

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-200900

DOCKET NO. UG-200901

DOCKET NO. UE-200894

JOINT REBUTTAL TESTIMONY OF
HEATHER L. ROSENTRATER AND LARRY D. LA BOLLE
REPRESENTING AVISTA CORPORATION

I. INTRODUCTION

Q. Please state your name, employer and business address.

A. My name is Heather Rosentrater and I am employed as the Senior Vice President of Energy Delivery and Shared Services for Avista Utilities (Avista or Company), at 1411 East Mission Avenue, Spokane, Washington.

Q. Have you filed direct testimony in this proceeding?

A. Yes. I filed direct testimony in this case addressing Avista’s electric and natural gas energy delivery facilities, electric reliability trends and areas of focus, and explained factors driving our continuing investment in electric distribution infrastructure. I described our efforts to maintain the asset health of our electric transmission system and to maintain compliance with applicable mandatory federal standards. I also described the need for investment in our natural gas system as well as investments required in our operations facilities and fleet equipment necessary to deliver cost-effective service to our customers. Finally, I provided an overview of the Company’s completion of its Advanced Metering Infrastructure project (AMI).

Q. Please state your name, employer and business address?

A. My name is Larry La Bolle and I am employed as Manager of Reliability Strategy and Analysis for Avista Utilities (Avista or Company), at 1411 East Mission Avenue, Spokane, Washington.¹

Q. Have you filed direct testimony in this proceeding?

A. No, I have not.

Q. What is the scope of your rebuttal testimony in this proceeding?

¹ Please see Mr. La Bolle’s statement of qualifications provided in Exh.HR/LL-2, page 1.

1 A. Our rebuttal testimony shows that our AMI system has been cost-effectively
 2 deployed and is fully operational as described by the Company. Further, we demonstrate how
 3 Avista has maximized or “optimized” the potential of AMI at this point in time, that it is
 4 providing our customers reasonable net financial benefits, and that our investment has been
 5 prudently incurred and properly managed. As a result, we recommend Avista’s return on its
 6 AMI investment not be eliminated, as requested by Public Counsel and AWEC, which would
 7 require an additional \$14.6 million “write-off.”

8 A Table of Contents for our testimony is as follows:

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16
 17 **Q. Are you sponsoring any exhibits?**

18 A. Yes. We are sponsoring Exh. HR/LL-2, which includes the qualifications of Mr.
 19 La Bolle, Staff’s response to the AMI data request No. 4 of Public Counsel, and applicable
 20 responses and documents provided to Public Counsel by the Company during discovery.

21 **Q. What are the salient points of your rebuttal testimony?**

22 A. As it concerns AMI, these salient points are:

- 23 • The AMI project is complete, in service, and functioning as intended.
- 24 • Net benefits are substantial (even just measuring “quantified” savings).
- 25 • Neither Staff, AWEC nor Public Counsel object to the Company’s AMI

1 investment per se; rather, Public Counsel and AWEC argue that the Company
 2 should be denied a return on its investment with a \$14.6 million impact on
 3 earnings.

- 4 • Unlike PSE, Avista has demonstrated substantial progress in “optimizing” our
 5 AMI across the various “use cases” cited by the Commission when it denied PSE
 6 a return on its AMI investment.
- 7 • Indeed, the best is yet to come, as the Parties explain ways of embracing time
 8 varying rates in the near future, made possible by AMI.

9 As will be evident, many of the Parties’ expressed concerns were addressed in Avista’s
 10 responses to Data Requests, and where appropriate, excerpts from the Data Request responses
 11 have been imported into the text, or the entire response is otherwise included in Exh. HR/LL-2.
 12 (Avista understands that the references to Data Requests themselves do not make them part of
 13 the record offered by the Parties.)
 14

15 **II. AVISTA HAS FULLY ADDRESSED CONCERNS RAISED BY THE PARTIES**
 16 **REGARDING THE COMPANY’S DEPLOYMENT OF AMI**
 17

18 **Q. Would you please summarize your understanding of the criticisms raised in**
 19 **the testimony of Public Counsel witness Ms. Bauman and AWEC witness Mr. Mullins?**

20 **A.** We have summarized their concerns and criticisms in three general areas, which
 21 we briefly describe, below.

- 22 1. **Maximizing the Capabilities of AMI** – Mr. Mullins states that “Avista did not
 23 actually take any initiative to develop the types of services that will deliver benefits
 24 to customers...,”² and further “While AMI has the potential to enable improved
 25 service programs, Avista is not planning to implement any programs in this
 26 proceeding,”³ and finally, “At least for now, Avista is using the new technology in
 27 the same way as the old meters, except that instead of employing meter readers,
 28 Avista now pays for the software and costs of the new meters.”⁴ Witness Ms.

² Exh. BGM-1T; page 66, lines 22, 23.

³ Exh. BGM-1T; page 66, lines 3, 4.

⁴ Exh. BGM-1T; page 57, lines 18-22.

1 Bauman asserts that the Company’s Behavioral Energy Efficiency,⁵ and Grid-
 2 Interactive Buildings⁶ programs are not operational. She expresses concerns about
 3 likely CVR benefits⁷ and both witnesses note that Avista has not already included
 4 customer financial benefits for time-varying rates programs. The underlying theme
 5 of Ms. Bauman’s testimony is that Avista’s plans to maximize AMI Benefits are
 6 “incomplete,” that some programs are not operational, and that Avista’s systems are
 7 immature, all which indicate that performance and customer benefits cannot be
 8 reliability(sic) estimated at this time.”⁸

9
 10 2. **Certainty that Project Benefits will Occur** - Ms. Bauman expresses concern that
 11 the financial benefits stated in the Company’s business case may be overstated,⁹
 12 because they are either inflated, uncertain to occur,¹⁰ or simply might not happen.¹¹
 13 She concludes that Avista’s outage benefits are exaggerated,¹² and that we may not
 14 achieve the CVR savings included in our business case,¹³ Finally, she expresses her
 15 opinion that Avista’s benefit forecasts cannot be viewed as reliable for evaluating
 16 the prudence of our investment because of issues of immaturity or dramatic
 17 “volatility in Avista’s benefit projections.”¹⁴

18
 19 3. **Likelihood of Net Financial Benefits** – Mr. Mullins appears confused by the types
 20 of financial benefits that offset the Company’s O&M costs, compared with those
 21 that accrue to customers in other ways. This leads him to conclude that financial
 22 savings that do not reduce the Company’s revenue requirement are “false benefits”
 23 or speculative,¹⁵ and notes that benefits should not be hypothetical based on things
 24 Avista might be able to do in the future.¹⁶ As a result of this premise, Mr. Mullins
 25 substantially understated the project’s financial benefits. Mr. Mullins also alleges
 26 that Avista’s AMI costs do not include any future replacement costs.¹⁷ Ms. Bauman
 27 claims that the undepreciated value of old meters replaced by advanced meters was
 28 not properly included as a project cost,¹⁸ and both witnesses argued that Avista’s
 29 cost-benefit analysis should be based on revenue requirement.^{19 / 20} Both witnesses
 30 encouraged the Commission to ensure that the cost to customers is outweighed by

⁵ Exh. SB-1T; page 21, lines 14, 15.

