting agendas.

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#### **V. CUSTOMER NOTIFICATION**

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#### **VI. CONCLUSION**

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Dated at Spokane, Washington this 9th day of September 2021.

AVISTA CORPORATION

By: /s/ David J. Meyer

David J. Meyer

Vice President and Chief Counsel for  
Regulatory and Governmental Affairs