Exhibit No. __(HLR-9T)

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-160228

DOCKET NO. UG-160229

REBUTTAL TESTIMONY OF

HEATHER L. ROSENTRATER

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 Vice President of Energy Delivery for Avista Utilities, at 1411 East Mission Avenue, Spokane, Washington.

Q. Have you filed direct testimony in this proceeding?

A. Yes. I have filed direct testimony in this case addressing the Company's electric and natural gas energy delivery facilities, the planned installation of Advanced Metering Infrastructure, and our distribution capital investment.

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

A. My rebuttal testimony will address the Company's Advanced Metering Infrastructure (AMI) Project, in response to the testimony filed by Public Counsel and the Energy Project ("PC/EP") witness Ms. Alexander and Staff witness Mr. Nightingale. I will also address Avista's distribution plant investments in response to the testimony filed by Staff witness Mr. Hancock, Public Counsel witness Mr. Watkins, and the Industrial Customers Northwest Utilities and Northwest Industrial Gas Users (ICNU/NWIGU) witness Mr. Mullins.

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II. OVERVIEW OF AVISTA'S REBUTTAL RELATED TO AMI

Q. In response to testimony of Public Counsel/Energy Project (PC/EP) and Staff related to AMI, would you please summarize Avista's position on rebuttal?

A. Yes. Avista remains committed to achieving high customer satisfaction, which includes, among other things, offering its customers information and choices that help them manage their energy costs. Like a growing number of utilities across the Country,[1] the Company views AMI as an enabling technology and a "key platform" supporting this mission. Advanced metering has emerged as a powerful solution that enables utilities to improve responsiveness to customer needs, improve information sharing with customers, and ultimately improve overall customer service. Advanced metering is one element of a range of smart grid technologies that is rapidly becoming the metering standard for the utility industry. Advanced metering systems today are more robust and reliable than previous iterations, and technologies are coalescing around proven approaches and standards. The testimony of Barbara Alexander, on behalf of PC/EP, in particular, challenge the Company's business case in support of its decision to move forward with implementation of AMI.

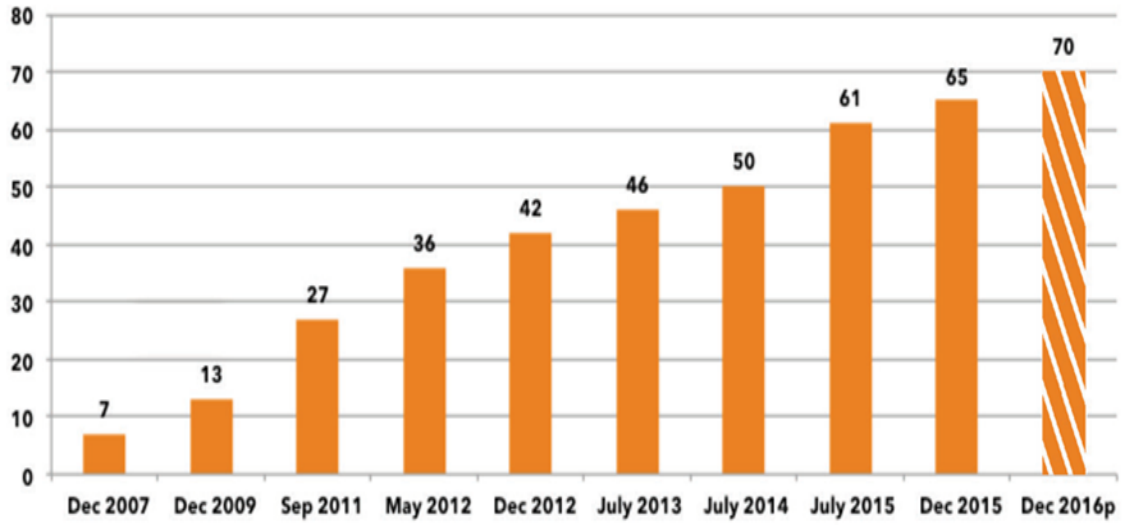
Ms. Alexander seemingly gives little credence to the growing adoption of AMI throughout the Country. My direct testimony demonstrated[2] that penetration of advanced

[1] Electric Company Smart Meter Deployments: Foundation for A Smart Energy Grid. The Edison Foundation Institute for Electric Innovation. (September 2016)
[2] Exhibit No.__(HLR-3).

meters in the U.S. has increased from just under 5% in 2008 to over 30% by 2013,[3] and is expected to reach 50% to 70% by the year 2020, just prior to our full implementation of AMI. A recently-released report by The Edison Foundation Institute for Electric Innovation (IEI) notes that today more than half of all households in the Country are equipped with an advanced meter, and that the total number of meters deployed is expected to reach 70 million this year, as shown in Illustration No.1 below.[4]

Illustration No. 1

Smart Meter Installations in the U.S. Approach 70 Million



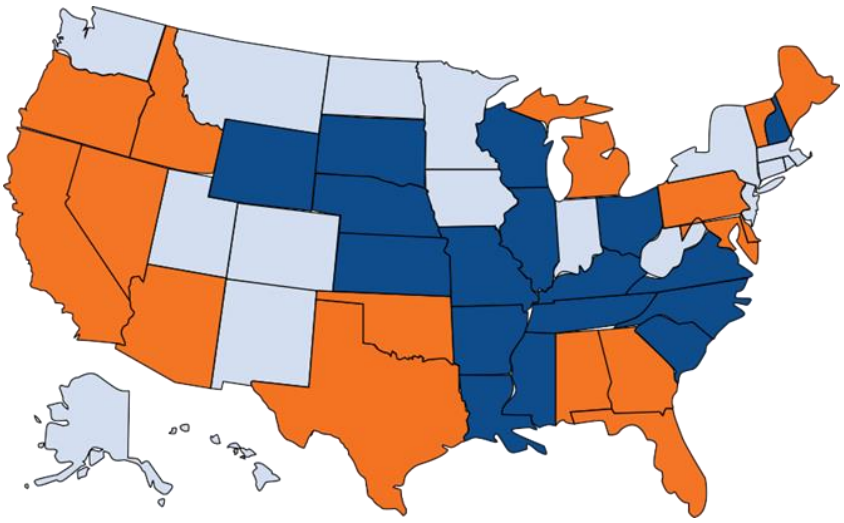
This report also updates the percentage of U.S. households equipped with an advanced meter by State, as shown below in Illustration No. 2.

[3] Id. at page 2.
[4] *Electric Company Smart Meter Deployments: Foundation for A Smart Energy Grid*. The Edison Foundation Institute for Electric Innovation. (September 2016) at page 2.

Illustration No. 2

Smart Meter Deployments by State 2015[5]

Percent of Households with Smart Meters



0 – 15% 15 – 50% 50 – 100%

Indeed, the old electromagnetic meter is fast becoming a 'relic' in the industry. State and federal regulatory policies, as well as those of regulatory associations, such as the National Association of Regulatory Utility Commissioners (NARUC), have also played a role in accelerating the deployment of advanced metering systems. Clearly, at this point in time, Avista is not an "early-adopter" of advanced metering. Even the much smaller customer-owned utilities adjacent to our service area (Inland Power & Light Co.) have already installed smart meters.

Q. Notwithstanding criticisms of the Company's business case by Ms. Alexander, is the Company moving forward with the Project?

A. Yes. Based on the information, studies, and analysis contained in the Company's business case, Avista has made the decision to move forward with the deployment

[5] Id. at page 3.

of advanced metering for our Washington customers, contracts have been signed, and the implementation is now well underway. Prior to making this decision, Avista requested and received from the Commission the accounting treatment it required to avoid a write-off associated with the retirement of our existing electric meters.

To date, the Company has executed five vendor contracts supporting the Project, including the development of technical specifications for subsequent requests for proposals (RFP), purchase of the meter data management system (MDM) from Oracle, hiring of the installation contractor for that system, and the execution of contracts supporting the Company's customer engagement, outreach and education initiatives.

