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Attorney for the Commission Staff

**BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION**

<b>IN THE MATTER OF AVISTA'S</b>	)	
<b>APPLICATION FOR A PRUDENCY</b>	)	<b>CASE NO. AVU-E-20-13</b>
<b>DETERMINATION FOR 2018-2019</b>	)	<b>AVU-G-20-08</b>
<b>ELECTRIC AND GAS ENERGY</b>	)	
<b>EFFICIENCY EXPENDITURES</b>	)	
	)	<b>COMMENTS OF THE</b>
	)	<b>COMMISSION STAFF</b>
	)	

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**STAFF OF** the Idaho Public Utilities Commission (“Staff”), by and through its Attorney of record, Dayn Hardie, Deputy Attorney General, submits the following comments.

**BACKGROUND**

On November 25, 2020, Avista Corporation dba Avista Utilities (“Company”) filed two Applications, each requesting the Commission issue an order finding that the Company’s electric or gas energy efficiency expenditures from January 1, 2018 through December 31, 2019 were prudently incurred (referred to collectively as the “Applications”). The Applications summarize the Company’s energy efficiency activities and their cost-effectiveness. The Applications include the Company’s 2018 and 2019 Annual Conservation Reports and the 2019 Idaho Research and Development Report. The Applications also include the 2018/2019 impact evaluation reports for the Company’s electric and gas energy efficiency programs. The Company requests that the Applications be processed by Modified Procedure.

## STAFF ANALYSIS

Staff reviewed the Company's Applications; Annual Conservation Reports; Evaluation, Measurement, and Verification Reports ("EM&V"); and additional information received during its review of the Company's program offerings. Based on its review, Staff recommends the Commission approve \$15,220,138 in electric and \$2,828,124 in natural gas expenditures as prudently incurred from January 1, 2018 through December 31, 2019.

## Financial Review

Staff audited the Company's Demand Side Management ("DSM") expenses and determined that the Company documented expenses correctly and that most of the Company's DSM rider expenses appear to be prudent. Table No. 1 below provides a summary of the Company's Idaho Electric rider revenues and expenses and Table No. 2 below provides a summary of the Company's Idaho Natural Gas rider revenues and expenses.

**Table No. 1: Idaho Electric Rider Revenues and Expenses**

	2018	2019
Beginning balance - underfunded	\$ (9,574,630)	\$ (7,045,723)
Tariff revenues	\$ 10,177,172	\$ 10,332,033
Funds available	\$ 602,542	\$ 3,286,311
DSM expenses	\$ (7,736,789)	\$ (7,573,073)
Nexant removal	\$ 94,489	
Audit adjustments	\$ (5,965)	\$ 1,200
Ending balance - underfunded	\$ (7,045,723)	\$ (4,285,563)

**Table No. 2: Idaho Natural Gas Rider Revenues and Expenses**

	2018	2019
Beginning balance - overfunded	\$ 180,889	\$ 303,048
Tariff revenues	\$ 1,332,963	\$ 1,461,206
Funds available	\$ 1,513,852	\$ 1,764,254
DSM expenses	\$ (1,279,664)	\$(1,617,320)
Nexant removal	\$ 60,634	
Audit adjustments	\$ 8,226	
Ending balance - overfunded	\$ 303,048	\$ 146,933

Staff recommends removing all expenses paid to Nexant, Inc. (“Nexant”) for the Company’s third-party evaluations in 2018 related to its 2016-2017 biennial EM&V reports. This is consistent with the Stipulation and Settlement (“Stipulation”) entered by Staff and the Company and later approved in the Company’s last DSM prudency case, Case Nos. AVU-E-18-12 and AVU-G-18-08. In that case, Staff and the Company agreed that “the Nexant reports contained a number of significant errors—including but not limited to incorrect tables, typographical errors, and other deficiencies—and therefore were not used and useful.”<sup>1</sup> The Stipulation removed all expenses paid to Nexant during the 2016-2017 evaluation period. In 2018, the Company incurred additional expenses related to the 2016-2017 Nexant evaluation. Because the scope of the previous case was the determination of prudent expenses charged to the Company’s energy efficiency tariff rider during 2016 and 2017, the Stipulation did not address expenses incurred in 2018 for items related to the previous evaluation period. Consistent with the position of the parties in that case, the Nexant expenses incurred in 2018 have been removed because Nexant failed to produce accurate reports containing reliable information from which Staff could establish a position on the cost effectiveness of the Company’s programs.

For the 2018-2019 evaluation period, the Company used the Cadmus Group (“Cadmus”) to perform and prepare the EM&V reports. Staff does not recommend any adjustments related to the Company’s EM&V reports for the 2018-2019 evaluation period, though concerns with the Cadmus EM&V reports will be discussed below.