⁶ Exh. SB-1T; page 22, lines 9-13.

⁷ Exh. SB-1T; page 25, line 3.

⁸ Exh. SB-1T; page 38, lines 9-13.

⁹ Exh. SB-1T; page 12, lines 1-4.

¹⁰ Exh. SB-1T; page 25, lines 6-13.

¹¹ Exh. SB-1-T; page 22, lines 14-16.

¹² Exh. SB-1T; page 12, lines 6, 7; page 42, lines 1, 2.

¹³ Exh. SB-1-T; page 22, lines 14-16.

¹⁴ Exh. SB-1T; page 25, line 6.

¹⁵ Exh. BGM-1T; page 62, lines 1-17, and others.

¹⁶ Exh. BGM-1T; page 58, lines 19-21.

¹⁷ Exh. BGM-1T, lines 15-20.

¹⁸ Exh. SB-1T; page 5, lines 5-12.

¹⁹ Exh. SB-1T; page 4, line 21; page 5, lines 1-4.

²⁰ Exh. BGM-1T; page 63.

1 the financial benefits delivered by AMI,²¹ concluding that the prudence of Avista's
2 AMI system cannot be properly determined today based on forecasts of costs and
3 benefits.²²
4

5 **Q. What actions did the witnesses recommend the Commission take based on**
6 **their testimonies?**

7 A. Ms. Bauman and Mr. Mullins recommended that the Company be allowed to
8 recover its investment in AMI, but that it should be denied a return on its AMI investment in
9 the amounts of \$9.7 million and \$4.9 million, respectively.^{23 / 24}

10 **Q. Please summarize your testimony with respect to the criticisms raised by**
11 **the witnesses and their draconian recommendations?**

12 A. Our rebuttal testimony addresses the key issues raised by Ms. Bauman and Mr.
13 Mullins, which we have summarized above, and will demonstrate that the criticisms of AWEC
14 and Public Counsel are unreasonable based on the facts established in the record, and that the
15 following affirmative conclusions can be reached by the Commission in determining the
16 prudence of the Company's AMI investment:

17 **1. Avista is Maximizing the Potential of AMI for Customers** – As already shown in
18 the Company's AMI business case, we have added several energy conservation use
19 cases based on AMI data, as noted in the excerpt below.²⁵
20

21 The American Council for an Energy-Efficient Economy, in their recent
22 article "Leveraging Advanced Metering Infrastructure to Save
23 Energy,"²⁶ presents multiple energy efficiency use cases, summarized
24 below, designed to more effectively leverage the value of the AMI
25 platform in helping the utility and its customers reduce energy

²¹ Exh. SB-1T; page 10, lines 4-6.

²² Exh. BGM-1T; page 58, lines 17-21; page 59, lines 1, 2.

²³ Exh. BGM-1T; page 66, lines 15-23.

²⁴ Exh. SB-1T; page 34, lines 12-16; page 41, lines 9-17.

²⁵ Exh. JDD-2r; pages 20, 21.

²⁶ Leveraging Advanced Metering Infrastructure to Save Energy. Rachel Gold, et al. The American Council for an Energy-Efficient Economy (ACEEE). January 2020.

1 consumption and lower costs. Avista has already expanded plans from
2 its initial business case for AMI and has either implemented or is actively
3 developing conservation initiatives for every use case described in the
4 report.
5

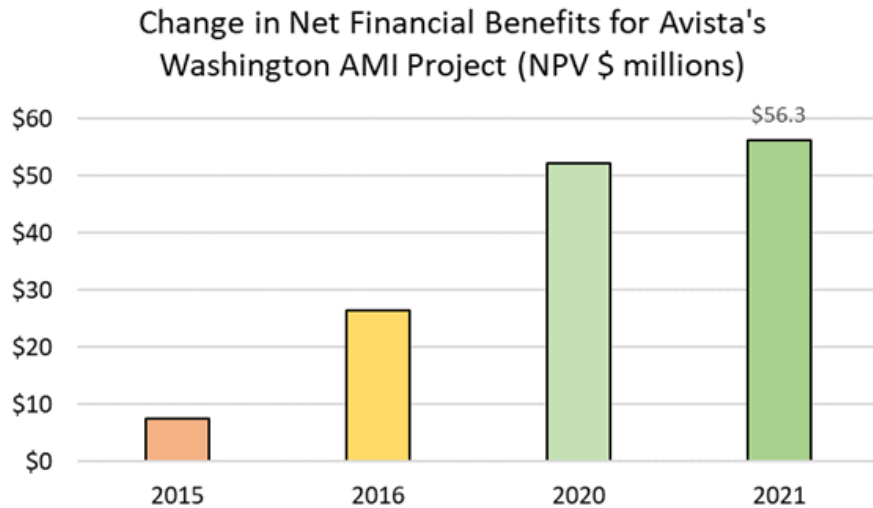
6 We have operationalized these “use cases” to enhance the value and capability of our
7 many existing energy efficiency programs. We have added new conservation
8 programs to our AMI business case, and we have plans for implementing time-
9 varying retail rates, consistent with the needs identified in our Electric Integrated
10 Resources Plan. Further, in addition to expanding AMI to support energy
11 conservation, the Company has added new areas of financial benefit resulting from
12 our initiative to make more complete use of AMI data for our customers. Two such
13 programs include Loss of Phase and improved Outage Management tools.
14

15 **2. Avista Will Achieve Stated Financial Benefits** – Our testimony shows, based on
16 the evidence in this case, that Avista will achieve its stated benefits for each major
17 category. As noted above, the systems required to deliver energy efficiency benefits
18 are in place and operational, and benefits are reasonable for this point in the project
19 lifecycle. Outage benefits are properly valued, and are reasonable, given the new
20 AMI-enabled tools Avista has developed and implemented. These new tools are
21 allowing us, in many instances, to dramatically reduce the time required to dispatch
22 restoration crews,²⁷ and as a result, to reduce the duration of outages experienced by
23 our customers. We will also show that our benefits as currently stated for CVR are
24 both reasonable and achievable in the timeframes planned. Finally, our testimony
25 shows that adjustments to Avista’s forecasted financial benefits made over the last
26 year, if anything, demonstrate a lack of uncertainty or volatility around their likely
27 achievement.
28

29 **3. Avista’s AMI Project Delivers Positive Net Benefits** – Our testimony shows that,
30 with the deployment essentially complete, Avista has carefully managed and reduced
31 its lifecycle capital and O&M costs from \$222.9 million in 2015 to \$158.7 million in
32 February of this year. All costs of the project are properly included in our calculation
33 of net benefits, including the costs for old meters replaced in deployment as well as
34 any future costs that can be reasonably known at this time. As such, there are no
35 “Stranded Costs” that have been excluded by the Company. Further, as we have
36 greater experience with new applications, systems and processes required to deliver
37 financial benefits for customers, we have continued to reduce the level of uncertainty
38 around their likely achievement. Each revision of project costs and benefits has
39 resulted in stronger net financial benefits, as shown below in Illustration No. 1.
40

²⁷ We describe these new tools in greater detail later in our testimony.