In September of this year, Avista and the AMI metering systems provider, Itron, have reached agreement on contract terms, including the price, for the advanced electric meters, natural gas meter modules, metering communications hardware and software, and the installation of these systems, as well as the head-end[6] system. Avista expects to execute this contract in the next few weeks, at which time, the Company will have under contract the vast majority (80%) of the estimated contract costs presented in its business case, as shown in Table No. 1 below. The Project timeline remains substantially the same, but for a slight shift in the MDM implementation from April to July, and meter deployment from July to September, which does not affect the full implementation date of 2020.

[6] Meter Data Collection System (Head End System) - This system is composed of computer hardware and software applications that control and coordinate the meter communication networks. In addition to this function, the system aggregates the usage data from the advanced meters in the field and routes this data to the Meter Data Management system and other specialized software applications.

Table No. 1

Project Element	Estimated Cost ($Millions)	Total Percent of Contract Costs(1)
Meter Data Management System	**$8.60**	**9.9**
Head End System	**$6.70**	**7.8**
Collector Infrastructure	**$11.80**	**13.7**
Advanced Meters / Modules	**$39.50**	**45.9**
Data Analytics	**$2.50**	**2.9**
Totals to Date	**$69.10**	**80.2**

(1) This percentage represents the costs estimated for major contracts only (which is a subset of the total project costs), and does not include costs such as Avista's estimated cost for its employee labor.

Q. Has the Company further refined its Project cost estimates since its last proceeding in which AMI was an issue?

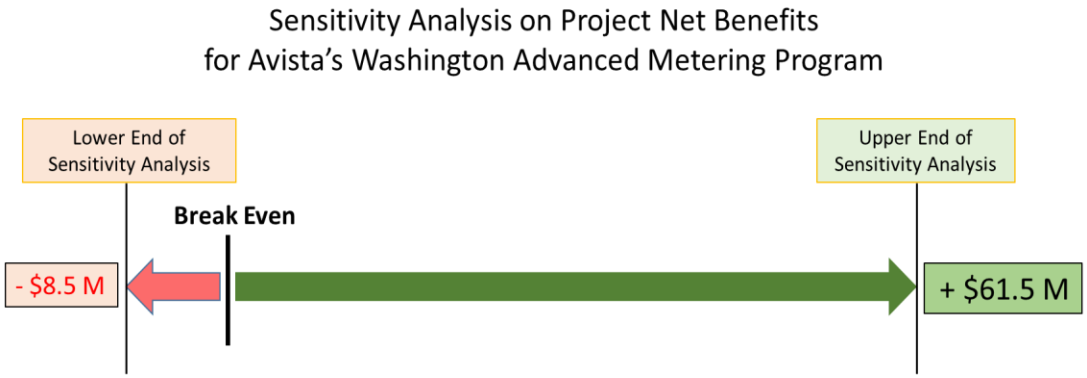
A. Yes. Compared to a year ago, the business case includes even more comprehensive information on the estimated costs, based on actual vendor pricing, more granular detail on each element of the system to be deployed, and detailed information on Avista and contract labor requirements for each month of the deployment period, including the associated activities and monthly costs. Our estimate of the project capital cost has been essentially stable since July of 2015, when the Company previously increased its estimate to $165.5 million. The current project cost in the present business case has increased by an additional $1.2 million (to $166.7 million), as the Company continued to refine cost estimates based on additional details such as actual vendor pricing.

Even though witness Alexander challenges the overall level of net benefits, the current business case contains improved and refined estimates of the quantified customer benefits, which are based on more in-depth review, analysis and study. The identification of additional areas of benefit reflect the Company's current assessment of the range of customer benefits expected from the Project. Previously, in Docket Nos. UE-150204 and UG-150205, in retrospect, Avista had been overly-conservative in its estimates of benefits, by not including certain customer benefits recognized by others in the industry, or by electing to not include the reasonable value of the benefit calculated by the Company. For example, in computing the savings achieved through conservation voltage reduction, Avista was previously overly-conservative in its estimate of the value in 2015, because we had not yet completed studies that were then underway documenting the actual savings potential. Results of those completed studies are now available and included in this business case.

Avista's "point estimates" of the financial value for each benefit provided in our business case do represent what we believe to be the mostly-likely value to be achieved, given what we now know at this point in the Project. However, these point estimates are also accompanied in our business case by sensitivity analyses, which reflect the degree of uncertainty associated with each estimate of value, including the expected level of the benefit to be realized in each year of the Project lifecycle. In addition to assessing the potential variability in the value of each benefit, the sensitivity analyses are useful for "bookending" the likely cost-effectiveness of the project: overall net benefits would range from a low (every benefit realized at the lowest end of the range) of -$8.5 million, to an upper limit of $61.5 million (every benefit realized at the highest end of the range), as shown in Chart No. 1, below. On this basis, Avista expects that the Project will very likely produce positive net benefits for

our customers, even apart from the value of the many intangible benefits delivered by the Project.

Chart No. 1



Q. Is Avista's Business Case sufficient for evaluating the Company's decision to move forward with the Project?

A. Yes. As briefly described above, Avista's business plan and the record developed in this case support the Company's decision to move forward with implementation, as well as the prudence of the expenditures of dollars included in this case (approximately $11 million of net plant and $3.5 million of depreciation expense)[7], with an associated revenue requirement impact of approximately $5 million for electric and natural gas.

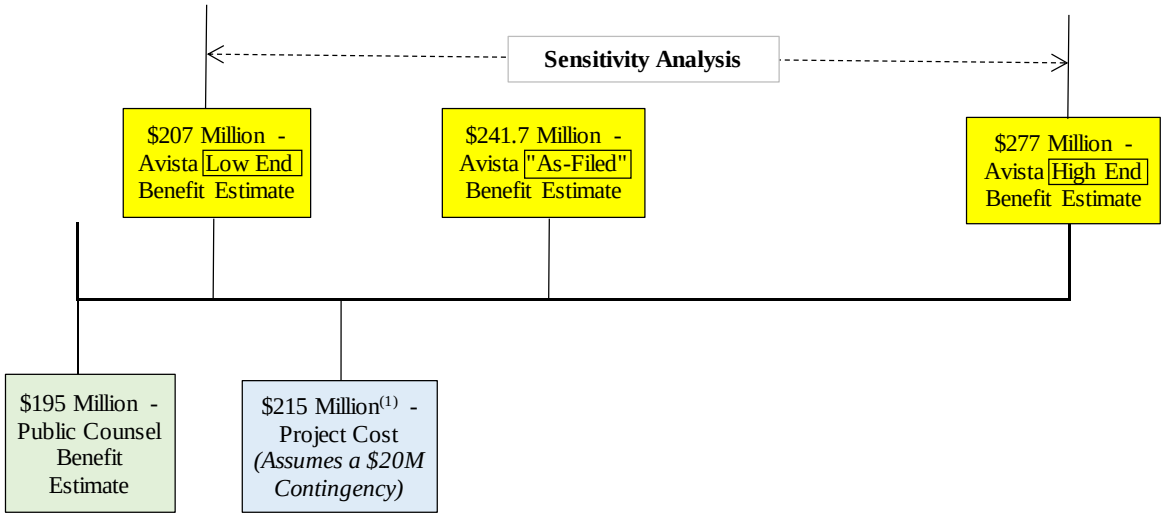
PC/EP witness Ms. Alexander challenges several areas of customer benefit included in the Company's case. Witness Alexander stated that: "As a result of my analysis, I conclude that a more realistic evaluation of the Company's assertions will result in a project whose

[7] These costs include the completed Meter Data Management (MDM) system, and portions of the Company's investment in the collector infrastructure, electric meters and natural gas meter modules, meter installation, head-end system applications and hardware, and data analytics hardware and software.

costs will exceed its benefits by at least $20 million."(emphasis added)(Exhibit. No.__(BRA-1T) at page 11.)

It is important to ultimately put her testimony into some perspective-even if all of her criticisms were accepted at face value. Diagram No. 1, below, places Ms. Alexander's assessment of the project net benefits alongside the other costs and benefits discussed by the Company in this case.

Diagram No. 1



(1) Includes Total Costs, i.e., Capital and Operating Expenses.