Staff recommends several other adjustments based on its audit of DSM expenses shown in the “Audit adjustment” rows in Table Nos. 1 and 2. A \$6,650 Idaho electric incentive payment was incorrectly assigned to the Idaho natural gas tariff, which Staff has re-assigned to the electric tariff. Additionally, \$1,885 of electric expenses and \$1,576 of natural gas expenses that should have been assigned to the Company’s Washington customers were incorrectly charged to Idaho. The Company stated that it has created new controls to limit Washington expenses assigned to Idaho, and Staff found fewer of these errors than in the Company’s past prudency cases. Staff found four such errors in this case: two were incentive payments for Washington addresses and two were for postage to customers that were not accurately assigned to Washington and Idaho jurisdictions. The Company acknowledged all these errors during

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<sup>1</sup> Stipulation and Settlement—AVU-E-18-12 and AVU-G-18-08, at 7.

Staff's audit. Combined, the Nexant and audit adjustments would decrease the Company's prudence request by \$89,725 for the electric rider and \$68,860 for the natural gas rider.

### **Energy Efficiency Portfolio Overview**

In the 2018 Annual Conservation Report, the Company reported its Idaho electric portfolio achieved 160% of its Integrated Resource Plan ("IRP") goals, acquiring 29,805 MWh of savings despite a decrease of 18,843 MWh in savings from 2017. Much of the reduced savings can be associated with the interior prescriptive lighting in the commercial/industrial ("non-residential") sector. In 2018, non-residential programs experienced a 47% decrease in savings from 2017. Exhibit No. 2 at 4-7. In the 2019 Annual Conservation Report, the trend continued for the electric portfolio. The Company achieved 144% of its IRP target while experiencing a 4,574 MWh decrease in savings from the prior year. The Company experienced a 27% drop in acquired savings through its non-residential programs, mostly associated with the Company's non-residential prescriptive lighting programs. Despite the drop in the Company's electric portfolio savings, the Company reported a 23% increase in savings for the residential program from 2018. Exhibit No. 3 at 4-6.

In 2018 and 2019, the Company's Idaho natural gas portfolio achieved 82% of its IRP target. In the 2018 Annual Conservation Report, the Company reported 247,756 therm savings, a decrease of 57,752 therms from 2017. In 2018, residential and non-residential programs experienced 9% and 51% respective decreases from savings acquired in 2017. Exhibit No. 2 at 4. The Company stated that "much of the change is attributed to commercial/industrial prescriptive programs and to residential HVAC and water heater programs." *Id.* The trend continued into 2019, with both programs experiencing a decrease in therm savings to a total of 212,764 therms — 68% of the Company's IRP target. Application at 6. The decrease is mainly attributed to a 12% decline in savings for residential programs. The Company states this is due to "fewer customers converting to natural gas due to the lower conversion incentive level." Exhibit No. 3 at 4.

#### *Residential Programs*

The Company's Idaho residential electric program reported a 25% increase in savings from 2018 to 2019. Notably, the Company reported significant improvements to its Multifamily

Direct Install and the HVAC measures. These two programs accounted for 35% of the reported residential savings in 2019 compared to 23% of the reported savings for the residential program in 2018. Multifamily Direct Install savings increased because of higher customer participation while the HVAC program had verified savings that were greater than originally reported. The large increase in HVAC savings is attributed to Electric Variable Speed Motors (“VSM”) outlined below.

In a billing analysis in its 2019 Idaho Electric Impact Evaluation, Cadmus concluded that the VSM measures’ annual Unit Energy Savings (“UES”) is 1,528 kWh per unit, a significant increase from the Company’s assumed 414 kWh per unit, resulting in a 369% realization rate. Cadmus stated that most participants installed the 90% AFUE Natural Gas measure with the VSM measure. 2019 Electric Impact Evaluation at 22-23. As a result, Cadmus explains that “the high electric energy savings appears to have resulted at least partly from a shift in some homes away from secondary electric heating, such as portable electric heaters or electric wall heaters, after installing the new gas furnace.” 2019 Idaho Electric Impact Evaluation at 22-23. In concurrence with these findings, Cadmus recommended the Natural Gas Furnace measure UES values be decreased to 71 therms from 102 therms. 2019 Natural Gas Impact Evaluation at 16. In 2018 and 2019, both the VSM measures and Natural Gas measures reported cost effectiveness ratios above 2.0 from the Utility Cost Test (“UCT”) perspective.

Despite the VSM measure being cost effective, the Company specifies that “VSM incentives will no longer be offered in 2020, due to VSMs becoming standard equipment on natural gas forced air furnaces.” Exhibit 3 at 64. Staff applauds the Company for adjusting its programs and measures as technological advances become standardized in new equipment. Because the Company is a dual fuel source utility, it can claim energy savings by reducing both electricity and natural gas energy usage with its programs and measures. Since VSMs are now standard equipment in natural gas forced-air furnaces, Staff encourages the Company to explore the potential electric savings in Natural Gas Furnace measures that were previously captured by VSM measures in the Company’s next EM&V process for the program. If electric savings are available, Staff recommends the Company adjust its incentives accordingly to encourage more customers to switch to high-efficiency natural gas furnaces.