Illustration No. 1 – Net Financial Benefits for Avista’s AMI Project 2015-2021



Our testimony shows the durability of these net benefits, whether measured as the net present value of our stated costs and benefits, shown in the figure above, or as the net present value of our revenue requirement, as determined by the Public Counsel. And because future financial benefits, such as achieved by implementation of time-varying rates, as one example, have not been included in any cost-benefit analysis, we are confident that net benefits will continue to increase beyond what was projected throughout the life of the project.

4. Avista Has Clearly Demonstrated the Prudence of its AMI Investment – Finally, our testimony concludes, based on the evidence in this case, that Avista has carefully managed the costs of deployment and operation of the system, that we have continued to make more complete use of AMI data to benefit our customers, including real plans to add substantial value in the near future, and finally, that by every measure, the project produces reasonable financial net benefits. We believe these facts, taken together, support a finding of prudence by the Commission, and further, that the measures proposed by AWEC and Public Counsel to either reduce or deny entirely any return on the Company’s investment should be rejected.

Q. Was there other testimony on AMI sponsored in this case?

A. Yes, Staff witness Ms. White sponsored testimony acknowledging Avista’s restated financial net benefits and finding no objections with the Company’s proposed recovery of costs and return on investment, subject to modification based on Staff’s proposed capital structure. Ms. White also recommended the Commission ask Avista for a final restatement of project costs and benefits.

1 **III. AVISTA IS OPTIMIZING THE VALUE OF AMI FOR ITS CUSTOMERS**

2 **Q. Please describe some of the ways Avista has continued to expand the range**
 3 **of financial benefits maximized from its AMI system?**

4 A. We have already noted in our summary the progress made by the Company to
 5 utilize more fully, or “optimize”, AMI data to improve the capacity of our existing energy
 6 efficiency programs, and to launch completely new programs. In August 2020, Avista’s AMI
 7 report noted we had programs in place, or (then) in late-stage development, to capture energy
 8 efficiency savings for customers in several new areas, which were not included as part of our
 9 2016 business case. These “use cases,” which I noted in our summary above, are discussed in
 10 the subject report by the American Council for an Energy Efficient Economy,²⁸ which we have
 11 listed below:

12 **New AMI-Enabled Energy Efficiency ‘Use Cases’ Implemented by Avista**

- 13
- 14 1. **Targeting Strategies** – Avista is using data from AMI and load disaggregation to
 15 provide targeted energy use feedback in support of Behavioral Energy Efficiency and
 16 other programs.
 - 17
 - 18 2. **Behavioral Feedback Programs** – Avista has launched its new “Behavioral Energy
 19 Efficiency” program using AMI data and load disaggregation to provide customers
 20 personalized and actionable insights on their energy use.
 - 21
 - 22 3. **Measurement and Verification** – Avista is using AMI data to improve these programs
 23 by reducing the lag time between implementation of measures and verification.
 - 24
 - 25 4. **Pay for Performance** – The capability of these energy efficiency strategies is being
 26 improved through the availability and use of AMI data.
 - 27
 - 28 5. **Grid Interactive Efficient Buildings** – AMI data is being integrated with other
 29 information and control systems to improve building energy efficiency and reduce
 30 customer costs for infrastructure investments.

²⁸ Leveraging Advanced Metering Infrastructure to Save Energy. Rachel Gold, et al. The American Council for an Energy-Efficient Economy (ACEEE). January 2020.

1 We also noted the energy efficiency programs included in our original business case in 2016,
2 listed below, which are a continuing part of our AMI portfolio:

3 Energy Efficiency Programs included in 2016 and 2020

- 4
5 6. **Energy Use Feedback** – providing customers access to their energy-use data in
6 combination with tips, incentives, and analytical tools to help them reduce energy costs.
7
8 7. **Conservation Voltage Reduction** – using AMI voltage data from customers’ service
9 points to improve the energy savings captured by lowering voltage on the feeder.
10

11 Finally, we identified one energy efficiency use case, listed below, which was not yet ripe for
12 implementation, but for which we provided initial estimates of the financial value and rough
13 implementation milestones:

14 Future Energy Efficiency Programs

- 15
16 8. **Retail Energy Pricing Strategies** – such as the ‘time-varying’ rate structures described
17 and evaluated by witness Ms. Bauman,²⁹ for which Avista is planning to evaluate, pilot
18 and to operationalize in the near future. Indeed, other parties in this case are adamant
19 that we implement such a program in the very near future (and this is only made possible
20 by a functioning AMI system).
21

22 **Q. Didn’t the Commission deny a “return on” AMI investments for PSE**
23 **largely because it did not demonstrate how it would optimize these use cases discussed**
24 **above?**

25 A. Yes, in its Order,³⁰ the Commission stated:

26 “...PSE has not yet satisfactorily demonstrated the benefits of the AMI system
27 as a whole. The Company represented at hearing that it is planning to pursue
28 additional benefits, but it has yet to put forth any formal plan or proposal.”
29

30 The same cannot be said of Avista, as demonstrated above, and elaborated on in our testimony.

²⁹ Exh. SB-1T; beginning on page 27.

³⁰ Dockets UE-190529 and UG-190530 (consolidated), Order 08 ¶ 155 (July 8, 2020).

1 **Q. Ms. Bauman states that Avista’s programs for Behavioral Energy**
 2 **Efficiency³¹ and Grid Interactive Efficient Buildings³² are not yet operational. Do you**
 3 **concur?**

4 A. No, we do not. Our new load disaggregation application is installed and is
 5 operational, supporting our new Targeting and Behavioral Energy Efficiency measures. This
 6 application, provided by Bidgely,³³ was highlighted for its predictive analytics capabilities,³⁴ as
 7 noted in the excerpt, below.

8 Entering the leaderboard for the first time, Bidgely scored in the “Contender”
 9 category for the success of its predictive analytics solution, Analytics
 10 Workbench, implemented by utilities to more effectively analyze the electric grid
 11 based on artificial intelligence (AI)-powered appliance-level consumption
 12 insights. Bidgely is also recognized for its expanded ability to support core utility
 13 objectives such as electrification, decarbonization, and time-of-use and peak load
 14 management.
 15

16 And, our Grid-Interactive Efficient Buildings Initiative is also fully operational, as highlighted
 17 by the Grand Opening of Spokane’s South Landing Eco-District in September 2020.³⁵ Avista
 18 is already using the operational capabilities of centralized heating and cooling for the Eco-
 19 District, including the integration AMI data, renewable distributed generation and energy
 20 storage, to integrate and optimize each resource to reduce costs, greenhouse gas emissions, and
 21 to reduce the peak demand on electric infrastructure supporting the development.