As shown in the above diagram, the Company's estimate of the most-likely value of the quantified benefits is $241.7 million, and as shown above, our "sensitivity assessment" places the range of the potential benefits between $207 (low) and $277 million (high). The present value of the project lifecycle capital and operating expenses is $215 million, and includes a nearly $21 million contingency. Ms. Alexander's assessment of the quantified financial benefits is $20 million below the project costs, and is shown as approximately $195 million in the diagram above. Notwithstanding all of her criticisms, and giving her the benefit

of every doubt, Ms. Alexander's estimate of total benefits is within 10% of the estimated total project costs measured over the projects' 21-year life. To put this into better perspective, this assumes:

- That all of her criticisms of each and every assumed benefit are true and accepted at face value (I will show that they are not correct. Even if she is only wrong about a few of her challenged benefits,[8] it would "swing" her analyses of "net benefits" above break-even.)
- It ignores potential "up-side" net benefits of approximately $62 million under the high-end of the Company's sensitivity analysis.
- The total estimated cost of $215 million includes a $21 million "contingency", which, if not needed, would, in and of itself, offset all of Ms. Alexander's perceived $20 million shortfall in net benefits.
- It ignores entirely the unquantified benefits relating to:
    - Better understanding by customer of their energy use with interval data
    - Customer Home Area Network Interface
    - Energy Alerts
    - Engineering and Asset Studies
    - Employee Safety
    - Enables Future Benefits:
        - Rate options
        - Micro Grids – Smart Cities
        - Additional Data Analytics
        - Additional Distributed Generation
        - Demand Response

Simply put, notwithstanding all of her efforts to discredit Avista's business case, Ms. Alexander has not sufficiently demonstrated that the Company's business case is fundamentally unsound. In fact, the level of analysis conducted by the Company in the course of developing its business plan is remarkably detailed and substantial, complete with sensitivity analyses around all major assumptions.

[8] The present value of the net benefits of even a few of these challenged items are as follows: Reduced Energy Theft ($19.77 million); Conservation Voltage Reduction (CVR) ($55.01 million); and Reduced Outage Duration ($32.81 million). Acceptance of any one of these disputed benefits would equal or exceed her perceived $20 million shortfall.

Regarding the specific criticisms offered by Ms. Alexander, my testimony will show that, in spite of substantial evidence provided in the Company's initial filing and through discovery, witness Alexander consistently mischaracterizes the factual basis and the results relied upon by the Company. As a result, her critique cannot be relied upon in evaluating the Company's decision to move forward with the Project. I will further demonstrate that the Company's estimated costs are supported and that the estimated net benefits for customers are reasonably likely to occur, given what we know at this point in the project, and that its business case is sufficient for the Commission's evaluation of the Company's expenditures included in this case.

Q. Would you please summarize your testimony as it related to each of the individual benefits challenged by Ms. Alexander?

A. Yes. Avista's response to the testimony of Ms. Alexander, in particular, is summarized below:

1) **Avista's Estimate of the Value of Customer-Installed Energy Efficiency is Factually Based and Reasonably Supported:** Contrary to statements of Ms. Alexander, Avista's estimate of the customer benefit is based on its extensive experience in the field of customer energy efficiency and relevant Company studies, reports, and other documentation.

2) **The Value Estimated by Avista for Reduced Energy Theft Reflects the Company's Knowledge and Experience, and is Reasonable When Compared with Industry Reports:** Despite Ms. Alexander's claim that Avista arbitrarily selected an estimate from within a range of industry-reported values for lost revenue, the Company relied on its own knowledge and experience in selecting a value that was below the very bottom of the range in value reported in the industry literature we reviewed.

3) **Avista's Estimate of the Value for Improved Outage Restoration Efficiency is Based on the Company's Own Assessment of this Potential:** Though Ms. Alexander states that Avista relied solely on the results reported by two utilities as the basis for selecting its initial estimate, the Company's estimate is actually based on its own experience and assessment of the potential value to our customers.

4) **Conservation Voltage Reduction (CVR) Savings are Based on Extensive Studies and Validated Methodologies:** Without any merit or support, Ms. Alexander questions the validity of the Company's studies and analyses, as well as continuing to misstate the applicability of its independently-validated calculation of energy savings;

5) **Avista's Estimate of Customer Value from Reduced Outage Duration is Based on Accepted Industry Practices and Methodologies:** Contrary to the critique offered by Ms. Alexander, the customer benefits calculated by the Company for improved system reliability associated with reduced outage duration are based on an extensive independent review of applicable utility industry studies measuring the value of such reliability improvements, which are based on commonly-accepted methodologies and validated modeling;

6) **Avista's Allowed Use of Remote Service Connectivity Does Not Harm our Customers:** Ms. Alexander is wrong in contending that Avista's use of the remote service switch in credit / collection cases is harmful to customers and that the Commission should change its existing rules to prohibit this use; and

7) **Avista is Committed to Measuring, Tracking and Reporting the Costs and Benefits of its Washington AMI Project:** Though the Company has variously discussed its plans to measure and track the benefits identified in it business case, Avista does agree that it should provide regular reporting to the Commission on the status of the project, including costs incurred and customer benefits achieved, with a proposed reporting plan as outlined in my testimony.

III. MS. ALEXANDER'S CRITIQUE OF AVISTA'S AMI BUSINESS CASE CANNOT BE RELIED UPON IN EVALUATING THE COMPANY'S DECISION TO MOVE FORWARD WITH THE PROJECT

A. Customer-Installed Energy Efficiency Measures

Q. Witness Alexander questions Avista's customer savings, in part, because she claims they were derived only from anecdotal reports by others. Would you agree?

A. No. On page 40 of her testimony, Exhibit No.__(BRA-1T), she states:

> The Company's explanation for this value in its business case appears to be a reflection of what they have derived from utility publications that recite anecdotal results alleged to be the result of customer exposure to AMI interval usage data.
>
> Furthermore, the studies cited by Avista are wildly different and it would be inappropriate to claim reliance on studies that include a customer's use of in-

home devices or that fail to distinguish the use of the AMI web portal from other direct feedback and educational messages to customers to reduce usage.

In fact, Avista reviewed relevant industry information as part of its process of developing initial estimates of the potential reduction in our customers' energy use as a result of having access to detailed interval usage data on the Company's new web portal. With this information as background, Avista made use of its own information and experience related to the conservation potential in its service area, customer participation rates in conservation programs, and savings experienced by our customers who have taken actions to reduce their energy consumption. The Company used study results from a survey of the conservation potential of its customers to help inform its assumed average participation rate of three percent (i.e., we assumed that three percent of customers who were provided access to interval energy data would be prompted to make energy efficiency investments based on that information, coupled with our ongoing energy efficiency communications). Avista also used results of its customers' energy savings as measured through its behavioral program (Opower), coupled with its experience with customers who participate in the Company's conservation programs, to determine an average rate of savings of three percent as a reasonable estimate. Therefore, the conservation potential assumes that three percent of Avista customers would achieve a three percent reduction in their energy usage.

Avista's review of relevant studies, reports, and summary reports simply provided helpful background information, further informing its estimate of the value of this particular benefit. Though the consideration of this industry-reported information was useful, in our judgment, no single study, report, or summary of reports, provided the predominant basis for estimating the potential savings associated with this particular customer benefit.

Q. At page 40 and 41 of her testimony, Exhibit No.__(BRA-1T), Ms. Alexander argues that Avista improperly relied on the AMI business case of BC Hydro. Do you agree?

A. No, I do not. She contends that:

> For example, the BC Hydro document that is listed as being relied upon by Avista is not a study or analysis of relying on AMI interval usage data that has resulted in lower customer usage. Rather, this document is BC Hydro's own AMI business case in which the utility provides the basis for its estimate based on other publications and its own proposal to couple AMI with in-home devices and other programs that will reduce customer usage. As a result, I question Avista's reliance on this document in particular because it does not reflect any actual analysis or results conducted by BC Hydro and the BC Hydro estimate of the future impact of their AMI investment relies on programs (such as an optional time-varying rate and providing customers with in-home devices) that Avista has not included in its business case.