Throughout the Pacific Northwest, electric utilities have reported a significant amount of residential electric savings from the Simple Steps, Smart Savings program, administered by the Bonneville Power Administration (“BPA”). The regional program focused on a buy-down

model that provides incentives directly to manufacturers or retailers for energy-efficient products. Most of the savings from the program can be attributed to energy-efficient lighting, specifically transitioning the residential sector from incandescent lightbulbs to LED lightbulbs. In 2018 and 2019, the Company saved 7,333,489 kWh from the Simple Steps, Smart Savings program. This accounted for 50% of the Residential portfolio savings for both years. Due to the Energy Independence and Security Act and market saturation of residential LED lighting, the BPA ended the Simple Steps, Smart Savings program on September 30, 2020. Staff is concerned that in its next DSM prudency filing in 2022, the Company’s residential portfolio will have a significant decrease in savings following the sunset of the Simple Steps, Smart Savings program. Staff encourages the Company to work with its Energy Efficiency stakeholders to develop a plan to replace energy savings no longer claimed due to the elimination of the Simple Steps, Smart Savings program.

*Rebates and Incentives*

Staff is concerned with the fluctuation of the rebates and incentives offered by the Company. Table No. 3 shows the Company’s rebate amounts for smart thermostats, which has changed four times in the last six years.

**Table No. 3: Smart Thermostat Rebate**

	2016	2017	2018-2019	2021
Self-Installed (DIY)	\$35	\$75	\$60	\$125
Contractor Installed	\$70	\$100	\$75	\$150

It is not uncommon for the Company to change rebate amounts every year, and in some cases, multiple times in a year. In 2019 the Company changed its incentive for ENERGY STAR Manufactured Homes natural gas customers from \$600 to \$200. The incentive then increased to \$400 midway through the year. Exhibit 3 at 70. The Company stated in its response to Production Request No. 36. that for 2019, the ENERGY STAR Manufactured Homes natural gas program had estimated first-year savings lower than the prior year, and the program’s incentive was adjusted to maintain cost effectiveness from the Total Resource Cost (“TRC”) test perspective. The incentive was then adjusted to \$400 to maximize throughput since the measure was cost effective under UCT. Response to Production Request No. 36.

After further discussion with the Company, Staff learned that the Company tries to offer consistent rebates and incentives for all its programs in Idaho and Washington. With Washington being evaluated from the TRC perspective and Idaho by the UCT perspective, this can be difficult and causes varying rebate amounts. Given the frequent cross-state travel in much of the Company's service area, Staff understands the Company's desire to match incentives and rebates between jurisdictions, but notes this will not always be possible with the fundamental differences between the UCT and TRC. Staff believes the Company should evaluate rebates and incentives from the UCT perspective for its Idaho customers before making changes to the rebate and incentive values.

In addition to the above, Staff believes the Company should consult with its Energy Efficiency stakeholders to formalize a process for evaluating and changing rebates and incentives. The Company often changes rebate and incentive levels year-over-year, with the previous cited smart thermostats and ENERGY STAR Manufactured Homes being just a few examples of these reoccurring changes. In response to Production Request No. 36, the Company indicated for its programs and measures that a process exists for setting and adjusting rebate and incentive levels, but the Company has no documented formal process for making these changes.

When making changes to programs and measures, the Company should have sufficient sample sizes to pull from for evaluating potential changes. In the case of the ENERGY STAR Manufactured Homes natural gas measure, Staff discovered that the "ENERGY STAR Homes program had too few participants to produce meaningful billing analysis results." Exhibit No. 3 at 57. In 2018 and 2019, the Company had only 6 projects completed in two years for the program. Exhibit No. 3, Table No. 44 at 69. While the results show a year-over-year change in the therm savings, Staff believes that a substantial sample population size and a proper evaluation for programs and measures is necessary to determine changes to rebates and incentives.

As of May 4, 2021 the Company's website<sup>2</sup> indicates the ENERGY STAR Manufactured Homes incentive for natural gas customers is currently back to the original \$600 prior to multiple changes in 2019. Year-over-year changes to savings achieved is common and can be influenced by a multitude of factors. However, constant fluctuation of rebates may frustrate and

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<sup>2</sup> Energy Star Manufactured Home Incentive *available at* <https://myavista.com/energy-savings/rebates-idaho> (last visited April 15, 2021).

disincentivize customers to not spend the extra money for a more energy efficient product that is offered to customers through the Company's EE programs. Staff believes the Company should consult with its Energy Efficiency stakeholders to document and formalize a process for setting and adjusting rebates and incentives. The Company should discuss — but should not limit — items such as EM&V studies, sufficient size of data or population for altering programs, program cost-effectiveness, customer participation, and adequate customer notice of program changes. A documented process will provide the Company with the necessary framework for providing its Idaho customers with the best EE offerings while maintaining a cost-effective program or measure.