22 **Q. You noted that Public Counsel and AWEC were critical of Avista because**
 23 **the Company had not yet included among its energy efficiency programs any financial**

³¹ Exh. SB-1T; page 21, lines 14, 15.

³² Exh. SB-1T; page 22, lines 9-13.

³³ Energy Disaggregation - Bidgely UtilityAI™ - Energy Analytics

³⁴ Bidgely Earns Strong Debut on Guidehouse Insights’ Leaderboard for Smart Meter Analytics | Business |
valdostadailytimes.com

³⁵ www.catalystspokane.com/#partners

1 **benefits for time-varying rate structures. How do you respond?**

2 A. Our ability to cost-effectively implement these types of programs in the past was
3 constrained by our low energy prices, the low differential in price between heavy and light-load
4 hours, and our limited need for capacity resources, to name a few. It is only recently that our
5 Electric Integrated Resource Plan (IRP) determined that time-varying rate structures might
6 provide a cost-effective alternative for meeting our expected capacity shortfall in year 2026.³⁶
7 We are working with the Parties in this case to develop pilot programs embracing such time-
8 varying rates – all of which depends on the functionality of AMI.

9 **Q. In what other ways has the Company been able to capture more financial**
10 **value for customers from its AMI system?**

11 A. In some cases, Avista identified financial benefits for customers that were simply
12 more evident once we were fully engaged with deployment of the system, including savings for
13 the Natural Gas Meter Module Refresh program, and Customer Meter Base Repairs. We also
14 began to explore new opportunities to use the AMI data in our analytics applications and
15 discovered several new ways to improve the safety of our system and service for our customers,
16 including the financial benefit of detecting and remediating Loss of Phase.³⁷ And, importantly,
17 our continuing work to develop the applications and systems needed to capture direct benefits
18 for customers from reduced outage duration led to new tools, capabilities and financial benefits
19 not previously envisioned in our 2016 AMI business case.

20 **Q. How would you conclude this portion of your testimony regarding the**

³⁶ Exh. JDD-1Tr; pages 96, 97.

³⁷ Three-phase metering installations may be subject to what is referred to as a “loss of phase,” a condition where one of the three phases loses connection from the metering at the customer’s service. This loss of phase may result from a failure in the wiring or equipment, a fault on the system, or in less frequent instances, issues with the current transformers. When this occurs, it can result in a portion of the electric use not being registered on the meter.

1 **Company’s continuing efforts to derive even greater value from the AMI system for our**
2 **customers?**

3 A. Avista has demonstrated it is actively using the promised features of its AMI
4 system today, that we are currently maximizing the use of metering and other data to improve
5 the quality of a range of services we provide our customers, and that we are maximizing the
6 financial value of this investment. The financial benefits stated by the Company can be relied
7 upon by the Commission to evaluate the prudence of our investment. We are confident these
8 benefits will grow over time as we continue to “optimize” AMI functionality.

9
10 **IV. AVISTA WILL ACHIEVE ITS STATED FINANCIAL BENEFITS**

11 **Q. Are the financial benefits stated for each area of benefit based on the**
12 **current state of Avista’s systems and processes required to deliver them?**

13 A. Yes, the systems and processes we have in place now to utilize AMI data to
14 deliver customer benefits are sufficient to deliver the level of benefits stated in our case. That
15 is not to say, however, that each of these processes and systems will not continue to be refined,
16 improved upon and expanded, which Avista is already demonstrating. But, in the same vein,
17 just because these systems will be improved upon over time as our capability fully matures, it
18 does not mean they are somehow “incomplete” now or otherwise inadequate based on their
19 current state of maturity.³⁸

20 **Q. Would you please address the concerns raised by Public Counsel regarding**
21 **AMI-enabled outage benefits included in the Company’s case?**

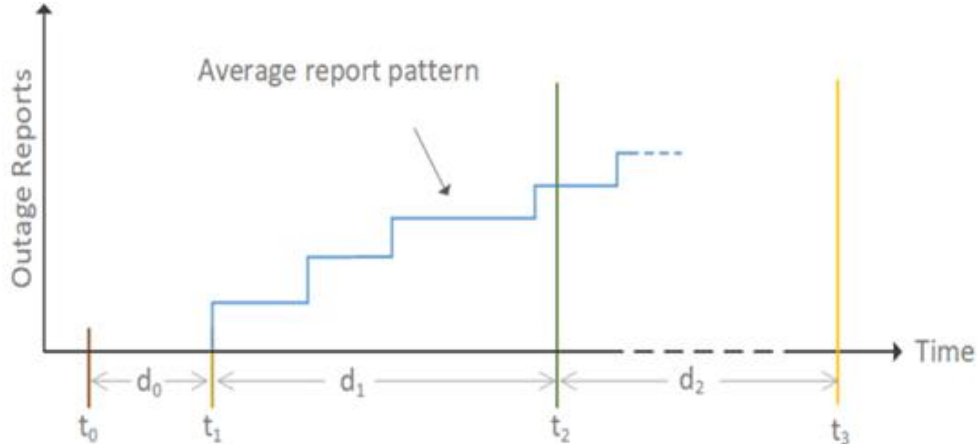
³⁸ Staff response to Public Counsel Request No. 4, provided as Exh. HR/LL-2, pages 2-5.

1 A. First as a minor clarification, the benefit “Earlier Outage Notification” was
 2 included in Avista’s 2016 AMI business case.³⁹ It is likewise included in our current case, albeit
 3 with a slightly increased level of expected benefit (5% in 2016 and 6% in 2020), based on actual
 4 results of earlier notification measured by the Company and reported in our 2020 AMI report.
 5 Between 2016 and 2020 the Company continued to look for ways to maximize the customer
 6 value of AMI and we developed several new Outage Management tools supporting a new
 7 financial benefit in our 2020 business case for “More Efficient Restoration Processes.”

8 **Q. Did you provide Public Counsel a demonstration of these tools?**

9 A. Yes, in a subject demonstration meeting requested by Public Counsel, Avista
 10 demonstrated its pre-AMI outage notification and dispatching processes, depicted in the
 11 illustration below.

12 **Illustration No. 2 – Pre-AMI Outage Notification and Determination**



19 This diagram shows how Avista was typically notified of the outage occurring at (t₀) only when
 20 a customer called in to report it at (t₁). The blue staircase line between (t₁) and (t₂) represents the
 21 additional information provided by successive customer calls⁴⁰ that helped the dispatcher better

³⁹ Ms. Bauman states this benefit was added to Avista’s business case in 2020.