BC Hydro and the Company arrived at different estimates of expected customer savings based on their respective experience and deployment plans, which include factors such as BC Hydro's proposed customer rebate. As such, BC Hydro's proposed rebate for in-home displays was one of the tools BC Hydro discussed using to achieve its expected level of customer benefits.

Avista has proposed no such customer rebate in its advanced metering business case for a customer in-home display, which is a contributing factor to the lower level of customer benefits estimated by the Company, which are approximately ***one sixth*** of those estimated by BC Hydro, as noted below:

- BC Hydro Estimated Lifecycle Benefit per Customer $113.69
- Avista Estimated Lifecycle Benefit per Customer $ 17.85

The Company clearly did not rely exclusively on BC Hydro's business case in developing its estimates and, in fact, used a much lower estimate.

Q. Ms. Alexander further argues at page 40 of her testimony that Avista should have relied on its own pilot study for estimating the value of this benefit. What is your response?

A. In recommending that the Commission reject the value estimated by the Company for this benefit, Ms. Alexander asserts that Avista should have relied on the results of its own pilot study in Pullman as the basis for estimating the customer value.[9] She includes excerpts of several passages from the Pullman summary report in her testimony to argue that this value should be zero. However, she ignores the very conclusion of the authors of that report that serious design flaws in the web portal "…undermine its usefulness for informing and educating customers about the energy use in their household."[10] Concerning the failure of the web portal, the authors of the Pullman study specifically noted:

> The design of the landing page does not effectively convey the location of energy use related information to users. Consequently, virtually no one in the test was exposed to the information that the smart meters can supply… No one thought it contained smart meter data.[11] (emphasis added)

Considering the fact that so few customers had accessed the enhanced content on the web portal, the authors further concluded that: "...the lack of observed change in energy consumption in the treatment group is not surprising."[12]

This Pullman study was a "demonstration pilot," which enabled the Company to gain valuable knowledge that is being used today to better ensure the success of our full-scale

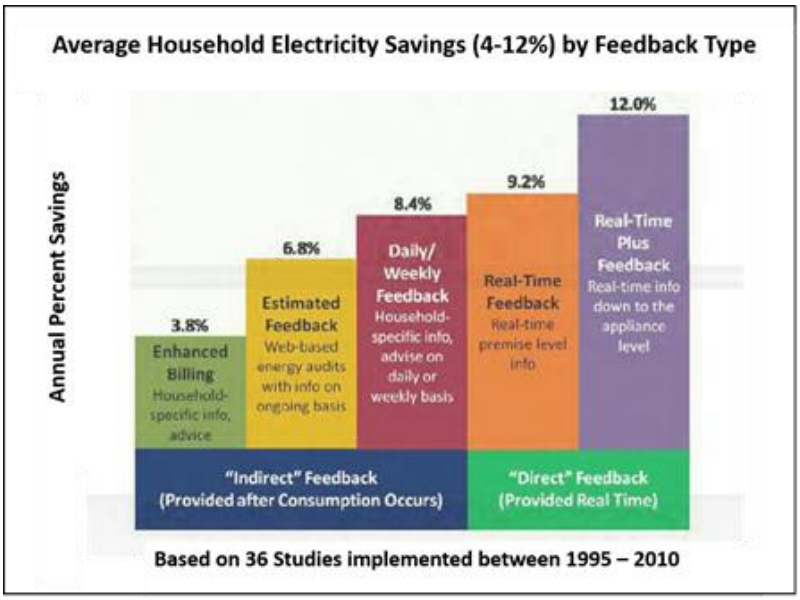
[9] *Avista Smart Grid Demonstration Project, Study and Analysis of Customer Energy Usage*. Michael J. Sullivan, et.al. Freeman, Sullivan & Company. 2013.
[10] Exhibit No.__(BRA-19): page 36.
[11] Exhibit No.__(BRA-19): page 36.
[12] Exhibit No.__(BRA-19): page 9.

deployment. In this respect, the conclusion of the authors places this pilot study in proper context:

> Although the results of this test are disappointing, they should not be taken as a basis for concluding that the website channel is not a useful means for conveying information to customers about their energy use. This particular website design certainly doesn't work and should be abandoned. However, it is possible that a more effective website design will be available in the future. When that occurs it will be simpler, more intuitive and more attractive to customers than the current design.[13]

Moreover, Ms. Alexander's assessment ignores the results of 36 different studies reported by Avista, which show that the energy saved by customers when provided with daily or weekly indirect feedback, such as the interval usage data that will be provided via the Company's new web portal, is more than double the savings reported when customers have access to even enhanced monthly billing only, as shown in Chart No. 2, below.[14]

Chart No. 2



[13] Exhibit No.__(BRA-19): pages 36 & 37.

[14] *Advanced Metering Initiatives and Residential Feedback Programs: A Meta Review for Household Electricity-Saving Opportunities*. (page iii) American Counsel for an Energy Efficient Economy. (June 2010) The Indirect Feedback of even "enhanced" monthly billing is 3.8%, while Indirect Feedback on a "daily / weekly feedback" basis, which will be provided by the availability of interval usage data on Avista's web portal, is 8.4%.

B. Value of Reduced Energy Theft

Q. At page 30 of her testimony, Ms. Alexander states that Avista relied on anecdotal industry reports for its estimate of the value of this benefit, and not on its own experience. Do you agree?

A. No. Avista began its process of estimating the likely incidence of theft on its system, by reviewing industry-reported theft rates and communicating with other utility representatives about their experience and rates of electricity theft. While a percent of revenue loss of 1-3% was the most commonly-reported range among these sources, the reported values ranged from 0.4% to 4%. Avista then considered how our circumstances might differ from the reporting utilities (e.g. differences in energy prices, geographic region, and economic conditions). The Company believes that, within its Washington service territory, a rate of electric theft of between 0.25% and 0.50% of revenue is a reasonable estimate, with half that rate assumed for natural gas diversion. Accordingly, Avista used the mid-point of the respective ranges to estimate electric and natural gas lost revenues at 0.375% and 0.1875%, respectively – a reasonably conservative estimate.

Contrary to the representations of Ms. Alexander, Avista relied on its own information and experience, informed by its assessment of the rates of revenue loss reported by others. That review included consideration of factors that could influence the applicability of the reported results to Avista, and which resulted in our establishing an initial assumed revenue loss that was below the very bottom of the reported range in the literature we reviewed.

Q. Do you take issue with other criticisms contained in her testimony?

A. Yes. Witness Alexander suggests at pages 29 and 30 that Avista's estimate is likely overstated based on the false presumption that the Company's estimated percent of

revenue losses should more reflect the percentage represented by the Company's currently-detected cases of energy theft. The Company has explained why this is not the case, noting that cases of energy theft have typically been very difficult for utilities to detect using the limited tools available with conventional metering systems. As examples of this challenge, Avista often detects cases of energy theft, not through our processes of analyzing billing anomalies (primary detection analysis), but through questions raised as part of some other investigation that ultimately leads to a theft investigation. Similarly, other cases of energy theft are identified only by chance, when a servicemen or meter technician discovers the diversion during the course of unrelated work activities (not related to a suspicion of energy theft). As a result, and as supported in the literature, Avista's confirmed cases of energy theft represent only a small percentage of the likely actual occurrence.

Ms. Alexander further assumes at page 30 of her testimony that because the advanced meters will be equipped with tamper alarms (which she suggests will allow the Company to detect every case of energy theft) that the reduction in lost revenue enabled by AMI might constitute a "one time" benefit. Even if her premise was true, the "one time" elimination of energy theft on our system is the same concept as the "one time" elimination of the costs of manual meter reading. The continuing avoidance of the costs in each succeeding year, which arise from a one-time elimination of the activity, provides the basis for the legitimate application of this customer benefit to each year of the Project lifecycle.

Finally, the Company also acknowledged there is uncertainty around our assumed rate of lost revenue compared with the rate we will actually measure when our AMI system is in

operation. Accordingly, in our sensitivity analysis referenced above, Avista stated a possible range in the value for this benefit as between $16.9 million and $31.3 million.[15]

C. Improved Outage Restoration Efficiency

Q. On page 35 of her testimony, Ms. Alexander questions the improved outage restoration efficiency enabled by AMI, based on her claim that Avista provided no basis for its estimate. Would you comment?