#### *Non-residential*

In 2018 and 2019, the Company's non-residential electric portfolio displayed diminishing returns on savings from previous years. In 2018, the non-residential electric portfolio reported a 47% decrease in total savings, and in 2019, the Company reported an additional 27% decrease in savings from 2018. The Company claims the "decrease can be attributed to a significant amount of interior lighting savings that was already captured over the 2016-2017 biennium." Exhibit No. 2 at 35. Table No. 4 illustrates the components of the decreased savings in the Commercial and Industrial program from 2017 through 2019. The savings reduction in the Interior Lighting program accounts for most of the 26,218,598 kWh savings that decreased from 2017 through 2019. For Exterior Lighting, the program showed an increase in throughput and reported an increase in savings.

Despite reductions in year-over-year savings, the Company's non-residential electric portfolio remained cost effective in 2018 and 2019, reporting cost effectiveness ratios above 2.0 from the UCT perspective. Other than fuel efficiency measures, all measures for the portfolio are reported to be cost effective by the Company.



**Table No. 4: Commercial/Industrial Electric Savings**

	2017	2018	2019
Total Electric Savings (kWh)	42,962,098	22,897,942	16,743,500
Prescriptive Lighting: Interior & Exterior (kWh)	23,119,693	12,256,065	7,822,418
Interior Lighting (kWh)	20,666,146	8,012,238	4,518,758
Exterior Lighting (kWh)	2,453,547	4,243,826	3,303,660
Site-Specific (kWh)	10,705,817	10,205,592	8,425,874

\*2017 Interior and Exterior Lighting Savings are sourced from AVU-E-18-12, Application: *Idaho 2017 DSM Annual Report & Cost-Effectiveness Analysis* at 42. All other savings data are sourced from Exhibits 2 and 3.

### **Low-Income Weatherization**

The Company partners with the Lewiston Community Action Partnership (“CAP”) to administer its energy efficiency programs to its low-income customers. The Company provides CAP with a qualified list of measures that the Company fully funds based on the measures that are deemed cost effective from the TRC perspective during the development of the Annual Conservation Plan. Exhibit No. 2 at 78. For measures that are not cost effective, the Company provides CAP with a list of measures that receive partial reimbursement equal to the avoided cost energy value for each measure. Exhibit No. 2 at 78. In 2018, the Company fully reimbursed CAP for 13 natural gas, electric, and fuel conversion measures, and this number climbed to 20 measures in 2019 for the Company’s low-income customers. *See* Exhibit No. 2 at 78 and Exhibit No. 3 at 86-87.

Following adjustments to the Company’s tariffs and an increase in funding, the Company’s Low-Income program remains cost ineffective from the UCT perspective in 2018 and 2019. In 2018, the Company reported the Low-Income Electric portfolio as cost effective with a TRC ratio of 1.04, which was later adjusted to 1.17. After Staff identified errors in the Company’s cost effectiveness results, the Company filed revisions which are shown on Table No. 5. The errors are highlighted in the *Compliance with Order No. 34647* section on page 12 of Staff Comments.

**Table No. 5: Low-Income Portfolio Performance**

	2018 Electric	2019 Electric	2018 Gas	2019 Gas
Verified savings	355,753 kWh	269,934 kWh	4,772 therms	3,932 therms
Filed UCT B/C Ratio	0.59	0.48	0.15	0.11
Revised UCT B/C Ratio	0.59*	0.57	0.15	0.15
Filed TRC B/C Ratio	1.04	0.71	0.17	0.17
Revised TRC B/C Ratio	1.17	0.95	0.31	0.63

\*No revisions occurred.

In 2019, the Company’s Low-Income Electric portfolio was cost ineffective with a 0.95 TRC and 0.57 UCT. The overall drop in cost effectiveness and overall savings from 2018 is mostly due to the Company’s Fuel Conversion program. The 2019 Fuel Conversion Program reported a 65,246 kWh decrease in savings from 2018, achieving 37% of the Company’s 101,640 kWh energy savings goal. Exhibit 3 at 86. In Response to Production Request No. 32, the Company indicated for the Fuel Efficiency program that much of the decrease in savings is associated with a lower throughput per measure and a result of Unit Energy Savings (“UES”) values being reduced because of a 2016-2017 Impact Analysis for the Furnace and Water Heater combo measure. Staff notes that after an increase in funding and revisions, the 2019 low-income electric portfolio was almost cost effective with 0.95 TRC. Staff will continue to monitor the low-income electric portfolios for future cost effectiveness.