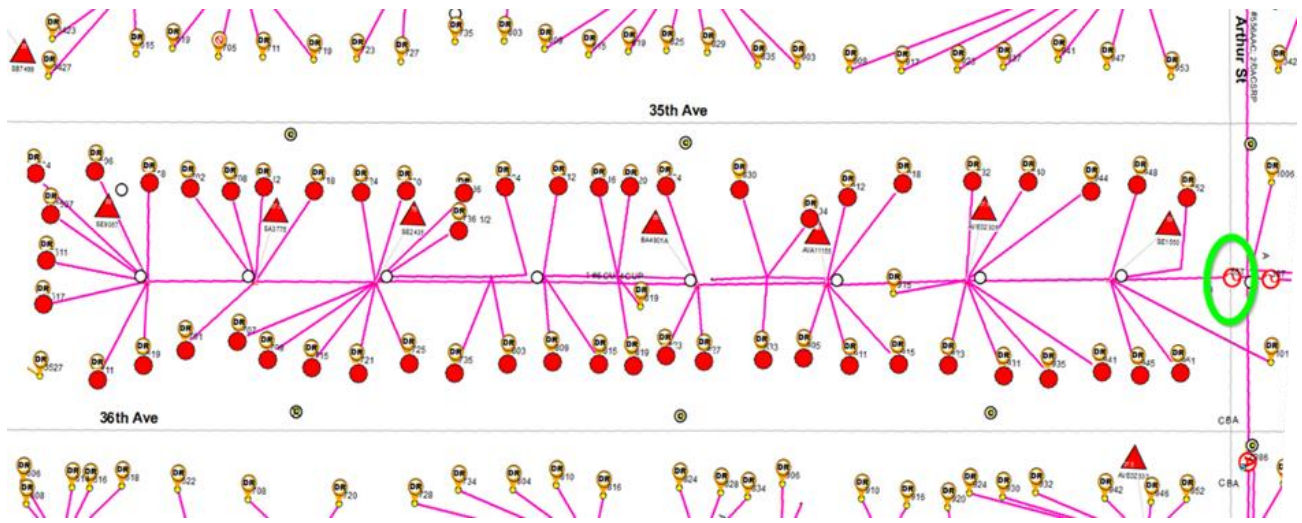
⁴⁰ When the outage involved more than a single customer, and when additional customers actually called in to report the outage, which often they do not.

1 understand the nature of the outage. Often, only after multiple outage calls⁴¹ would the
 2 dispatcher have enough information to “triangulate” and create an outage incident and dispatch
 3 the crew to the point the dispatcher believes to be the most likely isolating device.

4 **Q. How have these new tools changed the process?**

5 A. The change is remarkable. When our customers experience an outage today, the
 6 dispatch center is almost immediately notified of the outage, which is that “Earlier Notification”
 7 in action (nearly eliminating the elapsed time between (t₀) and (t₁), above).⁴² But going beyond
 8 earlier notification, in maximizing the value of this new capability, we integrated the meter
 9 outage ‘alarms’ into our Outage Management System and GIS electric system map layer. So
 10 instead of just receiving an ‘outage alarm,’ the first image our dispatchers now see is the electric
 11 feeder map showing every meter impacted by the outage that is without power, as indicated by
 12 the red dots in the diagram in Illustration No. 3, below.

13 **Illustration No. 3 – Avista’s New AMI-Enabled Outage Alarm Tool**



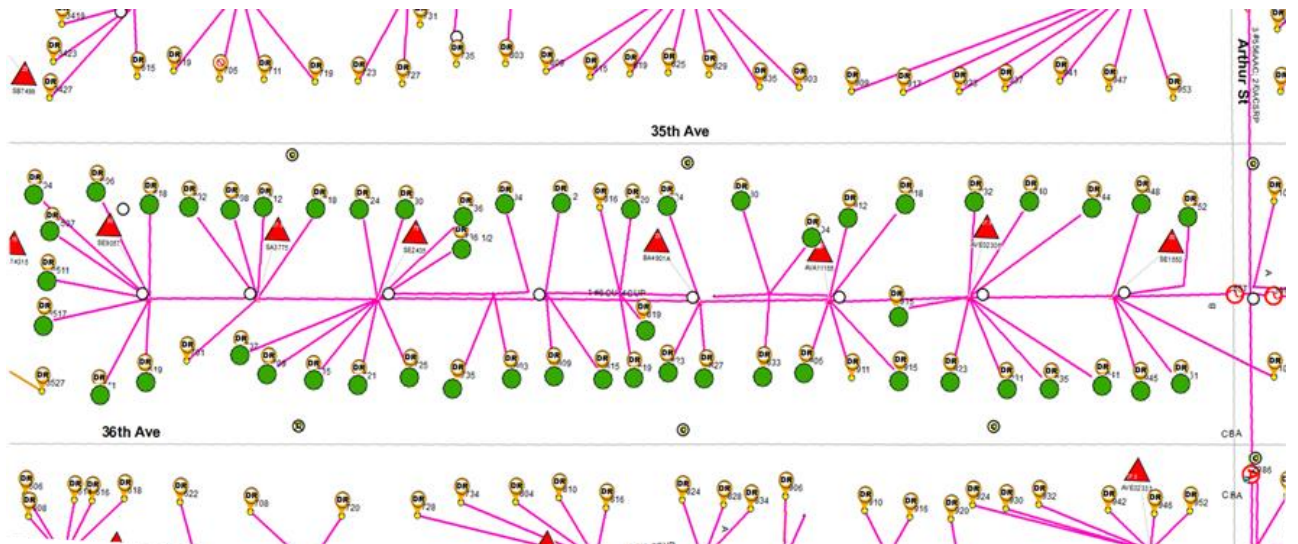
⁴¹ Or a “reasonable period of waiting” for a dditional possible calls when no others are immediately received.
⁴² The elapsed time in the diagram between the actual outage event (t₀) and when Avista is first notified of the event by the customer calling in to report the outage (t₁), as shown in Illustration No. 2.

1 Within moments of the outage occurring, the dispatcher can now see that every meter in the
 2 center lateral line is without service, while all the visible meters served from the laterals above
 3 and below the center show normal status. And, our outage algorithms analyze the meter alarms
 4 to automatically identify, by the green circle, the most likely device associated with the outage.
 5 These new tools have effectively “collapsed” the elapsed time between the outage event and
 6 dispatching a crew (time elapsed between (t₀) and (t₂) in Illustration No. 2, above).

7 **Q. Did you demonstrate other features of the new outage management tools?**

8 A. Yes. We also shared with Public Counsel our successful implementation and use
 9 of the “pinging tool,” which allows the dispatcher to “ping” an individual meter, or to ping
 10 groups of meters to determine with certainty whether the meter(s) has power, as shown below
 11 in Illustration No. 4. The green dots in the image represent pinged meters on the center lateral
 12 reporting back as having restored service.

