

**BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON
UG 366**

In the Matter of)
)
Avista Corporation, dba Avista Utilities,)
)
Request for a General Rate Revision.)
_____)

**OPENING TESTIMONY OF
BRADLEY G. MULLINS
ON BEHALF OF
THE ALLIANCE OF WESTERN ENERGY CONSUMERS**

July 16, 2019

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AWEC/102 – Revenue Requirement Detail

AWEC/103 – Reserve Imbalances from Avista’s 2018 Depreciation Study

AWEC/104 – Reserve Imbalance Amortization

AWEC/105 – Avista Flight Log Analysis

I. INTRODUCTION AND SUMMARY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Bradley G. Mullins, and my business address is 1750 SW Harbor Way, Suite 450, Portland, Oregon 97201.

Q. PLEASE STATE YOUR OCCUPATION AND IDENTIFY THE PARTY ON WHOSE BEHALF YOU ARE TESTIFYING.

A. I am an independent consultant representing utility customers before state regulatory commissions, with a primary focus in the Pacific Northwest. I am appearing on behalf of the Alliance of Western Energy Consumers (“AWEC”), a non-profit trade association whose members are large energy users served by electric and gas utilities located throughout the Pacific Northwest, including customers that receive gas distribution services from Avista Corporation in Oregon (“Avista”).

Q. PLEASE SUMMARIZE YOUR EDUCATION AND WORK EXPERIENCE.

A. A summary of my education and work experience can be found at Exhibit AWEC/101.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. In my opening testimony I discuss my review of Avista Corporation’s general rate case filing. In its initial filing, Avista requested a revenue increase of approximately \$6,677,000, or approximately a 10.3% margin increase (excluding gas costs). On July 3, 2019, parties in this docket entered into a Partial Settlement Stipulation regarding cost of capital and a few other issues that reduced the requested revenue requirement increase by \$1,316,000 to \$5,361,000, an approximate 8.3% margin rate increase.

1 **Q. WHAT WAS THE SCOPE OF YOUR REVIEW?**

2 A. I reviewed Avista's filing and its associated workpapers. I also conducted discovery and
3 reviewed Avista's discovery responses to those requests, as well as the requests and Avista's
4 responses to discovery from other parties in this proceeding. In addition, I participated in a
5 settlement conference on June 11, 2019.

6 **Q. WHAT ARE YOUR RECOMMENDATIONS?**

7 A. Based on my review, I am making four recommendations. Specifically, I recommend the
8 Commission require Avista:

- 9 1. *To amortize \$1,633,481 annually for reserves imbalances in FERC accounts 376*
10 *(Mains), 380 (Services), and 381 (Meters);*
- 11 2. *To disallow the cost of Avista's new airplane hanger and to allocate 28% of the*
12 *cost of Avista's new aircraft to non-utility operations;*
- 13 3. *To remove several projects from Avista's rate base forecast that Avista has*
14 *acknowledged will not be online by the rate base valuation date; and,*
- 15 4. *To remove from working capital all assets and liabilities associated with its*
16 *pension and other post-retirement benefits plans, consistent with Order No.*
17 *15-226.*

18 **B. WHAT IS THE IMPACT OF YOUR RECOMMENDATIONS?**

19 A. The impact of my recommendations can be found at Table 1, below, and further detail
20 surrounding the calculation of these adjustments has been provided in AWEC/102.

TABLE 1
Adjusted Revenue Requirement Deficiency / (Sufficiency)
In Thousands

1	Avista Initial Filing	6,677
2	July 3, 2019 Partial Settlement	(1,336)
3	After Settlement	5,342
	Additional Adjustments	
4	Depr. Reserve Imbalance	(1,723)
5	Corporate Jet / Hangar	(199)
6	Misc. Rate Base	(468)
7	Working Capital	(264)
8	Debt Interest	63
9	Total Adjustments	(2,654)
10	Adjusted	2,687
11	% Margin	4.1%

II. DEPRECIATION RESERVE IMBALANCE

Q. PLEASE SUMMARIZE THE ISSUE YOU HAVE IDENTIFIED WITH RESPECT TO AVISTA'S RESERVE IMBALANCES.

A. Several of Avista's key natural gas property accounts have material reserve imbalances. In the settlement of Docket UM 1933, Avista's 2018 depreciation study, regulatory treatment of Avista's reserve imbalances was not resolved and the parties agreed AWEC could raise the issue surrounding the reserve imbalances in Avista's next general rate case, which is this docket. Accordingly, I recommend in this proceeding that the Commission require Avista to reduce the reserve imbalances for three property accounts: Account 376 – Mains; Account 380 – Services; and Account 381 – Meters.

1 **Q. WHAT ARE DEPRECIATION RESERVE IMBALANCES?**

2 A. The concept of a depreciation reserve imbalance is a common issue that arises in the context of
3 ratemaking.¹ A reserve imbalance arises when actual depreciation experienced with respect to
4 a class of property differs from the historical reserves that a utility has accrued with respect to
5 the class of property. Since expectations change over time, a utility cannot accrue depreciation
6 perfectly. In fact, the actual depreciation of plant becomes known only after it has been used
7 for its entire useful life. Accordingly, imbalances of varying magnitudes arise between the
8 amount the utility has accrued and the actual depreciation experienced for any particular class
9 of property.

10 Depreciation reserve imbalances can be negative (i.e., a credit) or positive (i.e., a debit).

11 A negative reserve imbalance represents a scenario where past accruals are less than actual
12 depreciation. Thus, a negative reserve imbalance is like an asset that must be recovered
13 through future expenses. A positive reserve imbalance, on the other hand, represents a
14 scenario where past accruals are more than the actual depreciation. Thus, a positive reserve
15 imbalance is like a liability that must be refunded against future expenses.

16 **Q. WHAT CAUSES DEPRECIATION RESERVE IMBALANCES?**

17 A. Depreciation reserve imbalances can be driven by a number of factors, but generally arise
18 when the actual plant retirement associated with an account does not correspond to the
19 depreciation parameters used to set depreciation expense. Some degree of minimal reserve
20 imbalances are common and expected. If reserve imbalances become too large, however, a
21 review and investigation are appropriate to determine if corrective actions should be taken to
22 prevent depreciation expense and rate base from being misstated and distorted.

¹ See e.g. National Association of Regulatory Utility Commissioners, Public Utility Depreciation Practices at 188 (1996).

1 A common example of a reserve imbalance arises in the context of an early closure of a
2 production facility.² Since past depreciation rates would, in such a circumstance, not have
3 considered the early closure date, past depreciation expenses are typically insufficient. Since
4 the prior depreciation expenses were under accrued, there is an imbalance that must be
5 recovered through future expense. As the Commission is aware, however, handling the
6 imbalance can present a number of challenging regulatory issues.

7 On the other hand, there are many contexts where the life of a class of property placed
8 into service may have lengthened relative to past expectation. For example, if a utility sets
9 depreciation expense based on an assumption that property will retire, on average, in 40 years
10 but the utility actually uses the property for 50 years on average, an imbalance in reserves will
11 occur. Dealing with this type of imbalance presents many of the same regulatory challenges
12 as dealing with an underaccrual.

13 Whatever the scenario, it is important for material reserve imbalances to be identified.
14 If the imbalances are large it is also important to understand the magnitude and the causes of
15 the reserve imbalance.

16 **Q. WHAT IS THE MAGNITUDE OF AVISTA'S RESERVE IMBALANCES FOR**
17 **OREGON GAS SERVICES?**

18 A. Avista maintains material reserve imbalances for several of its key Oregon gas property
19 accounts. These reserve imbalances can be observed in Avista's depreciation study, which was
20 approved Docket UM 1933. I have attached the relevant pages from that study in Exhibit
21 AWEC/103.

² See e.g. WUTC v. Puget Sound Energy, Docket No UE-170033, Testimony of Chris R. McGuire, Exh. CRM-1T at 18-25 (June 30, 2017). Discussing reserve imbalances associated with early closure of Colstrip units 1 and 2.

TABLE 2
Avista Reserve Imbalances by FERC Account
As of December 31, 2016

Account	Descr.	Gross Plant	Actual Depreciation	Accrued Reserves	Reserve Imbalance	%
376	Mains	196,446,788	51,634,537	57,163,618	5,529,081	11%
380	Services	89,906,030	28,362,958	37,558,449	9,195,491	32%
381	Meters	40,940,579	9,898,502	5,915,498	(3,983,004)	-40%
Total Reserve Imbalances					10,741,568	

As can be seen in AWEC/103 and in Table 2, above, three of Avista's key principal natural gas distribution accounts possess material reserve imbalances. FERC Account 376 (Mains) had a reserve imbalance equal to 11% of the calculated accrual. Similarly FERC Account 380 (Services) also had a large imbalance of 32%. On the other hand, Account 381 (Meters) has under-accrued depreciation reserves of approximately 40%.