In 2018 and 2019, the low-income natural gas programs were cost ineffective from both the TRC and UCT perspective, as depicted in Table No. 5. In 2018, the Company achieved 66% of its savings goal and 22% of its participation goal for the low-income natural gas programs. 2018 Natural Gas Impact Evaluation at 15. In 2019, the trend continued with the Company achieving 15% of its therm savings goals. 2019 Natural Gas Impact Evaluation at 19. The Company states that 15% participation achievement is due to a “blatant lack of participation in insulation measures...The Company had planned for approximately 17,500 therms from insulations alone but found virtually no throughput.” Response to Production Request No. 33. Staff notes for the low-income natural gas programs that the Company did not address the failing participation and failing cost effectiveness in its Annual Conservation Reports. In the next DSM prudency filing, Staff encourages the Company to work with CAP to address decreased participation and increased throughput, while working to increase the cost effectiveness of low-income natural gas programs.

## Northwest Energy Efficiency Alliance (“NEEA”)

In 2018 and 2019, the Company spent a combined \$1,296,544, 7% of Idaho rider funds, on regional market transformation through NEEA. Through market transformation in the Pacific Northwest, NEEA’s purpose is to improve gas and electricity efficiency usage by endorsing and advancing energy-efficient practices, services, and products. NEEA claims savings in two areas: 1) efficiency measures; and 2) codes and standards. NEEA then reports savings to the Company in an annual report<sup>3</sup> using two different allocation methods the Company can choose: 1) “service territory”<sup>4</sup> allocation; and 2) “funder share”<sup>5</sup> allocation. In 2019, the Company switched allocation methods from “service territory” to funder share allocation. For natural gas, NEEA currently does not forecast energy savings for the 2015-2019 business plan, and it anticipates work in the area will deliver savings in 2019 or later. Exhibit No. 3 at 101.

NEEA reported a combined savings of 8,819 MWh savings in 2018 and 2019, with 5,030 MWh of those savings being captured in 2018 for the Company’s Idaho service territory. Eighty-five percent of the NEEA reported savings (7,480 MWh or 0.85 aMW) originated from codes and standards and the remaining originated from efficiency measures. *See* Response to Production Request No. 12. Notably, in its 2018 Annual Savings Report, NEEA reports 0.18 aMW of electric savings in codes and standards from “Residential/Commercial Battery Chargers” in Oregon for the Company’s Idaho service territory. In an evaluation report prepared for NEEA, D&R International states that the “Oregon energy efficiency standard for battery chargers duplicated the California standard, which went into effect 11 months earlier...[and that] NEEA provided technical expertise and served as an important resource to the Oregon legislature throughout the legislative process for Senate Bill 692.”<sup>6</sup> Given that NEEA does not claim any natural gas savings in the 2015-2019 business plan and the Company only provides natural gas

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<sup>3</sup> The Company provided Staff the annual reports. The reports are referred to as the *NEEA 2018 Annual Savings Report* and *NEEA 2019 Annual Savings Report*.

<sup>4</sup> Service Territory Allocation: “NEEA allocates the savings using the most disaggregated data available. The data sources can range from service-territory level to regional. The Program worksheets note the data source. When NEEA has only regional level data, NEEA allocates the savings using funding shares. NEEA applies the funder shares to savings by initiative based on the initiative start.” *NEEA 2019 Annual Savings Report Avista Idaho\_20200319.xlsx*.

<sup>5</sup> Funder Share Allocation: “NEEA allocates the regional savings (Idaho, Montana, Oregon, and Washington) using funder shares. The shares vary based on the funding cycle. Savings from previous investments receive the previous funder share. Savings from current investments receive the current funder share.” *NEEA 2019 Annual Savings Report Avista Idaho\_20200319.xlsx*.

<sup>6</sup> Logic Model Review and Savings Estimates of Battery Charger Standards in Oregon at 1 *available at* <https://neea.org/img/uploads/logic-model-review-and-savings-estimates-of-battery-charger-standards-in-oregon.pdf> (last visited February 22, 2021).

services to its customers in Oregon, Staff is unclear how an electrical standards change in Oregon provides any benefits to the Company's Idaho customers. Staff believes it is inappropriate for NEEA to claim electric savings from Oregon electrical codes and standards that simply duplicated California's codes and standards.

Additionally, in the NEEA 2019 Annual Savings Report, some of the savings reported for the Company's Idaho service territory are from Washington and Oregon codes. For example, an initiative called "Next Step Homes" was part of a Washington State Energy Code in 2015 for residential and single-family homes and NEEA claimed it saved 0.01 aMW for Idaho customers. Staff is uncertain how a Washington code provides benefits to Idaho customers. If such savings are to be claimed for out-of-state codes and standards, a transparent evaluation should be provided to Staff and outlined in the Company's Annual Conservation Reports describing how such programs benefit Idaho customers. NEEA currently claims 100 percent of savings for code-to-code changes. Staff is concerned that NEEA may claim savings that it is not directly responsible for. If savings from codes and standards are removed, NEEA would not be cost effective. Staff believes that to support the continued funding of NEEA, an independent EM&V must be conducted to clarify the savings NEEA claims plus the allocation and cost effectiveness of those savings to its member utilities based on the utilities' DSM avoided cost.