13 **Illustration No. 4 – View of Avista’s New AMI-Enabled Meter Pinging Tool**



1 **Q. How would you respond to Ms. Bauman’s argument that these new outage**
2 **tools will have only a limited degree of impact⁴³ in reducing outage duration based on**
3 **differences in the types of outages experienced on Avista’s system?**

4 A. In our demonstration meeting with Public Counsel, we addressed this very point
5 by explaining how these tools will have a variable impact on reducing outage duration
6 depending on the type of outage, number of customers, the outage cause, time of day, season of
7 the year, location in our system, etc. We brought up this point to emphasize how the Company
8 is gaining more experience with these new tools, and is also evaluating historic timestamps from
9 a range of outage types to determine a reasonable set of benchmarks from which to measure the
10 weighted average improvements we are achieving.

11 **Q. What reduction in outage time on average are you forecasting in the current**
12 **AMI business case?**

13 A. Our current financial valuation for Earlier Outage Notification is based on an
14 improvement of **7 minutes, 15 seconds** and for More Efficient Restoration Processes is based
15 on an improvement of **4 minutes, 50 seconds**.

16 **Q. Do you believe these improvements are reasonable given the capabilities of**
17 **Avista’s new AMI-enabled outage management tools?**

18 A. Absolutely. Moreover, the Company has already committed to reporting out its
19 progress in achieving these reductions, in its annual reliability report filed with the Commission,
20 beginning in 2022.

21 **Q. What is your assessment of Ms. Bauman’s critique of the Interruption Cost**

⁴³ Exh. SB-1T; page 13, lines 6-23; page 14, lines 1-19; page 15, lines 1-11.

1 **Estimator tool?**⁴⁴

2 A. In our view, her criticisms of the Interruption Cost Estimator (ICE) as a valid,
 3 quantitative model are wide of the mark. The ICE model has been properly applied by Avista
 4 for estimating the financial value for customers for reduced outage duration. As one example,
 5 nowhere does she cite any credible support for her claim that Avista’s use of the model is
 6 somehow flawed because the system-level estimates produced by the model are based on the
 7 actual costs reported by individual customers in utility Value of Service studies.⁴⁵ Indeed, all
 8 population models are based on samples of individuals in the population, and the sole purpose
 9 of the model is to calculate customer outage costs for populations of customers defined
 10 geographically by the user of the model. The notion that the results are not intended to represent
 11 a utility’s service area is simply without merit. She likewise fails to cite any support for her
 12 contention that the model systematically overstates or otherwise exaggerates customer outage
 13 costs as she claims.⁴⁶

14 **Q. What about her comment that “many utilities attribute no economic value**
 15 **at all to reliability improvement benefits potentially available from AMI?”**⁴⁷

16 A. We would respectfully suggest that, in contrast to Avista, those utilities have
 17 certainly not made full use of the capabilities of their AMI systems in support of their customers,
 18 as noted in the report we previously cited by the American Council for an Energy Efficient
 19 Economy.⁴⁸ We have done better.

⁴⁴ Exh. SB-1T; page 15, lines 10-17; pages 16-18.

⁴⁵ Exh. SB-1T; page 16, lines 10-20; page 17, lines 1-3.

⁴⁶ Exh. SB-1T; page 16, lines 1-20; page 17, lines 1-9.

⁴⁷ Exh. SB-1T; page 15, lines 11-13.

⁴⁸ Leveraging Advanced Metering Infrastructure to Save Energy. Rachel Gold, et al. The American Council for an Energy-Efficient Economy (ACEEE). January 2020.

1 **Q. What do you recommend the Commission consider in its prudence review**
2 **of Avista’s AMI investment, and the Company’s use of the Interruption Cost Estimator?**

3 A. We recommend the Commission accept the Interruption Cost Estimator model
4 for what it is, including all its unique capabilities and its limitations. In the view of the
5 Company, the Interruption Cost Estimator is the only widely available model in the industry for
6 such valuation. The alternative is for Avista to commission and have our customers pay for our
7 own Value of Service Study, which results are likely to be somewhat more accurate than those
8 produced by the Interruption Cost Estimator. In Avista’s opinion, however, the likely additional
9 increment of accuracy (which improved accuracy could result in an increase in the financial
10 value of our outage improvements) is not worth the investment. Avista’s use of the model to
11 estimate the financial value for customers for reduced outage duration is entirely appropriate,
12 which steps we have painstakingly documented in our responses to Public Counsel, most
13 notably in PC-DR-198 Revised⁴⁹ and PC-DR-259.⁵⁰

14 It’s also easy to lose sight of the fact that output from the model is not being used by
15 Avista as the sole justification for a specific reliability investment; rather, we use the model to
16 properly give the Commission an idea of the order of magnitude of financial benefits likely to
17 be delivered by our new AMI-enabled outage management tools. In part, this is the reason why
18 Avista stated it did not increase the financial benefits for improved outage management, even
19 when our use of updated inputs to the model increased the overall project net financial benefits
20 by roughly \$4.5 million.⁵¹ We felt the prior value reported was sufficient to provide the
21 Commission a fair idea of the value of our new AMI-enabled outage tools, even though it

⁴⁹ Exh. HR/LL-2; pages 62-71.

⁵⁰ Exh. HR/LL-2, page 87.

⁵¹ Ibid.

1 understates their value.

2 **Q. Finally, what about the concerns of Ms. Bauman that most of the financial**
3 **benefits of reduced outage duration flow to our commercial and industrial customers?**⁵²

4 A. Not only is this true, but it is entirely appropriate and reasonable, and to be
5 expected. As such, it is the only financial benefit that is not heavily weighted in favor of
6 residential customers, whom as a customer class are otherwise receiving the vast majority of
7 the other financial benefits of AMI.

8 **Q. As concerns the financial benefits associated with Conservation Voltage**
9 **Reduction, did Avista provide Public Counsel with assurances that its program is in place and**
10 **operational?**

11 A. Yes, we did, such as provided in response to PC-DR-207(c), which excerpt for
12 Conservation Voltage Reduction (CVR) savings is provided below.

13 Please see the Company's responses to PC-DR-151, PC-DR-152, PC-DR-203,
14 PC-DR-204, PC-DR-205 and PC-DR-206. As explained in responses to these
15 requests and elsewhere, Avista has the technology capabilities in place and
16 functioning, and the ongoing evaluation processes needed to enable the Company
17 to achieve over time the savings identified in the AMI business case.

18 Further, at the request of Public Counsel, Avista held an online meeting with screen sharing to
19 demonstrate the processes currently operational to achieve AMI-enabled savings for CVR.

20 **Q. Public Counsel notes the reduction in CVR potential described by the**
21 **Company between 2016 and 2020.⁵³ Is Avista's current forecast of CVR benefits based on**
22 **its 2016 forecast, or the much-reduced 2020 forecast?**

23 A. It is based on the much-reduced 2020 forecast.

⁵² Exh. SB-1T; page 18, lines 4-19.

⁵³ Exh. SB-1T; page 23, lines 12-14.