Q. ARE THESE RESERVE IMBALANCES SIGNIFICANT ENOUGH TO WARRANT ADDITIONAL REVIEW?

A. Yes. When one considers that Avista's overall Oregon annual revenue requirement is only \$65 million, the amounts in Table 2 are appropriately characterized as significant and need to be addressed. Absent regulatory treatment for the imbalances, the amounts get spread in the depreciation study using the remaining life method and are amortized ratably over the remaining life of each class of property. Since Avista's capital base is expanding, that approach will perpetuate the reserve imbalances demonstrated by Avista's depreciation study.

Q. WERE THE RESERVE IMBALANCES FOR THESE ACCOUNTS RESOLVED IN AVISTA'S DEPRECIATION STUDY IN DOCKET UM 1933?

A. No. In Docket UM 1933, AWEC raised the issue associated with Avista's reserve imbalances. Notwithstanding, parties supported AWEC addressing its concerns related to the above reserve

1 imbalances in Avista's next general rate case. At the time, Avista had agreed to a rate case
2 stay out in the Hydro One merger proceeding, but since Avista has now filed a rate case
3 following termination of the Hydro One merger, further consideration of the implications of
4 these amounts by the Commission is appropriate in this docket.

5 **Q. WHY IS IT IMPORTANT TO ADDRESS THESE BALANCES?**

6 A. Depending on the cause and magnitude, depreciation reserve imbalances produce a number of
7 ratemaking problems. These have been documented in many regulatory proceedings.

8 For example, in Docket No. 13-035-02, before the Utah Public Service Commission,
9 the Division of Public Utilities and UAE Intervention Group both noted reserve imbalances
10 with respect to PacifiCorp, dba Rocky Mountain Power, production and distribution facilities.
11 Parties in that docket ultimately agreed with PacifiCorp to amortize some of the negative
12 reserve imbalances associated with production and distribution assets in that case. Paragraph
13 21 of the August 30, 2013, Stipulation in that docket stated:

14 In order to offset the depreciation expense impacts of the shortened remaining
15 life at the Carbon Plant, which is calculated to be \$34.7 million, the Stipulating
16 Parties agree to expedite the amortization of the excess depreciation reserves at
17 the Gadsby Plant and the Hunter Plant. The Stipulating Parties agree that the
18 excess reserve at the Gadsby Plant and the Hunter Plant, calculated as of
19 December 31, 2011, will be returned on a straight line basis. The excess reserve
20 of \$21,073,503 associated with the Gadsby Plant will be amortized based on 9
21 years and the excess reserve of \$29,635,920 associated with the Hunter Plant
22 will be amortized based on 5 years, resulting in an annual amortization of \$8.2
23 million.³

24 Parties in Utah Docket 13-035-02 made similar adjustments to amortize negative
25 reserve imbalances associated with the Colstrip and Blundell facilities in Paragraph 22 of the
26 August 30, 2013, Stipulation.

³ In re the Application of Rocky Mountain Power for Authority to Change its Depreciation Rates Effective January 1, 2014, Ut. PSC Docket No. 13-035-02, Stipulation on Depreciation Rate Change, ¶ 21 (August 30, 2013).

1 **Q. BASED ON YOUR REVIEW, WHAT DO YOU RECOMMEND?**

2 A. I recommend the Commission require Avista to reduce its reserve imbalances by 50% by the
3 time of its next depreciation study in 2023, at which time the magnitude and causes for the
4 reserve imbalances can be reexamined and reevaluated. Further, I recommend amortizing the
5 regulatory liability associated with the reserve imbalances in rate base using the straight-line
6 method over the three-year period. I have detailed this calculation in Exhibit AWEC/104.

7 **Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION?**

8 A. As can be seen in AWEC/104, this recommendation produces an annual amortization expense
9 of \$1,633,481, or a \$1,723,289 reduction to Oregon's allocated revenue requirement. When
10 calculating the revenue requirement cost, I also made a rate base adjustment to account for the
11 remaining life amortization of the reserve imbalance through 2023. Fifty percent of the
12 expected 2023 balance was then reclassified into a regulatory liability and amortized ratably
13 over the three-year period until the next depreciation study, similar to the method used in the
14 Utah docket cited above.

15 **III. CORPORATE AIRCRAFT AND HANGAR**

16 **Q. PLEASE SUMMARIZE YOUR REVIEW WITH RESPECT TO AVISTA'S**
17 **CORPORATE AIRCRAFT COSTS.**

18 A. I conducted discovery to review Avista's private aircraft activity to determine the amounts
19 appropriately allocated to Oregon. I also reviewed some of the capital requisition
20 documentation Avista provided in response to Staff discovery requests regarding Avista's
21 decision to purchase and rate base its corporate aircraft and to purchase a new airplane hangar.

22 Based on my review, I recommend that the Commission make an adjustment to remove
23 28.1% of the cost of the newly purchased corporate aircraft, based on the analysis that I

1 conducted in AWEC/105. Further, I recommend the Commission disallow the costs associated
2 with the aircraft hangar, which was not considered in the economic analysis supporting the
3 aircraft purchase.

4 **Q. WHAT AMOUNT OF REVENUE REQUIREMENT HAS AVISTA PROPOSED FOR**
5 **THE CORPORATE JET AND HANGAR?**

6 A. These amounts may be found in AWEC Data Request 02. Avista's filing includes rate base of
7 \$4,200,000, on a total-company basis, associated with the purchase of the aircraft and hangar.
8 In addition, the filing also includes operating expenses of \$1,580,207, on a total-company
9 basis.

10 **Q. WHAT ARE THE OPERATING EXPENSES THAT AVISTA HAS INCLUDED IN**
11 **REVENUE REQUIREMENT?**

12 A. The operating expenses are the historical aircraft lease expenses, which Avista is no longer
13 incurring. Since Avista is no longer leasing the aircraft, these expenses should be adjusted and
14 removed from results.

15 **Q. DID AVISTA PERFORM A COST BENEFIT ANALYSIS WHEN IT DECIDED TO**
16 **PURCHASE THE AIRCRAFT?**

17 A. Yes. The cost benefit analysis was provided in response to Staff Data Request 160,
18 Attachments A and B. The cost benefit analysis, however, justified capital spending of only
19 \$2,750,000, not the \$4,200,00 that Avista has included in its filing. The reason for the
20 discrepancy is due to the fact that the cost of the aircraft hangar was not considered when
21 Avista made the decision to purchase the aircraft.

22 **Q. DID AVISTA PERFORM A COST BENEFIT ANALYSIS WHEN IT DECIDED TO**
23 **PURCHASE THE AIRCRAFT HANGER?**

24 A. No. In the text response to Staff Data Request 160, Avista provides a few of the alternatives
25 that it considered but did not present a cost benefit analysis associated with purchasing its

1 private aircraft hangar. Since the hangar was associated with the new aircraft purchase, it
2 would have been prudent to consider the hangar costs at the time of making the decision to
3 purchase the aircraft. No mention of the hangar is found in the cost benefit analysis supporting
4 the aircraft purchase, however. Accordingly, the costs associated with the hangar appear to be
5 an oversight associated with the initial economic analysis supporting the aircraft purchase.
6 Had the hangar requirements been considered in the original economic analysis, it would have
7 been more economic to continue leasing the aircraft. Based on this, I recommend the
8 Commission disallow the capital costs associated with the private aircraft hangar.

9 **Q. HAVE YOU CONDUCTED AN ANALYSIS OF AVISTA'S CORPORATE JET**
10 **ACTIVITIES?**

11 A. Yes. In AWEC/105 I detail an analysis that further shows that a large portion of Avista's
12 corporate jet costs should be allocated to non-utility operations. In that analysis I reviewed the
13 flight logs over the calendar year 2018 test period. The flight logs were provided in Avista's
14 response to AWEC Data Request 05. I reviewed each flight leg and determined which flights
15 were associated with non-utility operations. I then compared that to the total number of flight
16 legs to calculate the percentage of flights associated with non-utility operations. Based on that
17 analysis, I allocated all fights associated with the Hydro One merger to non-utility operations.
18 Based upon that calculation, I determined that 28% of the cost of the corporate jet should be
19 allocated to non-utility operations.