A. Yes. Ms. Alexander states:

> However, this contorted calculation relies entirely on anecdotal information about two utilities that are referenced in a U.S. Department of Energy (DOE) report that included information from the government's smart grid grant program evaluations. This report does not include any statistically valid information that would allow a reader to determine that this reported result is valid for other utilities or that it would be capable of replication for a 21-year cost benefit analysis.
>
> It is very unreliable for a utility to rely on such casual and informal information to predict that it will routinely improve storm restoration efficiency by 10%. Furthermore, Avista then chooses a predicted result of 10% without any basis other than the Company "believes that for our practices and system an estimate of 10% improvement in storm restoration time is reasonable. (emphasis added)

Avista has explained the basis used for developing its estimate, noting that it considered its existing work processes and systems for managing the work of outage restoration today, and then assessed how our processes could be improved with the outage intelligence provided by advanced metering. Factors considered included the size of the outage, the complexity of the outage causes, the experience of Company staff who manage these outages, and related operations. Through this assessment, Avista estimated that our

[15] Exhibit No.__(HLR-3): page 56.

outage restoration process overall would be improved by 10% as a result of having the information provided by the advanced metering system.

In estimating this value, the Company assumed that the amount of material required (transformers, poles, wire, etc.) to accomplish the restoration would remain the same with or without AMI, but that the labor and expenses (such as meals and lodging) associated with the actual repairs would be reduced by 10%. Accordingly, the actual cost reduction was estimated to be 5.9%. To substantiate this estimate, Avista also considered similar benefits discussed by others in its assessment process. Clearly, rather than relying entirely on two outside studies as the basis for its estimate, as asserted by Ms. Alexander, Avista developed its own internal estimates of the efficiency opportunity, based on a range of factors unique to our Company.

D. Benefits of Conservation Voltage Reduction (CVR)

Q. Because Ms. Alexander has challenged the benefits of conservation voltage reduction (CVR), would you please briefly describe the principle of CVR and explain its relationship to advanced metering?

A. Yes. As a utility engineering application, conservation voltage reduction[16] (CVR) is a proven methodology for effectively reducing distribution energy consumption and lowering the cost of providing service to our customers. In simple terms, reducing the overall voltage level on the feeder reduces the amount of energy lost in its delivery. As electricity is distributed from its source to the customer's meter, the voltage level declines along the feeder and service lines as electrical energy is consumed or lost in the wires (conductor) and in

[16] CVR encompasses a broad range of approaches, from very simple to very complex, as well as the application of a range of technologies, such as power factor correction (VAR Control), and systems, such as distribution management applications, in such combinations as the utility ultimately determines to be most effective in any given application.

various pieces of equipment required for its delivery. Because the Company must deliver energy at 114 volts or greater to the meter, the voltage level at the regulator in the substation must be set toward the upper end of the allowed range (126 volts) to account for this decline in voltage. This operating voltage range for service delivery is referred to as the voltage "buffer." The aim of conservation voltage reduction is to identify and implement specific actions for managing the electric distribution system, which allow the utility to reduce the range of this buffer in order to reduce the overall voltage level.

There are various factors that determine the level of voltage reduction that can be achieved on an individual feeder line. These include: 1) the physical attributes of the feeder; 2) the characteristics of the customer loading on the line; 3) the power factor; 4) what is known about voltage levels at different points or locations on the feeder; as well as 5) the capabilities for communications (one way and two way) with the substation and feeder devices (also in varying time increments, up to nearly real time); 6) remote operation of devices supporting voltage reduction; 7) automated operation of devices; and 8) integrated operations.

Advanced metering can be used to provide voltage data used in the process of developing and implementing CVR strategies. The voltage data from AMI is far superior to the voltage information that is provided by devices on the feeder midline or station regulator because it is measured at the customer's service. This substantially reduces the uncertainty regarding the actual voltage level being delivered and the amount of the reduction that can be reliably achieved. So, while CVR strategies can range from simple to complex, the savings that can be achieved by any strategy will be substantially improved by having access to service-level voltage data provided by AMI.

To be clear, though Avista has described the incremental benefit enabled by having voltage data from advanced metering (compared with relying only on voltage data from the feeder midline or having no voltage data at all) as attributed to AMI alone; we are not referring to a CVR strategy that is somehow based solely on the existence of voltage data from advanced metering (i.e., Ms. Alexander's misplaced reference to "AMI alone").[17] Rather, we are referring to the incremental value created when customer-level voltage data is incorporated with any CVR strategy.

Q. Please summarize, then, the manner in which Avista has estimated the conservation voltage reduction savings in its AMI business case?

A. As noted correctly by Ms. Alexander,[18] the CVR benefits included in the Company's earlier 2015 business case were based on assumptions for the optimization of the automated conservation voltage reduction operation that it had previously implemented on certain electric feeders in Washington. At that earlier point in time, however, the Company had not yet concluded its ongoing studies to quantify the actual voltage reduction potential on its system, so it relied on a conservative assumption that voltage on the feeder could be reduced by an additional 0.5% through AMI.

During 2015, the Company conducted a year-long study on six of its electric feeders in Pullman to document the actual savings potential created by incorporating voltage data provided by the advanced metering system, instead of relying on the conservative assumption of 0.5%. The automated CVR was already in operation in Pullman and we could use the

[17] Ms. Alexander uses a definition of CVR that she qualifies as being achieved "by AMI alone" (at pages 31 – 33 of Exhibit No.__(BRA-1T), or alternatively "AMI metering and communications system alone," "AMI metering system alone," etc. There is no such thing as "CVR by AMI alone,"i.e., voltage reduction savings that can be achieved by the simple existence of AMI voltage data, absent the CVR analysis and strategies that are also developed to achieve a level of voltage reduction, based in part on having voltage data.

[18] Exhibit No.__(BRA-1T): page 31, lines 16 – 18, lines 18 – 23.

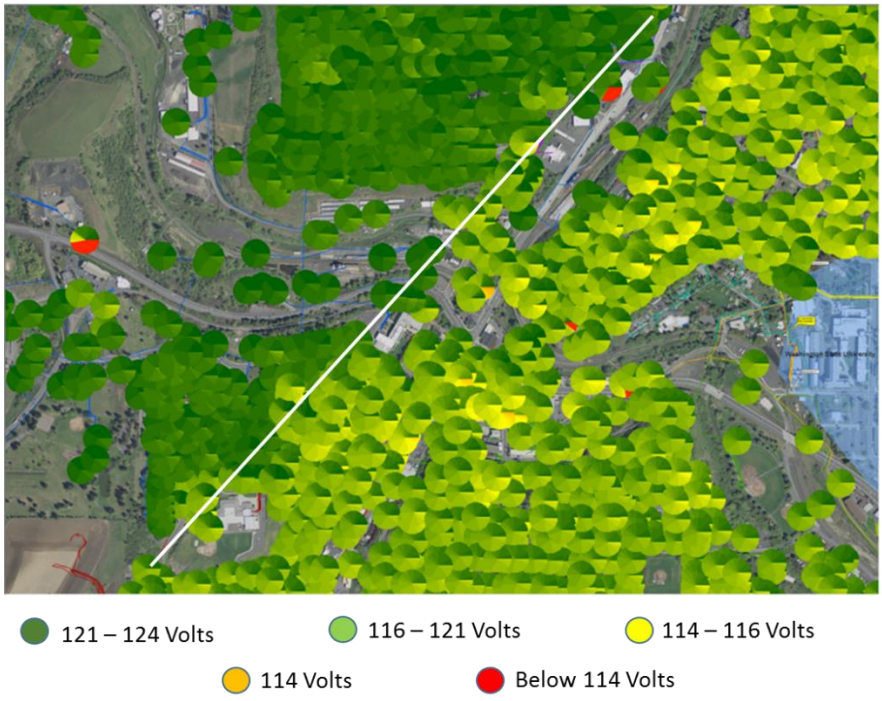
service-level voltage data from our advanced meters to evaluate the additional potential. It found that the actual incremental savings potential is 2%, not the 0.5% assumed in our 2015 business case.