### **Compliance with Order No. 34647**

In Case Nos. AVU-E-18-12 and AVU-G-18-08, the Commission approved the Stipulation that required the Company to take additional steps to improve its Energy Efficiency Program. Since that Commission order, the Company has complied with the terms of the Stipulation, which included re-submitting its 2018 Annual Conservation Report, holding a Business Process Improvement workshop focusing on its annual reports and EM&V, and performing an internal audit of its energy efficiency processes.

The Company submitted a compliance report on July 31, 2020. Staff has reviewed the report and found that it complies with the Settlement approved in Order No. 34647. Additionally, Staff found that the Company's 2018 and 2019 Annual Reports appear to be more accurate and useful than its Annual Reports filed with its previous DSM prudency case. The Company clearly identified the sources of savings, costs, and evaluations for each program and fuel source. The Company highlights changes that occurred to programs from previous years

and changes that will occur based on EM&V studies. Overall, the Company's technical product in the Annual Conservation Reports has improved.

However, the data that supports the Company's Annual Conservation Reports is still lacking in several areas. Many of the issues appear to be directly related to Company's reliance on a third-party contractor to conduct its cost-effectiveness results for the Company's programs.

During its review of the Company's low-income portfolio, Staff discovered significant issues and errors with its reporting and calculations. Significant issues arose with misreporting the Company's 2019 Health and Safety ("H&S") costs. In 2019, the Company's Low-Income Natural Gas cost effectiveness test had \$145,985 in H&S costs, which would be approximately 46% of the Company's \$318,101<sup>7</sup> in expenditures in 2019. In working with Staff, the Company discovered that they had included all H&S costs from 2017 to 2019, rather than just 2019 costs. Response to Production Request No. 34. The actual low-income natural gas portfolio only spent \$48,481 on H&S upgrades in 2019, 15% of the Company's total \$318,101 expenditures. After the error was discovered, the Company provided Staff with updated cost effectiveness results for 2019, removing the 2017-2018 H&S cost. *See* Table No. 6. Overall, these errors lowered the cost effectiveness of the Company's low-income program, as shown in the "Revised" values in Table No. 6.

Additionally, the Company was not capturing the dollar of non-energy benefit for each dollar of cost associated with the H&S expenditures in the Company's TRC test<sup>8</sup> in 2018 and 2019. This step is critical as it provides the best possible outcome for low-income programs that are struggling to become cost effective and provides measurable benefits to H&S home improvements that would not normally be quantified. The Company provided updated cost-effectiveness results for the low-income programs and the added H&S benefits, which can be seen in Table No. 6.

Staff also found errors in Cadmus' output files that were provided through discovery. The output files detail the Company's savings, administration cost, incentive cost, benefits, and total costs for the UCT, TRC, and Participant Cost Test ("PCT"). The Company uses these results to evaluate its portfolio and individual measure performance. The results from these files

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<sup>7</sup> Exhibit 3 at Appendix E – 2019 Expenditures By Program. Low Income Natural Gas Expenditures totals \$318,101.

<sup>8</sup> "Staff Recommendation No. 8 proposes that Avista continue quantifying utility-funded health, safety, and repair measure as a dollar of non-energy benefits for each dollar of cost...the non-energy benefits should be included in the TRC." Final Order No. 32788 at 6-7.

are in the Company’s Annual Conservation Reports. In the output files for the 2018 low-income natural gas portfolio and the 2019 non-residential electric portfolio, Staff discovered a discrepancy between the “total cost” and the cost reported for the UCT test. In most situations, these costs are equal. The “total cost” category is the incentive payments plus the administration cost, which are all costs that would be included in the cost for the UCT. However, in both files, Staff discovered the cost for the UCT was reported to be lower than the overall “total cost” for all measures in the portfolio. After further discussion with the Company, Staff and the Company discovered the error had originated from Cadmus’ modeling, which incorrectly applied a discount rate from the “total cost” to the UCT cost for all measures. This error made the UCT cost lower than the total cost reported, a difference of \$3,300 for the 2018 low-income gas and \$159,789 for the 2019 non-residential electric portfolios. Thus, the UCT reported in the Annual Conservation Report was higher than it should have been. The Company’s revisions for these errors can be seen below with the updated cost effectiveness results in Table No. 6 for the low-income portfolio and Table No. 7 for the 2019 non-residential electric portfolio.