1 **Q. Has the estimated financial value for CVR been revised to match this**
2 **forecast, including the most-current status of the program?**

3 A. Yes, it has, as noted in the excerpt, below, from our response to PC-DR-320 (a):

4 Please also note the Company’s revised estimate for the financial benefits
5 arising from Conservation Voltage Reduction, which has been reduced on a net
6 present value basis from the initially-filed value of \$18,494,601 to the currently-
7 estimated value of \$16,896,343.⁵⁴
8

9 **Q. In your opinion, is the Company’s CVR program incomplete or otherwise**
10 **in any jeopardy of producing “zero” benefits⁵⁵ as speculated by Ms. Bauman?**

11 A. No, it is not. We have dramatically reduced the uncertainty around achieving the
12 level of benefits now stated in our case. We believe our reduction has been very conservative
13 and that we are more likely than not to exceed the stated benefits over the life of the AMI
14 project.

15 **Q. Would you please comment on Ms. Bauman’s concern that Avista’s**
16 **financial benefits are in jeopardy because they are subject to an unreasonable degree of**
17 **volatility?⁵⁶**

18 A. We offer the perspective, that from our summer 2020 forecast until the present
19 time, estimates for our major areas of benefit have varied as shown in the Table No. 1, below.

⁵⁴ Exh. HR/LL-2, page 89-91.

⁵⁵ Exh. SB-1T; page 25, line 3.

⁵⁶ Exh. SB-1T; page 25, lines 6-14.

Table No. 1 – Difference in Avista’s AMI Financial Benefits Between 2020 and 2021

<u>Area of Benefit</u>	<u>Increased</u>	<u>Decreased</u>
Meter Reading/Meters	-	6.0%
Remote Service Connect	-	-
Outage Management ⁵⁷	9.6%	-
Energy Efficiency	2.0%	-
Energy Theft/Unbilled	-	1.7%
Billing Accuracy	-	3.5%
<u>Utility Studies</u>	-	-
Net	+11.6%	-11.2%

In our view, these differences in benefits, which represent the only adjustments considered meaningful at this point in the project, do not come anywhere near representing the “dramatic volatility” described by Public Counsel,⁵⁸ and if anything, largely offset each other. Further, as I have already noted, the net financial benefits only seem to increase each time Avista “takes another look” at the project financials.

V. AVISTA’S AMI PROJECT DELIVERS POSITIVE NET BENEFITS

Q. Do you have any further comments on the likelihood that Avista will achieve its stated financial benefits for each area of benefit included by the Company in its AMI business case?

A. We have already addressed the specific criticisms raised by Public Counsel as to the level of benefits forecasted in each area, and the likely volatility of these benefits over the life of the project. While we certainly understand that the ultimate level of benefits achieved in certain areas will vary from the forecasts, we believe the ultimate net benefits provided by

⁵⁷ As noted in our testimony above, the Company has not revised its net benefits by \$4.5 million to reflect this improvement.

⁵⁸ Exh. SB-1T; page 26, lines 8, 9.

1 the project will only increase over time as new capabilities are explored and additional new
2 benefits are captured. As evidence of this, we note the statement of Ms. Bauman that “In our
3 opinion, when done right, the shift of usage from peak periods provided by time varying rates
4 is one of the largest potential benefits from AMI, second only to meter reading cost savings.”⁵⁹
5 Ms. Bauman’s confidence in this level of value, applied to Avista, could put the financial value
6 of such a rate plan to shift usage from peak periods somewhere between \$57.8 million and \$46.7
7 million.⁶⁰ This is one area that is already actively underway in our discussions with the Parties.

8 **Q. Mr. Mullins’ descriptions of “quantitative” benefits and “qualitative”**
9 **benefits are at odds with Avista’s description of benefits provided in the Company’s**
10 **business case. Please explain the difference between these two categories of benefits?**

11 A. In our business case we distinguish between benefits that lend themselves to
12 being financially valued, or “quantified,” and those that are more difficult to value at this point
13 in time, which we refer to as “customer benefits currently not quantified.” Financially quantified
14 benefits are those with an established financial value, which flow back to our customers as
15 actual financial savings. Benefits not currently quantified⁶¹ are, nevertheless, real customer
16 benefits that should be included by the Commission in evaluating the prudence of the
17 Company’s investment, even though Avista has taken no credit for them in its cost-benefit
18 analysis.

19 **Q. So, are only the quantified financial benefits included in determining**

⁵⁹ Exh. SB-1T; page 27, lines 15-18.

⁶⁰ Ms. Bauman’s belief that these benefits could be second only to the savings of meter reading would put the value somewhere between Avista’s financial savings for meter reading (\$57.8 M), on the high end, and our next-highest area of financial value (\$46.7 M) for customer savings from our AMI-enabled outage management tools, on the low end.

⁶¹ A comprehensive list of these benefits is described in Exh. JDD-2r; pages 86-93.

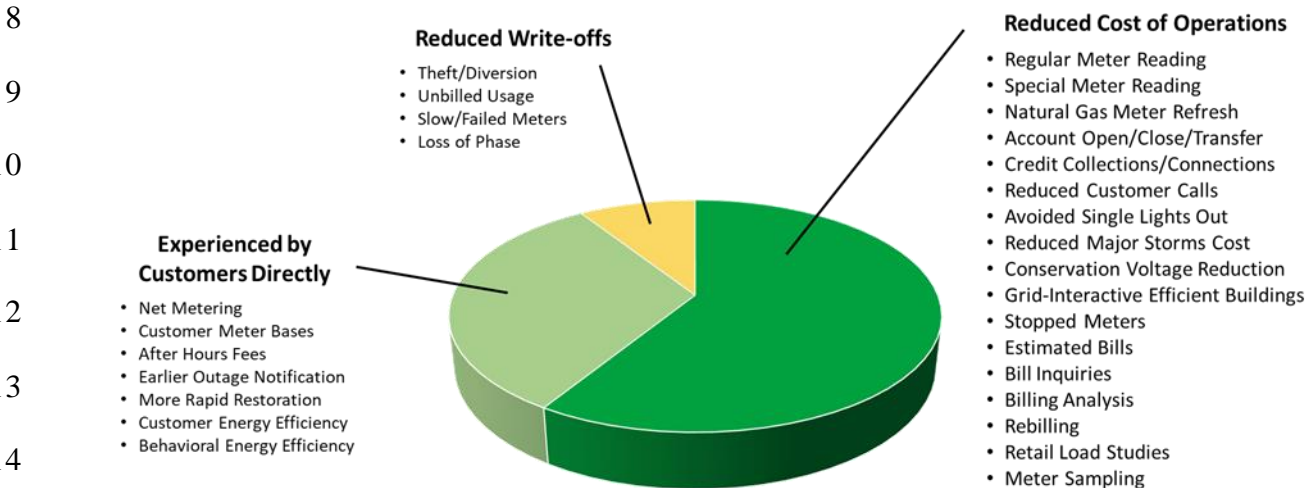
1 **project net financial benefits?**

2 A. That is correct.

3 **Q. Please explain the various ways these quantified financial benefits flow back**
 4 **to customers as actual savings?**

5 A. There are three ways these quantified benefits, delivered by AMI, flow back to
 6 customers, which we have listed in the illustration below.