20 **Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION RELATED TO THE**
21 **CORPORATE JET AND HANGAR?**

22 A. As discussed above, there are three aspects of this adjustment. First, I removed the historical
23 aircraft lease expenses included in revenue requirement, since Avista is no longer leasing the
24 aircraft. Second, I removed the rate base and expense associated with the Avista private

1 airplane hanger. Third, I removed 28% of the rate base of the corporate jet based on the
2 analysis presented in AWEC/105. The collective impact of these adjustments is an
3 approximate \$204,858 revenue requirement reduction.

4 IV. MISCELLANEOUS RATE BASE

5 **Q. PLEASE SUMMARIZE THE ADJUSTMENTS THAT YOU HAVE IDENTIFIED**
6 **WITH RESPECT TO AVISTA'S PRO-FORMA RATE BASE.**

7 A. Through discovery, Avista has acknowledged several corrections and errors associated with the
8 pro-forma plant balances that Avista proposes to include in rate base. These amounts have
9 been detailed in AWEC/102.

10 **Q. WHAT CORRECTION DID AVISTA IDENTIFY WITH RESPECT TO ER 7201 -**
11 **JACKSON PRAIRIE PROJECT ALLOCATION?**

12 A. In response to Staff Data Request 159, Avista acknowledged that it used the wrong allocation
13 factor when allocating the cost of the ER 7201 – Jackson Prairie capital project. The correct
14 transfers-to-plant for this project should have been \$207,732, instead of the filed \$650,320,
15 meaning rate base was overstated by \$442,588 for this project. Correcting this error results in
16 an approximate \$44,814 reduction to revenue requirement.

17 **Q. WHAT CORRECTION DID AVISTA IDENTIFY WITH RESPECT TO ER 5121**
18 **MICROWAVE REPLACEMENT?**

19 A. In response to Staff Data Request 163, sub part c, Avista noted that it inadvertently included
20 the cost of project ER 5121 Microwave Replacement in the filing. Removing the project
21 produces an approximate \$5,000 reduction to revenue requirement.

1 **Q. WHAT CORRECTION DID AVISTA IDENTIFY WITH RESPECT TO PROJECT**
2 **3005 – GOLDENDALE?**

3 A. In response to Staff Data Request 165, Avista acknowledged that it incorrectly included a gas
4 distribution project in Goldendale, Washington in Oregon's pro-forma revenue
5 requirement. Removing this amount results in an approximate \$1,000 revenue requirement

6 **Q. WHAT CORRECTION DID AVISTA IDENTIFY WITH RESPECT TO PROJECT ER**
7 **7132 – DOLLAR ROAD SERVICE CENTER?**

8 A. In response to Staff Data Request 178, Avista acknowledged that it inadvertently included the
9 costs of the Dollar Road Service Center in revenue requirement. Removing this capital project
10 from rate base results in an approximate \$277,000 reduction to Oregon-allocated revenue
11 requirement.

12 **Q. WHAT RATE BASE CORRECTION DID AVISTA IDENTIFY IN STAFF DR 125?**

13 A. In response to Staff DR 125 revised, Avista identified a calculation error related to the
14 pro-forma retirements reflected in its rate base forecast. Correcting this error reduces
15 revenue requirement by \$140,000.

16 **V. WORKING CAPITAL**

17 **Q. WHAT ADJUSTMENT HAVE YOU IDENTIFIED WITH RESPECT TO AVISTA'S**
18 **WORKING CAPITAL CALCULATIONS?**

19 A. In response to Staff DR 242, Avista identified \$2,610,211 in balances associated with its
20 pension and other post-retirement benefits that were included in its calculation of working
21 capital. The Commission has historically required utilities to exclude these amounts from rate
22 base, however. The inclusion of these pension and other post retirement benefit balances in
23 rate base was addressed in Order 15-226 of Docket UM 1633, Investigation into Treatment of

1 Pension Costs in Utility Rates. Accordingly, I recommend these amounts be removed from
2 Avista's working capital calculation.

3 **Q. WHAT IS THE REVENUE REQUIREMENT IMPACT OF THIS ADJUSTMENT**

4 A. Removing the above-identified amounts from rate base produces an approximate \$264,294
5 reduction to revenue requirement.

6 **VI. RATE SPREAD**

7 **Q. DO YOU AGREE WITH AVISTA'S PROPOSED RATE SPREAD?**

8 A. While I do not agree with all aspects of Avista's Long Run Incremental Cost Study, parity
9 ratios or methodology, based on my independent analysis, an equal percent of margin increase
10 across all rate schedules is an appropriate outcome in this proceeding.

11 **Q. DOES THIS CONCLUDE YOUR OPENING TESTIMONY?**

12 A. Yes.

**BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON**

DOCKET UG 366

EXHIBIT 101

**QUALIFICATIONS
STATEMENT OF
BRADLEY G. MULLINS**

**TO THE OPENING
TESTIMONY OF
BRADLEY G. MULLINS**

**ON BEHALF OF
THE ALLIANCE WESTERN ENERGY CONSUMERS**

July 16, 2019

1 **QUALIFICATION STATEMENT OF BRADLEY G. MULLINS**

2 **Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS.**

3 A. I have been performing independent utility consulting services on matters such as power
4 costs, revenue requirement, rate spread and rate design for approximately five years, and
5 have sponsored testimony in several regulatory jurisdictions, including before the Oregon
6 Public Utility Commission. Previously, I worked at PacifiCorp as an analyst involved in
7 power supply cost forecasting. I also previously worked at Deloitte, where I specialized
8 in research and development tax incentives. I have a Master of Science degree in
9 Accounting from the University of Utah.

10 **Q. PLEASE PROVIDE A LIST OF YOUR REGULATORY APPEARANCES.**

11 A. I have sponsored testimony in the following regulatory proceedings:

- 12 • In re Portland General Electric, 2020 Annual Update Tariff (Schedule 125), Or.PUC
13 Docket No 359.
- 14 • In re PacifiCorp 2020 Transition Adjustment Mechanism, Or.PUC Docket No. 356.
- 15 • In re PacifiCorp 2020 Renewable Adjustment Clause, Or.PUC Docket No. 352.
- 16 • 2020 Joint Power and Transmission Rate Proceeding, Bonneville Power Administration,
17 Case No. BP-20.
- 18 • In the Matter of the Application of MSG Las Vegas, LLC for a Proposed Transaction
19 with a Provider of New Electric Resources, PUC Nv. Docket No. 18-10034.
- 20 • Puget Sound Energy 2018 Expedited Rate Filing, Wa.UTC Dockets UE-180899/UG-
21 180900 (Cons.).
- 22 • Georgia Pacific Gypsum LLC's Application to Purchase Energy, Capacity, and/or
23 Ancillary Services from a Provider of New Electric Resources, PUC Nv. Docket No. 18-
24 09015.
- 25 • Joint Application of Nevada Power Company d/b/a NV Energy for approval of their
26 2018-2038 Triennial Integrated Resource Plan and 2019-2021 Energy Supply Plan,
27 PUCN Docket No. 18-06003.

Qualifications of Bradley G. Mullins

- 1 • In re Cascade Natural Gas Corporation Request for a General Rate Revision, Or.PUC,
2 Docket No. UE 347.
- 3 • In re Portland General Electric Company Request for a General Rate Revision, Or.PUC
4 Docket No UE 335.
- 5 • In re Northwest Natural Gas Company, dba NW Natural, Request for a General Rate
6 Revision, Or.PUC Docket No. UG 344.
- 7 • In re Cascade Natural Gas Corporation Request for a General Rate Revision, Wa.UTC,
8 Docket No. UE-170929.
- 9 • In the Matter of Hydro One Limited, Application for Authorization to Exercise
10 Substantial Influence over the Policies and Actions of Avista Corporation, Or.PUC,
11 Docket No. UM 1897.
- 12 • In re PacifiCorp, dba Pacific Power, 2016 Power Cost Adjustment Mechanism, Or.PUC,
13 Docket No. UE 327.
- 14 • In re Avista Corporation 2018 General Rate Case, Wa.UTC Dockets UE-170485 and
15 UG-170486 (Consolidated).
- 16 • Application of Nevada Power Company d/b/a NV Energy for authority to adjust its
17 annual revenue requirement for general rates charged to all classes of electric customers
18 and for relief properly related thereto, PUCN. Docket No. 17-06003.
- 19 • In re the Application of Rocky Mountain Power for Authority to Decrease Current Rates
20 by \$15.7 Million to Refund Deferred Net Power Costs Under Tariff Schedule 95 Energy
21 Cost Adjustment Mechanism and to Decrease Current Rates By \$528 Thousand Under
22 Tariff Schedule 93, REC and SO2 Revenue Adjustment Mechanism, Wy. PSC, Docket
23 No. 20000-514-EA-17 (Record No. 14696).
- 24 • In re the 2018 General Rate Case of Puget Sound Energy, Wa.UTC, Docket No. 170033
25 (Cons.).
- 26 • In re PacifiCorp, dba Pacific Power, 2018 Transition Adjustment Mechanism, Or.PUC,
27 Docket No. UE 323.
- 28 • In re Portland General Electric Company, Request for a General Rate Revision, Or.PUC,
29 Docket No. UE 319.
- 30 • In re Portland General Electric Company, Application for Transportation Electrification
31 Programs, Or.PUC, UM 1811.