**Table No. 6. Revised Low-Income Portfolio Performance**

	2018 Electric	2019 Electric	2018 Gas	2019 Gas
Filed UCT Cost	\$622,702	\$813,132	\$334,060	\$344,431
Revised UCT Cost	\$622,702*	\$681,684	\$337,360	\$246,927
Filed H&S Cost	\$75,790	\$170,162	\$46,764	\$145,985
Revised H&S Cost	\$75,790*	\$42,919	\$47,255	\$52,248
Added TRC H&S Benefits	\$47,255**	\$38,023	\$42,605	\$49,502
Filed UCT B/C Ratio	0.59	0.48	0.15	0.11
Revised UCT B/C Ratio	0.59*	0.57	0.15	0.15
Filed TRC B/C Ratio	1.04	0.71	0.17	0.17
Revised TRC B/C Ratio	1.17	0.95	0.31	0.63

\*No revisions occurred.

\*\*Company’s workbook indicates TRC cost for H&S is \$67,885.

**Table No. 7. Revised 2018 Non-Residential Electric Portfolio**

	Filed UCT	Revised UCT	Filed TRC	Revised TRC
Portfolio Cost	\$3,754,425	\$3,914,214	\$5,602,120	\$5,840,805
B/C Ratio	2.96	2.84	2.19	2.10

In the Stipulation in the Company's previous DSM prudency cases, AVU-E-18-12 and AVU-G-18-08, Attachment A: Staff Issues and Recommendations Item No. 8 states "workpapers provided to Staff by the Company were incomplete, and often consisted of hard-coded numbers with no supporting calculations or data." In this case, Staff discovered similar issues. In the output files provided to Staff for the Company's cost effectiveness calculations, the files all contained all hard-coded numbers with the source of the avoided-cost calculations not present. During discovery, the Company was responsive to Staff and able to provide an example with formulas enabled of an individual measures avoided-cost calculation, along with other important calculations such as UCT cost and benefit calculations. The example provided to Staff was computed correctly. While one measure was able to be verified, Staff was unable to verify the remaining measures. In most situations, Staff was able to replicate the work that was produced in the hard-coded workbooks to the example provided. However, in some situations, workbooks will factor in increased energy usage or have added benefits that are not included in calculations that were provided to Staff in the example, such as calculating the low-income cost-effectiveness results. Having a cohesive workbook with formulas enable would potentially resolve some of the Company's issues with the cost-effectiveness test.

The issues highlighted earlier with the third-party contractor applying a discount rate to the total cost could have easily been avoided with a cohesive workbook with formulas enabled linking to other benefits and costs for the program. Staff believes the Company has improved in resolving Item No. 8 from the Stipulation and Settlement but is still lacking in adequately resolving the issue.

While the cost-effectiveness calculations for the Company were conducted by Cadmus, ultimately the Company bears the responsibility for ensuring the quality and accuracy of these calculations. The issues highlighted earlier with Cadmus models applying a discount rate, not including H&S benefits, and including three years of H&S costs shows the problems with the Company's reliance on a third-party contractor to conduct its cost-effectiveness results. Similar issues were documented in the Stipulation — AVU-E-18-12 and AVU-G-18-08, Attachment A: Staff Issues and Recommendations Item No. 9 states "Staff is concerned that the Company has been delegating fundamental tasks to its third-party contractor, while providing little or insufficient oversight." The Company is making fundamental business decisions on its DSM programs based on cost-effectiveness results provided by Cadmus. Ensuring that the cost-effectiveness results are calculated correctly is of the utmost importance. Based on the errors

presented earlier with the cost-effectiveness results, Staff believes these errors should have been caught during the quality control process and would have not occurred had the Company conducted their cost effectiveness test internally. Staff believes the Company did an inadequate job in resolving Item No. 9 from the Stipulation and Settlement. Staff recommends the Company internally conduct and calculate their cost-effectiveness tests.

*Nexant EM&V Expenses*

Since the 2016 prudency filing, Staff has raised concerns with the Company's lack of quality control processes and management of third-party contractors. Below are comments from Staff regarding outstanding issues that are present in this prudency filing and in support of the removal of Nexant EM&V expenses. Nexant EM&V expenses were expensed in 2018 in this filing, but the EM&V work was completed for the 2017 DSM filing that resulted in the Stipulation and Settlement and therefore should be disallowed.

In Case No. AVU-E-16-06, Staff said that:

Staff believes that it is the responsibility of the Company to understand the content and ensure that its reports are accurate, regardless of whether it is prepared by the Company itself or a contractor. In this case, the Company's Annual Reports were unreliable for use by Staff because there are questions as to the validity of information contained within it...In addition, Staff intends to closely examine expenses associated with producing the annual reports included in this filing when the Company asks for recovery of those expenses in its next prudency determination.<sup>9</sup>

Subsequently, the Stipulation and Settlement in Case Nos. AVU-E-18-12 and AVU-G-18-08, Attachment A states:

Item 9: Staff is concerned that the Company has been delegating fundamental tasks to its third-party contractor, while providing little or insufficient oversight.

Item 9a: Staff believes that the Company ultimately bears responsibility for the quality, accuracy, and usefulness of both reports: [Impact Evaluation and Annual Conservation Report]

Item 9b: Delegating responsibility for both its Annual Conservation Report and its Impact Evaluation to the same contractor creates a situation in which the contractor is evaluating its own work.