7 **Illustration No. 5 – Customer Financial Benefits Grouped by Means of Delivery**



16 Over the life of the project, the majority will ultimately be received by customers as reductions
 17 in our cost of providing service, noted as “Reduced Cost of Operations.” Several of the
 18 quantified benefits help reduce write-offs experienced by Avista, which again, help reduce the
 19 cost of service all customers pay. The third category of quantified financial benefits are those
 20 savings customers experience directly, for example, as a result of costs they avoid by reduced
 21 outage duration or the energy efficiency savings they experience as a result of actions they take
 22 to lower their energy bills.

23 **Q. Please summarize why you believe Mr. Mullins, in particular, is confused**

1 **about the actual value of financial benefits that are properly included in determining AMI**
2 **net project benefits?**

3 A. Since only a portion of the quantified benefits described in Illustration No. 5 are
4 offsets to operating costs (i.e. “Reduced Cost of Operations” category in Illustration No. 5), Mr.
5 Mullins appears to have mistakenly concluded that the other categories of financial benefits,
6 shown in Illustration No. 5, above, that help reduce capital costs, write-offs and those that flow
7 through to customers directly, should somehow not be included in the calculation of project net
8 financial benefits.

9 **Q. Is that an accurate conclusion?**

10 A. No, it is not. All of the quantified financial benefits estimated by Avista and
11 stated in its business case are properly included in the cost-benefit analysis because they all
12 result in financial savings for our customers.

13 **Q. How would you describe his analysis based on his exclusion of these**
14 **quantified benefits?**

15 A. His approach is fundamentally flawed and cannot be relied upon by the
16 Commission to evaluate the overall prudence of the Company’s AMI investment.

17 **Q. Do you agree with the concern raised by Ms. Bauman that Avista did not**
18 **properly include the undepreciated value of meters retired as part of the AMI deployment**
19 **as a ‘project cost?’⁶²**

20 A. No, that is not the case. The undepreciated value of the retired conventional
21 electric meters and natural gas modules was included as a line-item expense, and represented

⁶² Exh. SB-1T; page 5, lines 5-12.

1 as a project cost in Exh. JDD-2r, Table 3-1, in the column labeled “Amortized Meters.”⁶³
2 Likewise, the depreciation of these meters was included as a project cost in the Company’s
3 revenue requirements, as provided in PC-DR-131 Revised, Attachments A and B.⁶⁴

4 **Q. What about the claim of Mr. Mullins that Avista did not properly include**
5 **any replacement costs?**⁶⁵

6 A. Besides not properly allocating the MDM costs as explained by the Company,
7 he assumes the MDM system must be replaced once fully depreciated in 12 ½ years. Avista has
8 no current forecast or any other planning that suggests we will need a new MDM system in the
9 current project lifecycle. We believe his assumption is unreasonable, and that we have properly
10 included future project costs to the degree they can be reasonably known and supported.

11 **Q. Please summarize the Company’s AMI project costs and financial benefits**
12 **presented by Avista in this case, and likelihood the project will deliver net financial**
13 **benefits?**

14 A. Project costs of deployment are known with near certainty; they include all
15 known deployment costs, including the expense for the amortization of retired meters, and any
16 reasonably-known future costs. Likewise, Avista has demonstrated it has the systems and
17 processes in place to deliver the stated financial benefits, that they are more than likely to occur,
18 and that both our near-term and lifecycle forecasts of benefits are reasonable, if not
19 conservative.

20 **Q. Both Ms. Bauman⁶⁶ and Mr. Mullins⁶⁷ are critical of Avista for not basing**

⁶³ As provided in Exh. SB-2, page 2.

⁶⁴ As provided in Exh. SB-2, pages 4, 5.

⁶⁵ Exh. BGM-1T; page 63, lines 15-21.

⁶⁶ Exh. SB-1T; page 4, lines 17-21; page 5, lines 1-23; page 6, lines 1, 2.

⁶⁷ Exh. BGM-1T; page 63, lines 3-14.

1 **its cost-benefit analysis on the net present value of the revenue requirement instead of the**
2 **NPV of lifecycle costs and benefits as presented in the Company's business case?**

3 A. As noted by Mr. Mullins and the Company, this is the third time Avista has
4 presented its AMI business case before the Commission. In each instance, we have used the
5 same base models for calculating project costs, financial benefits and net benefits, which have
6 been presented in each business case as the NPV of annual capital and O&M costs and financial
7 benefits. I note that Avista's AMI project produces positive net financial benefits, whether
8 measured as presented in the Company's business case, or as presented in the testimony of Ms.
9 Bauman,⁶⁸ whose own analysis still shows a positive benefit-cost ratio of 1.1 to 1.0.
10 Importantly, her determination of the positive net benefits produced by the project assumes that
11 Avista will be granted the return on equity and capital structure the Company has requested in
12 this case. Of greater importance, however, her calculation does not include any financial value
13 that will be created by our implementation of time-varying rate structures, which is virtually
14 certain to occur in the next few years, and which Ms. Bauman believes has a financial value of
15 somewhere between \$46.7 million and \$57.8 million, and for which her own client advocates.⁶⁹
16 For his part, Mr. Mullins did not attempt to calculate any financial net benefits for Avista's AMI
17 project,⁷⁰ though he is still willing to speculate he has "...not been able to conclude that the
18 AMI program will produce net benefits for ratepayers."⁷¹

19 **Q. How would you conclude your foregoing testimony?**

20 A. Based on the record produced by Avista in this case, which we have summarized

⁶⁸ Exh. SB-1T; page 5, lines 13-23; page 6, lines 1, 2.

⁶⁹ Exh. SB-1T; page 27, lines 15-22.

⁷⁰ Exh. BGM-1T; page 64, lines 19, 20.

⁷¹ Exh. BGM-1T; page 64, lines 21, 22.

1 above, including our responses to concerns raised by AWEC and Public Counsel, and also
2 considering the support of Staff, the Company's AMI project is a prudent investment made in
3 the interest of our customers. Not only is this system timely deployed to help us meet the many
4 challenges faced by our industry and our society, but it has been delivered in a careful and cost
5 effective manner, which capabilities have been reasonably maximized, and which financial net
6 benefits are positive today, and are likely to grow throughout the life of the project.

7 **Q. Apart from the prudence of AMI in general, should Avista be denied a**
8 **return on its AMI investment in the amounts of \$9.7 million and \$4.9 million, as**
9 **recommended by Public Counsel and AWEC, respectively?**

10 A. Unlike PSE, where the return on AMI investment was denied until PSE could
11 demonstrate that it was taking steps to maximize all the use cases, here Avista has demonstrated
12 those efforts and its reasonable progress toward "optimizing" these "use cases." To deny a
13 "return on" AMI investment would be entirely unwarranted.

14 **Q. Does this conclude your rebuttal testimony?**

15 A. Yes, it does.