- 1 • In re Pacific Power & Light Company, Application for Transportation Electrification
2 Programs, Or.PUC, Docket No. UM 1810.
- 3 • In re the Public Utility Commission of Oregon, Investigation to Examine PacifiCorp, dba
4 Pacific Power's Non-Standard Avoided Cost Pricing, Or.PUC, Docket No. UM 1802.
- 5 • In re Pacific Power & Light Co., Revisions to Tariff WN U-75, Advice No. 16-05, to
6 modify the Company's existing tariffs governing permanent disconnection and removal
7 procedures, Wa.UTC, Docket No. UE-161204.
- 8 • In re Puget Sound Energy's Revisions to Tariff WN U-60, Adding Schedule 451,
9 Implementing a New Retail Wheeling Service, Wa.UTC, Docket No. UE-161123.
- 10 • 2018 Joint Power and Transmission Rate Proceeding, Bonneville Power Administration,
11 Case No. BP-18.
- 12 • In re Portland General Electric Company Application for Approval of Sale of Harborton
13 Restoration Project Property, Or.PUC, Docket No. UP 334 (Cons.).
- 14 • In re An Investigation of Policies Related to Renewable Distributed Electric Generation,
15 Ar.PSC, Matter No. 16-028-U.
- 16 • In re Net Metering and the Implementation of Act 827 of 2015, Ar.PSC, Matter No. 16-
17 027-R.
- 18 • In re the Application of Rocky Mountain Power for Approval of the 2016 Energy
19 Balancing Account, Ut.PSC, Docket No. 16-035-01
- 20 • In re Avista Corporation Request for a General Rate Revision, Wa.UTC, Docket No. UE-
21 160228 (Cons.).
- 22 • In re the Application of Rocky Mountain Power to Decrease Current Rates by \$2.7
23 Million to Recover Deferred Net Power Costs Pursuant to Tariff Schedule 95 and to
24 Increase Rates by \$50 Thousand Pursuant to Tariff Schedule 93, Wy.PSC, Docket No.
25 20000-292-EA-16.
- 26 • In re PacifiCorp, dba Pacific Power, 2017 Transition Adjustment Mechanism, Or.PUC,
27 Docket No. UE 307.
- 28 • In re Portland General Electric Company, 2017 Annual Power Cost Update Tariff
29 (Schedule 125), Or.PUC, Docket No. UE 308.
- 30 • In re PacifiCorp, Request to Initiate an Investigation of Multi-Jurisdictional Issues and
31 Approve an Inter-Jurisdictional Cost Allocation Protocol, Or.PUC, UM 1050.

- 1 • In re Pacific Power & Light Company, General rate increase for electric services,
2 Wa.UTC, Docket No. UE-152253.
- 3 • In The Matter of the Application of Rocky Mountain Power for Authority of a General
4 Rate Increase in Its Retail Electric Utility Service Rates in Wyoming of \$32.4 Million Per
5 Year or 4.5 Percent, Wy.PSC, Docket No. 20000-469-ER-15.
- 6 • In re Avista Corporation, General Rate Increase for Electric Services, Wa.UTC, Docket
7 No. UE-150204.
- 8 • In re the Application of Rocky Mountain Power to Decrease Rates by \$17.6 Million to
9 Recover Deferred Net Power Costs Pursuant to Tariff Schedule 95 to Decrease Rates by
10 \$4.7 Million Pursuant to Tariff Schedule 93, Wy.PSC, Docket No. 20000-472-EA-15.
- 11 • Formal complaint of The Walla Walla Country Club against Pacific Power & Light
12 Company for refusal to provide disconnection under Commission-approved terms and
13 fees, as mandated under Company tariff rules, Wa.UTC, Docket No. UE-143932.
- 14 • In re PacifiCorp, dba Pacific Power, 2016 Transition Adjustment Mechanism, Or.PUC,
15 Docket No. UE 296.
- 16 • In re Portland General Electric Company, Request for a General Rate Revision, Or.PUC,
17 Docket No. UE 294.
- 18 • In re Portland General Electric Company and PacifiCorp dba Pacific Power, Request for
19 Generic Power Cost Adjustment Mechanism Investigation, Or.PUC, Docket No. UM
20 1662.
- 21 • In re PacifiCorp, dba Pacific Power, Application for Approval of Deer Creek Mine
22 Transaction, Or.PUC, Docket No. UM 1712.
- 23 • In re Public Utility Commission of Oregon, Investigation to Explore Issues Related to a
24 Renewable Generator's Contribution to Capacity, Or.PUC, Docket No. UM 1719.
- 25 • In re Portland General Electric Company, Application for Deferral Accounting of Excess
26 Pension Costs and Carrying Costs on Cash Contributions, Or.PUC, Docket No. UM
27 1623.
- 28 • 2016 Joint Power and Transmission Rate Proceeding, Bonneville Power Administration,
29 Case No. BP-16.
- 30 • In re Puget Sound Energy, Petition to Update Methodologies Used to Allocate Electric
31 Cost of Service and for Electric Rate Design Purposes, Wa.UTC, Docket No. UE-
32 141368.

- 1 • In re Pacific Power & Light Company, Request for a General Rate Revision Resulting in
2 an Overall Price Change of 8.5 Percent, or \$27.2 Million, Wa.UTC, Docket No. UE-
3 140762.
- 4 • In re Puget Sound Energy, Revises the Power Cost Rate in WN U-60, Tariff G, Schedule
5 95, to reflect a decrease of \$9,554,847 in the Company's overall normalized power
6 supply costs, Wa.UTC, Docket No. UE-141141.
- 7 • In re the Application of Rocky Mountain Power for Authority to Increase Its Retail
8 Electric Utility Service Rates in Wyoming Approximately \$36.1 Million Per Year or 5.3
9 Percent, Wy.PSC, Docket No. 20000-446-ER-14.
- 10 • In re Avista Corporation, General Rate Increase for Electric Services, RE, Tariff WN U-
11 28, Which Proposes an Overall Net Electric Billed Increase of 5.5 Percent Effective
12 January 1, 2015, Wa.UTC, Docket No. UE-140188.
- 13 • In re PacifiCorp, dba Pacific Power, Application for Deferred Accounting and Prudence
14 Determination Associated with the Energy Imbalance Market, Or.PUC, Docket No. UM
15 1689.
- 16 • In re PacifiCorp, dba Pacific Power, 2015 Transition Adjustment Mechanism, Or.PUC,
17 Docket No. UE 287.
- 18 • In re Portland General Electric Company, Request for a General Rate Revision, Or.PUC,
19 Docket No. UE 283.
- 20 • In re Portland General Electric Company's Net Variable Power Costs (NVPC) and
21 Annual Power Cost Update (APCU), Or.PUC, Docket No. UE 286.
- 22 • In re Portland General Electric Company 2014 Schedule 145 Boardman Power Plant
23 Operating Adjustment, Or.PUC, Docket No. UE 281.
- 24 • In re PacifiCorp, dba Pacific Power, Transition Adjustment, Five-Year Cost of Service
25 Opt-Out (adopting testimony of Donald W. Schoenbeck), Or.PUC, Docket No. UE 267.

**BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON**

DOCKET UG 366

EXHIBIT 102

REVENUE REQUIREMENT DETAIL

**TO THE OPENING
TESTIMONY OF
BRADLEY G. MULLINS**

**ON BEHALF OF
THE ALLIANCE WESTERN ENERGY CONSUMERS**

July 16, 2019

Avista Corporation

Natural Gas Revenue Requirement Summary (\$000)

In Thousands , Oregon Allocated

Line	Adj. No.	Description	Cumulative Results			Impact of Adjustments			
			Net Oper. Income	Rate Base	Rev. Req. Def. / (Suf.)	Pre-Tax Net Oper. Income	Net Oper. Income	Rate Base	Rev. Req. Def. / (Suf.)
1		NW Natural Initial Filing	\$16,923	\$287,338	6,677				
<i>Partial Stipulation</i>									
2	STL1	Cost of Capital	16,923	287,338	5,411				(1,267)
3	STL2	Interest Synchronization	16,878	287,338	5,474		(45)		63
4	STL3	Medical Benefits	16,960	287,338	5,359	104	82	-	(115)
5	STL4	Memberships & Dues	16,961	287,338	5,357	2	2	-	(2)
6	STL5	Other Revenues	16,970	287,338	5,344	11	9	-	(13)
7	STL6	Advertising	16,972	287,338	5,342	2	2	-	(2)
<i>Depreciation Reserve Imbalance</i>									
8	A1	Depreciation Reserve Imbalance	18,262	288,155	3,618	1,633	1,290	817	(1,723)
<i>Private Jet / Hangar</i>									
9	A2	Remove Jet Lease Expenses	18,391	288,155	3,438	163	129	-	(180)
10	A3	Disallow New Private Jet Hangar	18,391	287,973	3,420	-	-	(182)	(18)
11	A4	Allocate 28% of Corporate Jet to Non-utility	18,391	287,914	3,414	-	-	(59)	(6)
<i>Misc. Rate Base</i>									
12	A5	ER 7201 - Jackson Prairie Project Allocation	18,391	287,471	3,369	-	-	(443)	(45)
13	A6	ER 5121 - Microwave Replacement	18,391	287,422	3,364	-	-	(49)	(5)
14	A7	ER 3005 - Goldendale	18,391	287,412	3,363	-	-	(10)	(1)
15	A8	ER 7132 - Dollar Road Service Center	18,391	284,677	3,086	-	-	(2,736)	(277)
16	A9	Retirement Report Error (Staff DR 125)	18,391	283,294	2,946	-	-	(1,383)	(140)
<i>Working Capital</i>									
17	A10.	Remove Pension & OPEB from Working Capital	18,391	280,684	2,681	-	-	(2,610)	(264)
<i>Other</i>									
18	A11	Interest Sync	18,363	280,684	2,721	(35)	(28)	-	39
Total Adjustments:						<u>1,881</u>	<u>1,441</u>	<u>(6,654)</u>	<u>(3,957)</u>

**BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON**

DOCKET UG 366

EXHIBIT 103

**RESERVE IMBALANCES FROM
AVISTA'S 2018 DEPRECIATION
STUDY**

**TO THE OPENING
TESTIMONY OF
BRADLEY G. MULLINS**

**ON BEHALF OF
THE ALLIANCE WESTERN ENERGY CONSUMERS**

July 16, 2019

AVISTA CORPORATION
OREGON

ACCOUNT 376 MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R3						
NET SALVAGE PERCENT.. -25						
1962	22,069.40	21,904	24,250	3,337	11.33	295
1963	786,122.02	771,471	854,081	128,572	11.82	10,877
1964	1,727,164.70	1,674,961	1,854,318	304,638	12.33	24,707
1965	1,129,774.74	1,082,268	1,198,158	214,060	12.85	16,658
1966	1,196,228.74	1,131,259	1,252,395	242,891	13.39	18,140
1967	745,345.13	695,547	770,027	161,654	13.94	11,596
1968	573,987.97	528,198	584,758	132,727	14.51	9,147
1969	597,056.22	541,418	599,394	146,926	15.10	9,730
1970	398,598.19	355,928	394,041	104,207	15.71	6,633
1971	621,190.82	546,081	604,556	171,933	16.32	10,535
1972	594,830.09	514,260	569,327	174,211	16.96	10,272
1973	801,176.65	680,820	753,723	247,748	17.61	14,069
1974	676,312.27	564,569	625,024	220,366	18.27	12,062
1975	605,839.76	496,516	549,683	207,617	18.94	10,962
1976	469,876.18	377,716	418,162	169,183	19.63	8,619
1977	455,919.97	359,242	397,710	172,190	20.33	8,470
1978	534,296.02	412,376	456,534	211,336	21.04	10,044
1979	887,222.27	670,052	741,802	367,226	21.77	16,868
1980	944,988.86	698,004	772,747	408,489	22.50	18,155
1981	897,668.87	647,747	717,108	404,978	23.25	17,418
1983	577,594.54	396,836	439,330	282,663	24.77	11,412
1984	576,936.22	386,151	427,500	293,670	25.55	11,494
1985	858,274.64	559,048	618,911	453,932	26.34	17,234
1986	999,025.64	632,571	700,307	548,475	27.14	20,209
1987	1,258,082.63	773,721	856,572	716,031	27.94	25,627
1988	1,922,754.59	1,146,659	1,269,444	1,133,999	28.76	39,430
1989	1,799,159.02	1,039,014	1,150,273	1,098,676	29.59	37,130
1990	1,182,236.94	660,442	731,163	746,633	30.42	24,544
1991	1,453,314.17	784,136	868,102	948,541	31.26	30,344
1992	2,101,324.64	1,093,162	1,210,219	1,416,437	32.11	44,112
1993	3,712,131.22	1,858,618	2,057,641	2,582,523	32.97	78,329
1994	3,828,297.80	1,841,076	2,038,220	2,747,152	33.84	81,181
1995	2,306,589.42	1,063,136	1,176,978	1,706,259	34.72	49,143
1996	4,797,474.58	2,115,267	2,341,772	3,655,071	35.60	102,671
1997	4,479,000.06	1,884,259	2,086,027	3,512,723	36.49	96,265
1998	3,149,494.99	1,260,507	1,395,483	2,541,386	37.39	67,970
1999	2,240,683.38	850,451	941,518	1,859,336	38.30	48,547
2000	3,039,936.41	1,090,919	1,207,736	2,592,185	39.21	66,110
2001	3,690,771.20	1,247,296	1,380,858	3,232,606	40.13	80,553
2002	4,383,151.97	1,388,637	1,537,334	3,941,606	41.06	95,996
2003	3,131,669.73	925,996	1,025,153	2,889,434	41.99	68,812

AVISTA CORPORATION
OREGON

ACCOUNT 376 MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R3						
NET SALVAGE PERCENT.. -25						
2004	3,534,194.74	969,474	1,073,286	3,344,457	42.93	77,905
2005	3,937,015.39	995,868	1,102,507	3,818,762	43.87	87,047
2006	9,763,056.78	2,261,002	2,503,113	9,700,708	44.81	216,485
2007	16,304,966.44	3,420,374	3,786,631	16,594,577	45.77	362,564
2008	14,094,093.18	2,652,332	2,936,347	14,681,269	46.72	314,239
2009	7,390,766.03	1,227,883	1,359,366	7,879,092	47.69	165,215
2010	5,988,065.44	864,153	956,687	6,528,395	48.65	134,191
2011	7,726,853.27	944,801	1,045,971	8,612,596	49.62	173,571
2012	4,090,132.01	409,933	453,829	4,658,836	50.59	92,090
2013	9,291,162.79	724,246	801,799	10,812,154	51.57	209,660
2014	14,562,110.86	814,204	901,390	17,301,249	52.54	329,297
2015	9,230,596.77	310,494	343,742	11,194,504	53.52	209,165
2016	24,380,201.74	271,534	300,611	30,174,642	54.51	553,562
	196,446,788.10	51,634,537	57,163,618	188,394,868		4,267,361
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 44.1 2.17						