Q. What additional capabilities have you identified as a result of having customer-level voltage readings provided by advanced metering?

A. We input the voltage data from these studies into our Geographic-Information-System-based (GIS) facilities management system to graphically display voltage levels for each individual customer, as shown in Illustration No. 3 below:

Illustration No. 3

Avista Study of Voltage Readings for Individual Customers in Pullman, Washington - 2015



The colors in the individual circles represent the voltage range experienced by individual customers for the entire year. The darkest green circles that are predominantly

above the diagonal white line reflect customer voltages measured when the CVR system is not in operation, while those below the line show the reduction in voltage with CVR turned on, and using customer-level voltage data from the advanced meters. The Company will use this customer-level voltage data provided by its system-wide deployment of AMI to identify and remediate individual low-voltage services across all of its electric feeders to ensure we are meeting our service obligations to our customers, and to increase the voltage reduction potential on every feeder.

In summary, the Company has demonstrated that an additional 2% of energy savings can be achieved by integrating customer-level voltage data from the advanced metering system into its integrated, automated voltage control operation, as described above, and an additional 1.25% average savings for feeders that are not yet equipped with automated voltage control.

Q. Has Ms. Alexander misrepresented the Company's third-party validation of the accuracy of its method for estimating the amount of energy saved for a given level of voltage reduction?

A. Yes. The Company was required by this Commission, as part of its Biennial Conservation Plan in Docket No. UE-111882, to provide third-party verification of its conservation voltage reduction savings as calculated and reported by the Company using the so-called Protocol #1:

> For savings claimed from distribution efficiency, Avista Corporation must provide third-party verified values calculated using applicable parts of the RTF's Automated CVR Protocol No. 1, Voltage Optimization Protocol, or any other protocol recognized by the RTF following the date of this order. [19]

[19] See page 10 of Order 01 in Docket No. UE-111882.

Accordingly, Avista, in partnership with the Northwest Energy Efficiency Alliance, retained the firm Navigant Consulting to verify the validity of using Protocol #1 to accurately measure the energy savings achieved through the operation of CVR. The findings of the Navigant report, released in May of 2014, validated the accuracy of the energy conservation savings estimated by Avista using Protocol #1. That work was also presented in a technical paper published in 2015 that included an Avista engineer as a coauthor.

Put simply, if Avista reduces the feeder voltage by "x" volts, then that level of reduction will produce "x" MWh of energy savings, given the characteristics of that feeder. The validation of the Company's Protocol #1 methodology is a further confirmation of the accuracy of the mathematical relationship between the voltage reduced and the MWh of energy saved on Avista's system.

E. Value of Reduced Outage Duration

Q. Ms. Alexander suggests at page 42 of her testimony that the entire value of improved reliability through reduced outage duration should be eliminated from the Commission's consideration of Avista's advanced metering business case. Do you agree?

A. No. I would however, first like to point to Ms. Alexander's apparent agreement in her previous testimony[20] with the basic proposition that outage duration is likely to be reduced through improvements enabled by the advanced metering system – and yet she includes no benefits in this case.

Her conclusion rests fundamentally on her challenge of the veracity of the 34 individual utility studies that have been integrated with the model used by Avista, as I describe

[20] Transcript of the Evidentiary Hearing in Docket Nos. UE-150204& UG-150205 (Consolidated), pages 594 and 595.

below, to estimate the economic value of this benefit.[21] She also argues that the methodology used by the Company[22] is not appropriate for assessing the value of customer benefits provided by reduced outage duration, as achieved by advanced metering.[23]

Q. Please describe the methodology used by Avista to estimate the economic value of this benefit?

A. In addition to its own comprehensive information on system outages and customer energy usage, Avista used a mathematical model, known as the "interruption cost estimator"[24] (also known as "ICE") to estimate the customer value for reduced outage duration. This mathematical model was developed specifically for calculating the economic value to customers achieved by improvements in electric system reliability, and which was developed as part of a comprehensive utility value-of-service study first published in 2009 by the Ernest Orlando Lawrence Berkeley National Laboratory, in cooperation with the U. S. Department of Energy.[25] That study, titled "Estimated Value of Service Reliability for Electric Utility Customers in the United States" (or "Lawrence Berkeley Value of Service Study and Model"), was conducted by a team of prominent experts whose purpose was to summarize and integrate the results of many individual value-of-service studies performed using nearly identical methodologies by utilities from around the country. **"Value-of-Service Studies"**

[21] Exhibit No.__(BRA-1T): page 44, lines 14 – 17; 45, lines 7 & 8; page 47, lines 1 – 37; 48, lines 1 – 42; 49, lines 1 – 14, & 15 – 28; 50, lines 1 – 6; 51, lines 19 – 22; 52, lines 1 – 4 & 15 – 19; 53, lines 1 – 7.
[22] The interruption cost estimator model was developed as part of a comprehensive value of service study that estimates the value of service reliability for electricity customers in the United States, as noted in Exhibit No.__(BRA-27), page 6.
[23] Exhibit No.__(BRA-1T): page 44, lines 1 – 11; 49, lines 15 – 22
[24] Also variously referred to as the interruption cost calculator.
[25] *Estimated Value of Service Reliability for Electric Utility Customers in the United States*. Lawrence Berkeley National Laboratory, January 2009. Authored by Michael J. Sullivan et.al. Funded by the Office of Electricity Delivery and Energy Reliability, U. S. Department of Energy (The work described in this report was coordinated by the Consortium for Electric Reliability, Technology Solutions and was funded under the Office of Electricity Delivery and Energy Reliability, Transmission Reliability Program, of the U.S. Department of Energy under Contract No. DE-AC02-05CH11231).

refer to the technical assessments that are commonly performed by utilities to estimate the economic value or benefit to customers resulting from improvements in electric system reliability. While initially based on the results of 28 individual studies, an update of the report, and improvements in the mathematical model, which was released in 2015, is now based on the results of 34 individual utility studies.[26]

Q. Can you briefly explain how the interruption cost estimator developed in the Lawrence Berkeley Value-of-Service Study is used to estimate the outage-related financial benefit to customers?

A. Yes. At the core of the calculator is a sophisticated two-part regression model that incorporates the actual data entered for Avista's customers, our detailed outage history, and reliability statistics, and uses the average customer costs from the 34 individual utility value-of-service studies to derive estimated outage cost metrics for Avista, including the "cost-per-unserved kWh." Avista uses the cost-per-unserved kWh to calculate outage costs for each individual customer based on their average monthly energy use (kWh) and the actual distribution of the types and duration of outages they have experienced over the previous five years. These individual customer costs are averaged to produce an average cost-per-customer by customer class, for the average outage time for the year.

Though the core econometric model preceded the Lawrence Berkeley Value of Service Study, several improvements to the model were made in the 2009 study. The predictive capability of this model was again improved in association with the 2015 study report and model release. As explained by the authors, the customer cost data from the 34 utility studies

[26] *Estimated Value of Service Reliability for Electric Utility Customers in the United States*. Lawrence Berkeley National Laboratory, June 2015. Authored by Michael J. Sullivan et.al. Funded by the Office of Electricity Delivery and Energy Reliability, U. S. Department of Energy.