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<sup>9</sup> Staff Comments at 10.



Item 10: Staff analysis of Avista's DSM program revealed a lack of internal controls and insufficient use of quality assurance procedures not only in reporting, but also in record keeping...[D]eficiencies were apparent during the audit and through an examination of the report, which should have been caught if quality assurance protocol were being implemented.

Staff recommends Nexant expenses of \$155,122 for EM&V work related to 2017 DSM programs that were included as expenses in this case should not be recoverable. Such expenses were excluded in Case Nos. AVU-E-18-12 and AVU-G-18-08 due to significant errors and deficiencies in Nexant's work.

Additionally, many of Staff's concerns with the Company's use of Nexant's work continue to be present in this case even with a different contractor, Cadmus. Staff believes the Company should have discovered and corrected errors by Cadmus. Additionally, Staff believes the Company's is not adequately reviewing work from its third-party evaluators. Staff expects these issues to be resolved in the Company's future DSM prudency filings. Staff intends to closely examine the expenses associated with producing the Annual Conservation Reports and the Company's cost-effectiveness results included in this filing when the Company asks for recovery of those expenses in its next prudency determination.

### **Research and Development Projects**

Staff recommends the Company be allowed to recover this year's expenses for the DSM R&D program; however, Staff also recommends that future funding for this program either be discontinued or suspended until the program can be redesigned to focus on R&D that provides near-term, practical benefits for Idaho ratepayers. Staff found no evidence that any of the R&D projects funded by the DSM rider have ever provided benefits to the Company's ratepayers. Furthermore, Staff found no evidence that the Company has a process for implementing the results of R&D funded by the DSM rider.

In Case No. IPC-E-13-08, the Commission authorized the Company to use the DSM rider to fund up to \$300,000 annually in university R&D projects. Order No. 32918. Each year, the Company selects projects to be funded from proposals submitted by researchers at Idaho's higher education institutions.

In Order No. 32918, the Commission wrote, "We find it appropriate for Avista to fund applied, energy efficiency R&D through the Rider because that R&D is intended to produce near-term, practical benefits for Idaho ratepayers." Staff's review of all projects funded since the program's 2013 inception found no instance in which the Company implemented the results of a DSM-funded R&D project for the benefit of its ratepayers. In response to Staff's Production Request No. 9, the Company provided a list of benefits that accrued to students and faculty of the institutions conducting this research; however, the list did not include any tangible benefit that could be realized by the Company's ratepayers.

Rather than providing near-term, practical benefits for Idaho's ratepayers, some R&D projects funded by the DSM rider are unlikely to yield any tangible benefit for many years. For example, the All Iron Battery project was intended to determine whether a particular graphene material ("GUITAR") could be used to suppress H<sub>2</sub> formation on battery electrodes. It is unlikely that graphene will be produced economically in the foreseeable future, a fact noted by the researchers in their reports to Avista. Staff also notes that at the time this research was funded, research at other institutions (e.g., The University of Southern California's Dornhaus Center) had already determined that the H<sub>2</sub> problem could be solved inexpensively, by reducing the pH of the battery's electrolyte to 3.0 or less using ascorbic acid.

Staff also found several instances in which the Company and researchers missed opportunities to modify projects in ways that could have yielded practical benefit for the Company's ratepayers. For example, the Aerogel project did not provide information not already widely available from open sources. The panels used in the Aerogel project have been commercially available for several years, and the k-values and other thermo-mechanical data obtained by the researchers can be easily found in product data sheets. However, it would have been a simple matter to modify the researchers' apparatus and computer simulations to verify and adjust the thermal properties of materials and design features in the Company's Technical Resource Manual.

In summary, Staff believes that program funding should be discontinued until such time that it can be redesigned with the purpose of providing benefits to the ratepayers who fund it.

## STAFF RECOMMENDATION

Staff recommends that the Commission approve \$15,220,138 in electric and \$2,828,124 in natural gas expenditures as prudently incurred from January 1, 2018 through December 31, 2019. This amount reduces the Company's request by making adjustments to its Nexant EM&V expenses and several misallocated expenses. Staff also recommends that the Company conduct its cost-effectiveness tests internally and discontinue its Research and Development program.

Respectfully submitted this <sup>5<sup>th</sup></sup> day of May 2021.



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Dayn Hardie  
Deputy Attorney General

Technical Staff: Brad Iverson-Long  
Taylor Thomas  
Mike Morrison  
Yao Yin

i:umisc/comments/avue20.13\_avug20-8dhblmmytt comments

## CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 5<sup>TH</sup> DAY OF MAY 2021, SERVED THE FOREGOING **COMMENTS OF THE COMMISSION STAFF**, IN CASE NOS. AVU-E-20-13/AVU-G-20-08, BY E-MAILING A COPY THEREOF, TO THE FOLLOWING:

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