AVISTA CORPORATION
OREGON

ACCOUNT 380 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
NET SALVAGE PERCENT.. -30						
1971	138,374.06	135,310	179,179	707	12.39	57
1972	431,510.14	415,562	550,290	10,673	12.96	824
1973	366,846.51	347,756	460,501	16,399	13.54	1,211
1974	322,170.99	300,379	397,764	21,058	14.14	1,489
1975	199,027.31	182,409	241,547	17,189	14.75	1,165
1976	223,536.10	201,151	266,366	24,231	15.39	1,574
1977	244,619.75	216,053	286,099	31,907	16.03	1,990
1978	267,322.94	231,448	306,485	41,035	16.70	2,457
1979	156,668.57	132,874	175,953	27,716	17.38	1,595
1980	308,878.23	256,425	339,560	61,982	18.07	3,430
1981	244,227.37	198,308	262,601	54,895	18.77	2,925
1982	266,380.84	211,309	279,817	66,478	19.49	3,411
1983	203,761.09	157,768	208,918	55,971	20.22	2,768
1984	460,460.00	347,546	460,223	138,375	20.97	6,599
1985	560,998.66	412,491	546,224	183,074	21.72	8,429
1986	789,600.04	564,769	747,871	278,609	22.49	12,388
1987	1,125,631.21	782,584	1,036,304	427,017	23.26	18,358
1988	1,264,465.06	853,135	1,129,728	514,077	24.05	21,375
1989	1,473,813.01	963,726	1,276,173	639,784	24.85	25,746
1990	1,592,278.92	1,007,658	1,334,349	735,614	25.66	28,668
1991	1,675,867.60	1,024,827	1,357,084	821,544	26.48	31,025
1992	2,026,402.03	1,195,456	1,583,032	1,051,291	27.31	38,495
1993	2,543,436.39	1,444,926	1,913,382	1,393,085	28.15	49,488
1994	2,755,409.03	1,504,453	1,992,208	1,589,824	29.00	54,822
1995	2,627,614.46	1,375,924	1,822,009	1,593,890	29.86	53,379
1996	2,876,106.45	1,440,987	1,908,166	1,830,772	30.73	59,576
1997	2,818,758.98	1,348,494	1,785,686	1,878,701	31.60	59,453
1998	2,518,394.04	1,146,524	1,518,236	1,755,676	32.49	54,037
1999	2,667,273.70	1,152,582	1,526,258	1,941,198	33.38	58,155
2000	2,681,271.10	1,095,889	1,451,185	2,034,467	34.28	59,349
2001	2,083,998.22	802,464	1,062,629	1,646,569	35.19	46,791
2002	2,327,162.44	840,431	1,112,905	1,912,406	36.11	52,961
2003	2,646,987.21	892,617	1,182,011	2,259,072	37.03	61,007
2004	2,740,980.34	858,036	1,136,218	2,427,056	37.96	63,937
2005	1,662,436.76	480,211	635,899	1,525,269	38.89	39,220
2006	2,591,087.71	684,462	906,370	2,462,044	39.84	61,798
2007	2,051,287.71	491,735	651,159	2,015,515	40.78	49,424
2008	1,188,334.24	255,207	337,947	1,206,888	41.74	28,914
2009	1,741,709.57	331,029	438,351	1,825,871	42.69	42,770
2010	822,982.95	135,661	179,643	890,235	43.66	20,390
2011	2,518,597.08	352,301	466,520	2,807,656	44.62	62,924

AVISTA CORPORATION
OREGON

ACCOUNT 380 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
NET SALVAGE PERCENT.. -30						
2012	619,949.00	71,083	94,129	711,805	45.59	15,613
2013	2,728,697.44	243,345	322,240	3,225,067	46.57	69,252
2014	13,560,127.08	867,306	1,148,494	16,479,671	47.54	346,649
2015	8,543,718.38	328,762	435,349	10,671,485	48.52	219,940
2016	6,246,869.49	79,585	105,387	8,015,543	49.51	161,897
	89,906,030.20	28,362,958	37,558,449	79,319,390		2,007,725
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						39.5 2.23

AVISTA CORPORATION
OREGON

ACCOUNT 381 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-R1						
NET SALVAGE PERCENT.. -1						
1960	1,122.73	992	593	541	4.37	124
1961	562.32	492	294	274	4.69	58
1962	2,835.24	2,453	1,466	1,398	5.02	278
1963	8,568.39	7,331	4,381	4,273	5.35	799
1964	17,764.04	15,025	8,979	8,963	5.69	1,575
1965	20,488.62	17,128	10,236	10,458	6.03	1,734
1966	21,564.33	17,810	10,644	11,136	6.38	1,745
1967	7,278.62	5,936	3,547	3,804	6.74	564
1968	18,104.97	14,571	8,708	9,578	7.11	1,347
1969	5,472.51	4,346	2,597	2,930	7.48	392
1970	6,724.05	5,266	3,147	3,644	7.86	464
1971	71,619.34	55,285	33,039	39,297	8.25	4,763
1972	89,133.33	67,776	40,504	49,521	8.65	5,725
1973	75,295.06	56,362	33,683	42,365	9.06	4,676
1974	77,989.92	57,457	34,337	44,433	9.47	4,692
1975	59,767.80	43,308	25,882	34,483	9.89	3,487
1976	6,088.97	4,337	2,592	3,558	10.32	345
1977	29,889.22	20,907	12,494	17,694	10.76	1,644
1978	20,285.39	13,926	8,322	12,166	11.21	1,085
1979	76,465.17	51,479	30,765	46,465	11.67	3,982
1980	207,982.66	137,200	81,993	128,069	12.14	10,549
1981	6,179.36	3,993	2,386	3,855	12.61	306
1982	1,915.28	1,210	723	1,211	13.10	92
1983	223,708.66	138,213	82,598	143,348	13.59	10,548
1984	287,567.21	173,435	103,647	186,796	14.10	13,248
1985	23,662.22	13,923	8,321	15,578	14.61	1,066
1986	394,461.78	226,068	135,102	263,304	15.14	17,391
1987	78,342.30	43,677	26,102	53,024	15.68	3,382
1988	162,740.89	88,195	52,707	111,661	16.22	6,884
1989	289,102.65	152,003	90,839	201,155	16.78	11,988
1990	340,095.35	173,318	103,578	239,918	17.34	13,836
1991	426,127.98	210,030	125,517	304,872	17.92	17,013
1992	798,620.95	380,259	227,249	579,358	18.50	31,317
1993	767,486.53	352,148	210,449	564,712	19.10	29,566
1994	1,046,891.53	462,215	276,227	781,133	19.70	39,651
1995	1,325,285.67	561,798	335,739	1,002,800	20.31	49,375
1996	1,028,003.06	417,390	249,439	788,844	20.93	37,690
1997	1,344,239.97	521,350	311,567	1,046,115	21.56	48,521
1998	1,544,359.08	570,435	340,901	1,218,902	22.20	54,905
1999	867,022.63	304,242	181,820	693,873	22.84	30,380
2000	1,119,155.04	371,398	221,953	908,394	23.50	38,655

AVISTA CORPORATION
OREGON

ACCOUNT 381 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-R1						
NET SALVAGE PERCENT.. -1						
2001	138,738.02	43,439	25,960	114,165	24.15	4,727
2002	1,331,393.70	391,122	233,740	1,110,968	24.82	44,761
2003	1,357,828.40	372,625	222,686	1,148,721	25.49	45,066
2004	4,593,427.49	1,171,764	700,264	3,939,098	26.16	150,577
2005	868,662.72	204,545	122,239	755,110	26.84	28,134
2006	686,334.25	148,143	88,533	604,665	27.52	21,972
2007	1,112,686.73	218,020	130,292	993,522	28.21	35,219
2008	945,650.37	166,466	99,483	855,624	28.90	29,606
2009	2,535,201.19	395,068	236,099	2,324,454	29.60	78,529
2010	1,560,296.92	211,628	126,472	1,449,428	30.30	47,836
2011	3,282,116.69	377,903	225,841	3,089,097	31.01	99,616
2012	2,187,384.09	207,030	123,724	2,085,534	31.72	65,748
2013	788,710.60	58,263	34,819	761,779	32.44	23,483
2014	1,365,120.71	72,482	43,316	1,335,456	33.16	40,273
2015	1,820,692.05	58,311	34,848	1,804,051	33.89	53,233
2016	3,466,364.08	37,006	22,115	3,478,913	34.63	100,460
	40,940,578.83	9,898,502	5,915,498	35,434,486		1,375,082

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 25.8 3.36

**BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON**

DOCKET UG 366

EXHIBIT 104

**RESERVE
IMBALANCE
AMORTIZATION**

**TO THE OPENING
TESTIMONY OF
BRADLEY G. MULLINS**

**ON BEHALF OF
THE ALLIANCE WESTERN ENERGY CONSUMERS**

July 16, 2019

Proposed Amoritzation of Avista Reserve Imbalances

Balances to Reclassify and Amortize as Reg. Liability.					
	2018 Reserve Imbalance	Composite Life	2018 - 2023 Imbalance Depr	2023 Reserve Imbalance	50% of 2023 Imbalance
376 Mains	5,529,081	49.6	(557,367)	4,971,714	2,485,857
380 Services	9,195,491	39.8	(1,155,212)	8,040,279	4,020,139
381 Meters	<u>(3,983,004)</u>	<u>25.8</u>	<u>771,900</u>	<u>(3,211,104)</u>	<u>(1,605,552)</u>
<i>Total</i>	<i>10,741,568</i>		<i>(940,679)</i>	<i>9,800,889</i>	<i>4,900,444</i>