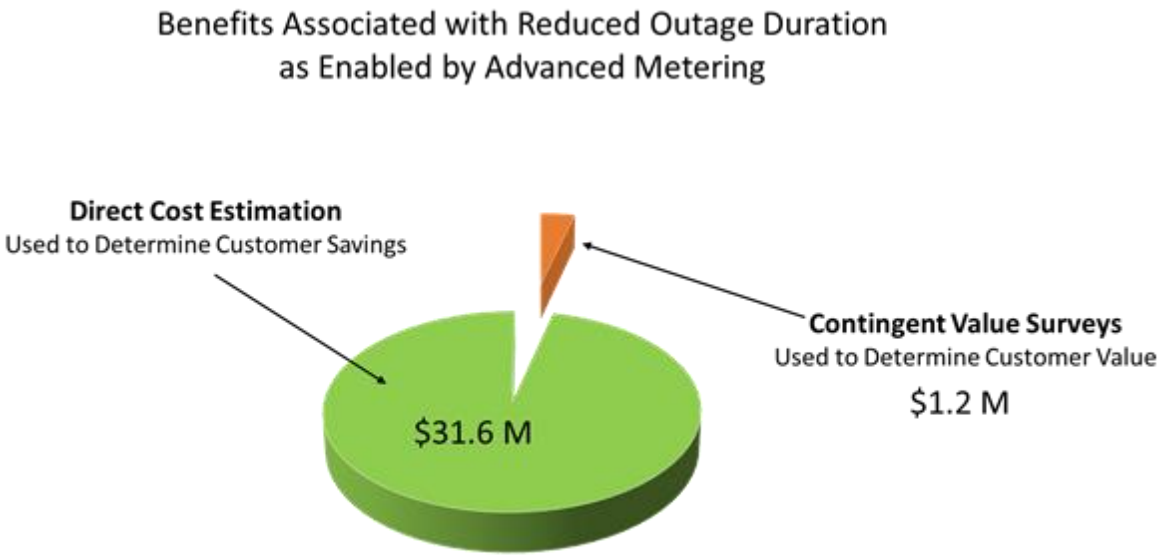
is highly integrated with the model in order to optimize its predictive capability. Importantly, Ms. Alexander has not expressed any particular concerns about the mathematical efficacy of this econometric regression model. [27]

Q. What is the fundamental concern of Ms. Alexander regarding the veracity of 34 utility studies in the Lawrence Berkeley Value-of-Service Study and do you agree with her conclusion?

A. No, I do not agree with her conclusion, Ms. Alexander claims that the results of these studies are not reliable, in particular, because they rely on "contingent valuation" or "avoided cost" survey methods to collect the customer cost information[28]. She considers this type of survey approach to be suspect and unreliable. In response to this concern, Avista demonstrated that the benefit to our residential customers, calculated using the Lawrence Berkeley Value of Service Study and Model, which represents the entirety of the portion of the total benefit that is derived by contingent valuation survey methods, represented just $1.2 million or 3.6% of the total lifecycle economic value for this benefit, as depicted in Chart No. 3 below. Greater than 96% of the total economic benefits were derived by "Direct Cost Estimation," as explained by the report authors, a survey approach not subject to the criticisms of contingent valuation offered by Ms. Alexander, and which she does not discuss or otherwise assess or critique in her testimony.

[27] Exhibit No.__(BRA-1T): page 44, lines 1 & 2.
[28] Exhibit No.__(BRA-1T): pages 44, 45, 47,and 48.

Chart No. 3



Further in her testimony, and despite having acknowledged that she did not address the Company's assumptions about the impact of AMI on outage duration, she nevertheless asserts at page 51 of Exhibit No.__(BRA-1T), that Avista's estimate of reducing outage duration by five percent has no basis in actual experience, but is a reflection of anecdotal information from various utilities. In addition to the benefits of more rapid notification (almost instantaneous), and having much-more accurate and definitive information, Avista also considered the time that elapses between when an outage occurs, when the customer becomes aware of their loss of service, and when the Company is notified of the system outage. Considering all of these factors, Avista estimated that the advanced notice provided by the AMI system will reduce the Company's average notification to dispatch process time by 7 minutes or 5.5% of the average outage duration time. For its determination of the direct customer value associated with reduced outage duration, Avista used a value of 5%. The Company also considered the improvements reported by others in estimating this reduction.

Q. What do you conclude about the estimates of the customer value included in the Company's business case for the AMI benefits achieved by reduced outage duration?

A. I believe the record established by the Company in this case supports our proper application of the Lawrence Berkeley Value of Service Study and Model (interruption cost estimator) to appropriately value this reliability benefit, including the fact that only $1.2 million or 3.6% of the overall value was associated with the issue of primary concern to Ms. Alexander. We have demonstrated that our initial estimate of the outage improvement we expect is supported and reasonable, and we have acknowledged there is uncertainty around the ultimate value of this benefit by stating what we believe to be a reasonable range in expected value – not a single point estimate (and we have used the middle of the range). Finally, we are committed to measuring, tracking and reporting this value to the Commission.

F. Remote Service Connectivity

Q. Please describe the concerns raised by Ms. Alexander regarding the Company's proposal to continue its use of remote service operational capability?

A. Ms. Alexander continues to assert that the customer savings arising from this benefit should be rejected as somehow being "improper."[29] Her conclusion is founded on her concern over her expectation that the number of credit and collection disconnects will increase with advanced metering. She further purports to demonstrate that Avista's credit disconnects have increased in Pullman since the remote service operation was implemented. While the Company expected some increase in disconnects as customers become familiar with this

[29] Exhibit No.__(BRA-1T): page 23.

process, the data provided by Ms. Alexander to support her assertion is hardly compelling: the average monthly number of disconnects in the two years prior to implementing remote operation (54.1) is statistically indistinguishable from the average of the four years following (57.1).

Despite the lack of any outright prohibition on remote service operations, in the Commission's rules, and the fact that the number of disconnects in Pullman has remained relatively stable, Avista nevertheless remains sensitive to this issue, because it involves the disruption of a service for often-times our most vulnerable customers. That is why the Company has continually focused on other ways to make it simple and easy for our customers to make flexible payment arrangements and to pay their energy bill in a variety of ways, including the use of cash and (now credit cards), in order to avoid losing service. Our "CARES" service representatives specialize in providing our most-vulnerable customers with a high degree of attention and care in a further effort to ensure we make it as easy as possible for them to make payment arrangements to avoid losing service.

The Company's notification practices also go above and beyond the Commission's requirements, again to help ensure that our customers do not lose service. Avista will continue these efforts to help ensure our customers can maintain their energy service, and we are also exploring ways to make it possible for customers to make a last-minute payment, even with remote service disconnect, to avoid losing their service.

G. Measuring and Reporting

Q. The testimony of Ms. Alexander at page 57 of Exhibit No.__(BRA-1T) contends that there is a lack of specificity on the part of the Company as to measuring and reporting the status of project costs and benefits during deployment. How do you respond?

A. The Company commits to measuring, tracking and reporting its costs and benefits, in the manner described below:

Annual Reporting – During the remainder of the deployment period (2017-2020) Avista will update the Commission and the parties on the status of the project, with a report filed on or before April 30th each year, which report will include the following:

A. Capital investment for the prior year, transfers to plant in service, and planned current-year investment.

B. Operating expenses incurred in the prior year and planned current-year expenses.

C. Narrative description of the factors associated with any material differences between planned and actual capital investment and expenses for the prior year.

D. Current and planned number of meters and communication nodes deployed by customer class.

E. Status of the deployment of primary computer software systems supporting the advanced metering system (e.g. meter data management system).

F. Status of the Company's customer outreach, education, and engagement efforts and any significant results.

G. Number of customers participating in the advanced metering "opt out" program and a description of any significant issues and their resolution.

H. Report on use of the remote service operation feature of advanced meters in credit and collection cases including any unanticipated issues.

I. Status of the implementation of various systems required to achieve customer benefits (e.g. conservation voltage reduction).

J. Report on the customer benefits being tracked by the Company. The report will list each benefit, describe how the benefit is being measured and tracked and discuss any significant issues associated with achieving the benefit, including efforts made to resolve those issues. The report will also identify any new areas of benefit that were not included in the Company's 2016 AMI business case. Avista will report benefits achieved in the prior year and the level of benefits expected in the current year.

Final Report – Within 18 months of the full deployment of the advanced metering system in 2020, Avista will prepare and file a final report summarizing the state of advanced metering in general, the total cost of deployment, and the customer benefits that have been achieved on Avista's system. The report will include:

A. The status of deployments of advanced metering systems across the United States, including total penetration, and any update on the technology, regulatory status and other relevant developments.

B. Summary of developments in the State of Washington that have been enabled by the installation of advanced metering (e.g. statewide energy conservation initiatives such as demand-response or time-of-use and demand-based pricing).