Annual Ammortization 2020 - 2023		
	Amort. Balance	3-yr Straight Line
376 Mains	2,485,857	828,619
380 Services	4,020,139	1,340,046
381 Meters	<u>(1,605,552)</u>	<u>(535,184)</u>
<i>Total</i>	<i>4,900,444</i>	<i>1,633,481</i>

**BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON**

DOCKET UG 366

EXHIBIT 105

AVISTA FLIGHT LOG ANALYSIS

**TO THE OPENING
TESTIMONY OF
BRADLEY G. MULLINS**

**ON BEHALF OF
THE ALLIANCE WESTERN ENERGY CONSUMERS**

July 16, 2019

Trip ID	Date	Depart.	Destination	Description	Employee	Exclude
AVA052118	5/21/2018	SPOKANE	OLYMPIA	Avista Hydro One Merger Case Settlement Hearing	ANDREWS/ LIZ CHRISTIE/ KEVIN EHRBAR/ PAT GERVAIS/ LINDA MEYER/ DAVID SMITH/ JENNIFER THIES/ MARK	1 1 1 1 1 1 1
	5/22/2018	OLYMPIA	SPOKANE	Avista Hydro One Merger Case Settlement Hearing	ANDREWS/ LIZ CHRISTIE/ KEVIN EHRBAR/ PAT GERVAIS/ LINDA MEYER/ DAVID MORRIS/ SCOTT SMITH/ JENNIFER THIES/ MARK	1 1 1 1 1 1 1 1
AVA052118 Total						
AVA053018	5/30/2018	COLSTRIP	BILLINGS	Montana Energy Summit	SPRAGUE/ COLLINS THACKSTON/ JASON VERMILLION/ DENNIS	
		SPOKANE	COLSTRIP	Montana Energy Summit	SPRAGUE/ COLLINS THACKSTON/ JASON VERMILLION/ DENNIS	
	5/31/2018	BILLINGS	SPOKANE	Montana Energy Summit	SPRAGUE/ COLLINS VERMILLION/ DENNIS	
AVA053018 Total						
AVA060418	6/4/2018	SPOKANE	SAN DIEGO	EEI Annual Convention	CHRISTIE/ ANDREA CHRISTIE/ KEVIN VERMILLION/ DENNIS VERMILLION/ MARLENE	
	6/7/2018	SAN DIEGO	SPOKANE	EEI Annual Convention	CHRISTIE/ ANDREA CHRISTIE/ KEVIN VERMILLION/ DENNIS VERMILLION/ MARLENE	
AVA060418 Total						

Trip ID	Date	Depart.	Destination	Description	Employee	Exclude
AVA061218	6/12/2018	LEWISTON	MEDFORD	Employee Meetings	CHRISTIE/ KEVIN MOCK/ CELENA SMITH/ BRANDI VERMILLION/ DENNIS	
		MEDFORD	SEATTLE	Employee Meetings	CHRISTIE/ KEVIN DOUGLAS/ GARY MOCK/ CELENA MOREHOUSE/ JODY SMITH/ BRANDI STODDARD/ DANIELLE VERMILLION/ DENNIS WEBB/ JEFF	
		PULLMAN	LEWISTON	Employee Meetings	CHRISTIE/ KEVIN MOCK/ CELENA SMITH/ BRANDI VERMILLION/ DENNIS	
		SEATTLE	SPOKANE	Employee Meetings	CHRISTIE/ KEVIN DOUGLAS/ GARY MOCK/ CELENA SMITH/ BRANDI STODDARD/ DANIELLE VERMILLION/ DENNIS WEBB/ JEFF	
		SPOKANE	PULLMAN	Employee Meetings	CHRISTIE/ KEVIN MOCK/ CELENA SMITH/ BRANDI VERMILLION/ DENNIS	
AVA061218 Total						
AVA061518	6/15/2018	CHEHALIS	SPOKANE	Jackson Prairie Tour	ANDERSON/ JOEL BRANDON/ ANNETTE BROWN/ GARRETT MAJURE/ JAIME SCHUH/ KAREN SORENG/ ERIK	
		SPOKANE	CHEHALIS	Jackson Prairie Tour	ANDERSON/ JOEL BRANDON/ ANNETTE BROWN/ GARRETT MAJURE/ JAIME SCHUH/ KAREN SORENG/ ERIK	
AVA061518 Total						

Trip ID	Date	Depart.	Destination	Description	Employee	Exclude
AVA081018	8/10/2018	MEDFORD	SPOKANE	Project Site Visit	ANDERSON/ RACHAEL HAPPENY/ RACHEL LITTREL/ MICHAEL RADEZKY/ JEREMY SAMSELL/ SETH WHITBY/ MICHAEL	
		SPOKANE	MEDFORD	Project Site Visit	ANDERSON/ RACHAEL HAPPENY/ RACHEL LITTREL/ MICHAEL RADEZKY/ JEREMY SAMSELL/ SETH WHITBY/ MICHAEL	
AVA081018 Total						
AVA082718	8/27/2018	SEATTLE	SPOKANE	Eco District Steering Committee Meeting in Seattle	DIEDESCH/ MICHAEL GIBSON/ JOHN GUSTAFSON/ MARK HESLER/ GREG HILL/ LATISHA LIENHARD/ TOM ROSENTRATER/ HEATHER SCHLECT/ EDWARD	
		SPOKANE	SEATTLE	Eco District Steering Committee Meeting in Seattle	DIEDESCH/ MICHAEL GIBSON/ JOHN GUSTAFSON/ MARK HESLER/ GREG HILL/ LATISHA LIENHARD/ TOM ROSENTRATER/ HEATHER SCHLECT/ EDWARD	
AVA082718 Total						
AVA082818	8/28/2018	LEWISTON	PULLMAN	Employee Meetings	DURKIN/ MARIAN MORRIS/ SCOTT VERMILLION/ DENNIS	
		MEDFORD	LEWISTON	Employee Meetings	DURKIN/ MARIAN MORRIS/ SCOTT VERMILLION/ DENNIS	
		PULLMAN	SPOKANE	Employee Meetings	DURKIN/ MARIAN MORRIS/ SCOTT VERMILLION/ DENNIS	
		SPOKANE	MEDFORD	Employee Meetings	DURKIN/ MARIAN MORRIS/ SCOTT VERMILLION/ DENNIS	
AVA082818 Total						
AVA090418	9/4/2018	SPOKANE	COLORADO SPRINGS	EEI Board and CEO Meetings	CHRISTIE/ ANDREA CHRISTIE/ KEVIN THACKSTON/ JASON THACKSTON/ JULIE VERMILLION/ DENNIS VERMILLION/ MARLENE	
	9/5/2018	COLORADO SPRINGS	SPOKANE	EEI Board and CEO Meetings	CHRISTIE/ ANDREA CHRISTIE/ KEVIN THACKSTON/ JASON THACKSTON/ JULIE VERMILLION/ DENNIS VERMILLION/ MARLENE	

Trip ID	Date	Depart.	Destination	Description	Employee	Exclude
AVA100218	10/2/2018	OLYMPIA	SPOKANE	WUTC Workshop for Electric RFP Proposed Rules	BROWN/ GARRETT GERVAIS/ LINDA GIFFORD/ AMBER SILKWORTH/ STEVE	
		SPOKANE	OLYMPIA	WUTC Workshop for Electric RFP Proposed Rules	BROWN/ GARRETT GERVAIS/ LINDA GIFFORD/ AMBER SILKWORTH/ STEVE	
AVA100218 Total						
AVA100318	10/3/2018	MADISON	WASHINGTON	AGA Board Meetings	VERMILLION/ DENNIS VERMILLION/ MARLENE	
		SPOKANE	MADISON	AGA Board Meetings	VERMILLION/ DENNIS VERMILLION/ MARLENE	
	10/5/2018	MADISON	SPOKANE	AGA Board Meetings	VERMILLION/ DENNIS VERMILLION/ MARLENE	
		WASHINGTON	MADISON	AGA Board Meetings	VERMILLION/ DENNIS VERMILLION/ MARLENE	
AVA100318 Total						
AVA100818	10/8/2018	MEDFORD	SPOKANE	Meeting with Dry Creek Landfill regarding possible RNG Pro	ARNOLD/ ELIZABETH BROWN/ GARRETT LOHMEYER/ KENNETH LUNDY/ ANNIE MILLER/ ANDRU MOOTS/ MATT MOREHOUSE/ JODY RAHN/ GREG WHITBY/ MICHAEL	
		SPOKANE	MEDFORD	Meeting with Dry Creek Landfill regarding possible RNG Pro	ARNOLD/ ELIZABETH BROWN/ GARRETT LOHMEYER/ KENNETH LUNDY/ ANNIE MILLER/ ANDRU MOOTS/ MATT MOREHOUSE/ JODY RAHN/ GREG WHITBY/ MICHAEL	
AVA100818 Total						
AVA100918	10/9/2018	BOISE	SPOKANE	Meetings with IPUC and WUTC Consumer Staff	BROEMELING/ MIKE COMPTON/ JENNIFER MAJURE/ JAIME SHEEHAN/ DALILA	
		OLYMPIA	BOISE	Meetings with IPUC and WUTC Consumer Staff	BROEMELING/ MIKE COMPTON/ JENNIFER MAJURE/ JAIME SHEEHAN/ DALILA	
		SPOKANE	OLYMPIA	Meetings with IPUC and WUTC Consumer Staff	BROEMELING/ MIKE COMPTON/ JENNIFER MAJURE/ JAIME SHEEHAN/ DALILA	
AVA100918 Total						

Trip ID	Date	Depart.	Destination	Description	Employee	Exclude	
AVA101518	10/15/2018	FARGO	TORONTO	Hydro One Meetings	DURKIN/ MARIAN	1	
					FAULKENBERRY/ MIKE	1	
					MAGRUDER/ MIKE	1	
					ROSENTRATER/ HEATHER	1	
					SCARLETT/ ANNA	1	
					SCHLECT/ EDWARD	1	
					THIES/ MARK	1	
					VERMILLION/ DENNIS	1	
		SPOKANE	FARGO	Hydro One Meetings	DURKIN/ MARIAN	1	
					FAULKENBERRY/ MIKE	1	
					MAGRUDER/ MIKE	1	
					ROSENTRATER/ HEATHER	1	
					SCARLETT/ ANNA	1	
					SCHLECT/ EDWARD	1	
					THIES/ MARK	1	
					VERMILLION/ DENNIS	1	
	10/16/2018	FARGO	SPOKANE	Hydro One Meetings	DURKIN/ MARIAN	1	
					FAULKENBERRY/ MIKE	1	
					HOWELL/ DAVID	1	
					MAGRUDER/ MIKE	1	
					ROSENTRATER/ HEATHER	1	
					SCARLETT/ ANNA	1	
					SCHLECT/ EDWARD	1	
					THIES/ MARK	1	
		VERMILLION/ DENNIS	1				
			TORONTO	FARGO	Hydro One Meetings	DURKIN/ MARIAN	1
FAULKENBERRY/ MIKE	1						
AVA101718	10/17/2018	SPOKANE	AUSTIN	EEI Fall Legal Conference	DURKIN/ MARIAN		
					HESLER/ ANNE		
		10/19/2018	AUSTIN	SPOKANE	EEI Fall Legal Conference	HESLER/ GREG	
						WOOD/ PATTY	
						DURKIN/ MARIAN	
						HESLER/ ANNE	
						HESLER/ GREG	
						WOOD/ PATTY	
	AVA101518 Total						
	AVA101718 Total						

Trip ID	Date	Depart.	Destination	Description	Employee	Exclude
AVA112018	11/20/2018	BOISE	SALEM	Natural Gas and Interest Rate Hedging	BRANDON/ ANNETTE BRYAN/ TODD GORTON/ PAT LANG/ JASON MOREHOUSE/ JODY PARDEE/ TOM	
		SALEM	SPOKANE	Natural Gas and Interest Rate Hedging	BRANDON/ ANNETTE BRYAN/ TODD GORTON/ PAT LANG/ JASON MOREHOUSE/ JODY PARDEE/ TOM	
		SPOKANE	BOISE	Natural Gas and Interest Rate Hedging	BRANDON/ ANNETTE BRYAN/ TODD GORTON/ PAT LANG/ JASON MOREHOUSE/ JODY PARDEE/ TOM	
AVA112018 Total						
AVA112518	11/25/2018	SPOKANE	BOISE	Hydro One Avista Merger Hearing	CHRISTIE/ KEVIN EHRBAR/ PAT GERVAIS/ LINDA HOWARD/ BRUCE MEYER/ DAVID SMITH/ JENNIFER SPRAGUE/ COLLINS THIES/ MARK	1 1 1 1 1 1 1 1
	11/27/2018	BOISE	SPOKANE	Hydro One Avista Merger Hearing	CHRISTIE/ KEVIN EHRBAR/ PAT GERVAIS/ LINDA HOWARD/ BRUCE MEYER/ DAVID MORRIS/ SCOTT SMITH/ JENNIFER SPRAGUE/ COLLINS THIES/ MARK	1 1 1 1 1 1 1 1
AVA112518 Total						
AVA112818	11/28/2018	SEATTLE	SPOKANE	AWB Evening of Excellence	DURKIN/ MARIAN HOWARD/ BRUCE THACKSTON/ JASON	
		SPOKANE	SEATTLE	AWB Evening of Excellence	DURKIN/ MARIAN HOWARD/ BRUCE THACKSTON/ JASON	
AVA112818 Total						

Trip ID	Date	Depart.	Destination	Description	Employee	Exclude
AVA120518	12/5/2018	SALINA	NEW ORLEANS	Gleason Visit	CONDON/ DAVID	1
					DEWALD/ DARYLL	1
					FRANK/ MARCOS	1
					GILBERTS/ LARS	1
					HILL/ LATISHA	1
					MORRIS/ KIM	1
					O'BRIEN/ DAVID	1
					WEEKS/ DOUG	1
	12/7/2018	NEW ORLEANS	SALINA	Gleason Visit	CONDON/ DAVID	1
					DEWALD/ DARYLL	1
					FRANK/ MARCOS	1
					GILBERTS/ LARS	1
HILL/ LATISHA					1	
MORRIS/ KIM					1	
O'BRIEN/ DAVID					1	
WEEKS/ DOUG					1	
12/7/2018	SALINA	SPOKANE	Gleason Visit	CONDON/ DAVID	1	
				DEWALD/ DARYLL	1	
				FRANK/ MARCOS	1	
				GILBERTS/ LARS	1	
				HILL/ LATISHA	1	
				MORRIS/ KIM	1	
				O'BRIEN/ DAVID	1	
				WEEKS/ DOUG	1	
AVA120518 Total						
AVA121018	12/10/2018	OLYMPIA	SPOKANE	Commission Ratemaking Workshop	ANDREWS/ LIZ	
					CHRISTIE/ KEVIN	
		SPOKANE	OLYMPIA	Commission Ratemaking Workshop	EHRBAR/ PAT	
					GERVAIS/ LINDA	
AVA121018 Total						
AVA121118	12/11/2018	BOISE	SPOKANE	Depreciation Study Second Settlement Discussion	ANDREWS/ LIZ	
					EHRBAR/ PAT	
		SPOKANE	BOISE	Depreciation Study Second Settlement Discussion	MEYER/ DAVID	
					SCHUH/ KAREN	
AVA121118 Total						

Trip ID	Date	Depart.	Destination	Description	Employee	Exclude
AVA121318	12/13/2018	OLYMPIA	SPOKANE	Power Supply Workshop and Open Meeting for Fuel Conve	ANDREWS/ LIZ BRANDON/ ANNETTE EHRBAR/ PAT JOHNSON/ BILL KALICH/ CLINT KINNEY/ SCOTT	
		SPOKANE	OLYMPIA	Power Supply Workshop and Open Meeting for Fuel Conve	ANDREWS/ LIZ BRANDON/ ANNETTE EHRBAR/ PAT JOHNSON/ BILL KALICH/ CLINT KINNEY/ SCOTT	
AVA121318 Total						
AVA121417	5/11/2018	VAN NUYS	SPOKANE	Plane Maintenance		
AVA121417 Total						
AVA121418	12/14/2018	OLYMPIA	SPOKANE	Natural Gas Hedging Workshop	BRANDON/ ANNETTE BRYAN/ TODD MOREHOUSE/ JODY PARDEE/ TOM	
		SPOKANE	OLYMPIA	Natural Gas Hedging Workshop	BRANDON/ ANNETTE BRYAN/ TODD MOREHOUSE/ JODY PARDEE/ TOM	
AVA121418 Total						
Grand Total						
Total Excluded						188

Total Trips/Passengers 668

Percent of Total Trips to Non-utility 28.1%