C. Summary of the non-quantified or intangible benefits associated with Avista's Washington advanced metering system.

D. Summary of the value of the customer benefits that were quantified in the Company's original business case.

E. Summary of value of any quantified customer benefits that are in addition to those identified in the Company's original business case.

F. Narrative description of the trends in customer benefits expected in future years.

This reporting should provide the Commission and interested parties with useful information about the implementation of the Project, and to assess the relative costs and benefits over time.

Q. Finally, how would you respond to the recommendation of Ms. Alexander that Avista's advanced metering business case should be rejected by the Commission

because it is based only on estimates of future costs and benefits and not on "concrete data on actual system performance"? [30]

A. Ms. Alexander's critique appears to presume that the Company is asking the Commission for "pre-approval" of the entire project, including an affirmative determination of prudence now for the entirety of the ultimate actual investment. As also explained in the rebuttal testimony of Company witness Mr. Norwood, this is not the case. We are only asking for approval of the expenditures reflected in this filing.

The reality is that practically any business case, like Avista's, necessarily relies on estimates and forecasts of costs and benefits expected over the project life. These estimates and forecasts provide the foundation for making the best-informed decision possible at the commencement of a project. In the world of utility regulation, as noted by Company witness Mr. Norwood, assessing the general prudence of a utility's decision, such as the decision to build a new generating resource over other alternatives, is based in large part on estimates and forecasts that provide the best information available at the time that decision is made. That is what we have to work with. Decisions, however, still need to be made.

Furthermore, as outlined in my rebuttal testimony, the Company's explicit commitment to measure, track, and report its progress to the Commission, for both project costs and our achievement of the customer benefits, provides reasonable assurance that the Commission will have the type of information useful for evaluating Avista's progress.

Q. In summary, how would you respond to Ms. Alexander's recommendation that the Commission should reject the Company's AMI project at this time?

[30] Exhibit No.__(BRA-1T): page 10, lines 7 – 9.

A. I believe the Company has demonstrated, despite the contrary assertions of Ms. Alexander, that its advanced metering business case is well-documented and supported given what can be reasonably known at this stage of deployment. The Company understands that its subsequent requests to recover the incremental annual investment and operating costs will be subject to ongoing review in future rate proceedings.

Q. Lastly, how do you respond to Staff witness Mr. Nightingale's conclusion at page 3 of Exhibit No.__(DN-1T) that it is premature for the Commission to make a prudence determination on the Company's AMI project at this time?

A. I believe the Company has demonstrated that its advanced metering business case is well-documented and supported given what can be reasonably known at this stage of deployment. The Company has made the decision to deploy AMI, and is moving forward with implementation. The Company is requesting to include only the AMI-related investment that is in the effective rate period – and not all subsequent expenditures. The Company understands that its requests to recover the costs of subsequent investment will be subject to prudence review in future rate proceedings.

IV. DISTRIBUTION PLANT INVESTMENT

Q. Turning now to electric distribution plant investment, Staff and interveners raise concerns regarding the recent and continuing growth in this category of utility plant.[31] What generally is driving the increased investment in distribution plant?

A. As I mentioned in my direct testimony, Avista's investment in electric distribution plant has been driven by a number of factors, including (1) new customer

[31] Exhibit No.__(GAW-1T), page 10, line 5 through page 11, line 1, Exhibit No.__(BGM-1CT), page 19, lines 15-17, Exhibit No.__(BGM-1CT), page 19, lines 5-12, and Exhibit No.__(BGM-3), page 18.

connections and changing customer usage, (2) maintaining system reliability and safety, (3) realizing operational and electrical efficiencies, including compliance with the requirements of Washington Initiative No. 937,[32] and (4) minimizing life cycle costs of assets (e.g., Asset Management programs).

Q. Should the Company's investment in distribution plant always lead to an improvement in its System Average Interruption Duration Index ("SAIDI") or System Average Interruption Frequency Index ("SAIFI", as suggested by Mr. Watkins Exhibit No.__(GAW-1T), at pages 10 and 11 of his testimony?

A. No. Distribution capital investments generally are made so that we can maintain our overall system reliability, and therefore the Company may not necessarily see improvements to its SAIFI or SAIDI. What would have an effect on Avista's SAIFI and SAIDI, negatively, however, would be the lack of investment in distribution plant.

Q. What are the other factors that also influence the amount of distribution plant investment?

A. As I discussed in my direct testimony,[33] Avista has implemented Asset Management Plans to maximize the value of many of Avista's physical assets over their life cycles. Provided in the Company's direct case as Exhibit No.___(HLR-6) is Avista's Electric Distribution System 2016 Asset Management Plan. This 88 page document provides detailed information on the programs Avista operates in an effort to maintain a reliable and efficient

[32] Initiative No. 937, the Washington Energy Independence Act, requires that "each qualifying utility shall pursue all available conservation that is cost-effective, reliable, and feasible." Chapter five of the 2015 Electric Integrated Resource Plan includes discussion of the inclusion of Washington feeder upgrades in meeting Avista's conservation targets under the requirements of initiative 937.

[33] Exhibit No.__(HLR-1T), page 32, line 12 through page 35, line 23.

distribution system. Avista's asset management programs include, but are not limited to, the following projects which are not only necessary, but critical, for a utility to undertake:

- Distribution Grid Modernization - This program includes the replacement of undersized and deteriorating conductors, replacement of failed and end-of-life infrastructure materials including wood poles, cross arms, fuses and insulators. Inaccessible pole alignment, right-of-away issues, undergrounding and clear zone compliance issues are addressed for each feeder section as well as regular maintenance work such as leaning poles, guy anchors, unauthorized attachments and joint-use management.

- Wood Pole Management - The distribution wood pole management program evaluates wood pole strength of a certain percentage of the wood pole population each year such that the entire system is inspected every 20 years.

- Distribution Transformer Change-Out Program - The Distribution Transformer Change-Out Program has three main drivers – age of the transformer (average 42 years of age), transformers that are inefficient compared to current standards, and transformers that have the potential to have PCB-containing oil.

- Segment Reconductor and Feeder Tie Program - This program improves the capacity and reliability of Avista's distribution grid through targeted reconductoring/rebuild and feeder tie projects. This is an on-going effort to identify and mitigate the capacity constrained portions of Avista's 18,000 mile distribution grid.

- Improving Worst Feeders – This program targets the reinforcement of the most underperforming electric circuits. This program is coordinated with regional engineers and focuses treatment on those feeders whose sustained outage statistics and customer experiencing multiple interruptions are at the top of the worst performing feeder list.

I have extensively discussed the value provided by these asset management programs in my direct testimony.[34]

Q. Did any party take issue with any of the Company's distribution capital projects or programs?

A. No, none of the parties suggested that any of the particular electric distribution programs or projects should not be done in the time frame planned by the Company.

[34] Ibid.

Q. Do you agree with Mr. Mullins testimony that there is "unexplained growth" in distribution capital investment?

A. No, I do not. As discussed by Company witness Mr. Norwood, and in Avista's testimony, exhibits and workpapers submitted for this case, the Company provided significant documentation and explanation of the capital projects recently completed and planned for the near-term.[35] Avista provided additional information in response to discovery requests from the parties. Members of the Staff visited Avista's main office on more than one occasion to conduct an audit of the Company's capital expenditures and operating expenses. Following Avista's filing on February 19, 2016, until the parties filed their responsive testimony on August 17th, the parties had six months to review and ask questions on any specific capital investment items, or category of the Company's capital investment, including distribution capital, for which they may have had concerns. It is noteworthy that no party in this case identified a single capital project that should not be done in the time frame in which the capital projects are being carried out by the Company.[36]

Q. Does this conclude your rebuttal testimony?

A. Yes.

[35] See the testimony and exhibits of Company witnesses Mr. Thies, Exhibit No__(MTT-1T), Ms. Rosentrater, Exhibit No.__(HLR-1T), Mr. Kinney, Exhibit No.__(SJK-1T), Mr. Cox, Exhibit No.__(BAC-1T), and Ms. Schuh, Exhibit No.__(KKS-1T).

[36] We recognize, however, that Public Counsel has taken issue with the AMI project.