

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-100176

DIRECT TESTIMONY OF

BRUCE W. FOLSOM

REPRESENTING AVISTA CORPORATION

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I. INTRODUCTION

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

A. My name is Bruce Folsom. I am employed by Avista as the Director of Energy Efficiency Policy. My business address is 1411 East Mission Avenue, Spokane, Washington.

Q. Would you please describe your education and business experience?

A. I graduated from the University of Washington in 1979 with Bachelor of Arts and Bachelor of Science degrees. I received a Masters in Business Administration degree from Seattle University in 1984.

I joined the Company in 1993 in the State and Federal Regulation Department. My duties included work associated with tariff revisions and aspects of integrated resource planning, demand side management, competitive bidding, and emerging issues. In 2002, I was named Manager of Regulatory Compliance which added responsibilities such as implementing the Federal Energy Regulatory Commission's changes to its Standards of Conduct rule. I joined the Demand Side Management (DSM) team in September 2006 to assist in the contemplated growth of energy efficiency services. The energy efficiency group was restructured in August 2010 and I am now leading the DSM Policy, Planning and Analysis Team. Prior to joining Avista, I was employed by the Washington Utilities and Transportation Commission beginning in 1984, and then served as the Electric Program Manager from 1990 to February, 1993. From 1979 to 1983, I was the Pacific Northwest Regional Director of the Environmental Careers Organization, a national, private, not-for-profit organization.

1 I am a member of the Board of Directors of the Northwest Energy Efficiency
2 Alliance (NEEA) and a member of the Regional Technical Forum (RTF) Policy
3 Advisory Committee.

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

5 A. The purpose of my testimony is to present an overview of Avista's 2010-
6 2011 energy efficiency results pursuant to RCW 19.285, also known as "I-937" or the
7 Washington Energy Independence Act and WAC 480-109. Avista acquired 169,467
8 MWh in the 2010-2011 Biennium, exceeding by 32% its Commission-approved I-937
9 target. Dr. Sami Khawaja, Senior Vice President of The Cadmus Group, presents these
10 verified savings in his direct testimony (MSK-1T).

11 My testimony also summarizes the cost-effectiveness and other attributes of the
12 Company's DSM programs in support of a request for a finding of prudence of these
13 expenditures in compliance with Order No. 05 in Docket Nos. UE-110876 and UG-
14 110877 (consolidated). To acquire its 2010-2011 Washington electric efficiency
15 savings, Avista spent over \$29.4 million with a benefit-to-cost ratio of 1.58, using the
16 Commission-prescribed Total Resource Cost (TRC) test. The Company spent more
17 than \$11.1 million on Washington natural gas energy efficiency which resulted in
18 savings of over 2.5 million therms with a TRC benefit-to-cost ratio of 1.19. Company
19 witness Lori Hermanson provides the details of these calculations.

20 This is Avista's first "Biennium Conservation Report" filing under I-937. This
21 is also Avista's first request for a finding of prudence outside of a general rate case
22 since the inception of the Public Purposes Tariff Rider in 1995. Therefore, I report on

1 compliance with various requirements, provide a brief overview of the Company's
2 DSM programs, and discuss issues unique to this two-year period.

3 Coincident with this testimony, the Company submitted annual true-up (or cost
4 recovery) revisions to Avista's Public Purpose Tariff Riders, Schedules 91 (electric) and
5 191 (natural gas) in a separate filing. Avista's Tariff Riders provide revenue to support
6 the Company's energy efficiency programs. These tariff riders are now on an annual
7 "true-up" schedule, to be filed on June 1st each year with a requested effective date of
8 August 1st. These dates were derived from discussions with the Commission Staff and
9 interested parties. The proposed revision to Schedules 91 and 191 seek a decrease of
10 1.8% and 1.3%, respectively, in billed rates.

11 **Q. Avista includes in this filing both electric and natural gas efficiency**
12 **results. Please describe natural gas efficiency savings relative to "I-937."**

13 A. RCW 19.285 and WAC 480-109 are unique to electric efficiency.
14 However, for customer service and overall economy of scale, Avista operates its electric
15 and natural gas efficiency programs on a unified basis. For administrative benefit,
16 Avista is combining its request for a finding of prudence together with its request for
17 approval of compliance of its electric efficiency operations with RCW 19.285 and
18 WAC 480-109.

19 **Q. Are you sponsoring any exhibits in this proceeding?**

20 A. Yes. I am sponsoring Exhibit No. ____ (BWF-2) through Exhibit
21 No. ____ (BWF-5). Exhibit No. ____ (BWF-2) summarizes compliance with conditions
22 required by the Commission's order approving Avista's 2010-2011 energy efficiency

1 targets. Exhibit No. ____ (BWF-3) lists nineteen all-day Avista-facilitated energy
2 efficiency meetings, three Integrated Resource Planning Technical Advisory Committee
3 meetings with energy efficiency related presentations, six Washington Conservation
4 Group meetings and eleven Avista energy efficiency webinars with participation by
5 Avista's energy efficiency stakeholders in 2010-2011. Exhibit No. ____ (BWF-4)
6 itemizes Avista's response to "impact" findings and recommendations provided by The
7 Cadmus Group for future consideration. Exhibit No. ____ (BWF-5) itemizes Avista's
8 response to "process" findings and recommendations provided by The Cadmus Group
9 for future consideration.

10 **II. BACKGROUND**

11 **Q. What is the procedural context for this case?**

12 A. This filing is responsive to three previous cases and incorporates
13 direction and related compliance from each.

14 The requirement to meet conservation targets under I-937 became effective on
15 January 1, 2010. On May 13, 2010, the Commission approved, with conditions,
16 Avista's 2010-2011 Biennial Conservation Plan, and associated targets, by Order No.
17 01 in Docket No. UE-100176. The conditions specified multiple requirements
18 including program delivery, evaluation, reporting, stakeholder involvement, cost-
19 recovery and other items.

20 Evaluation, Measurement and Verification (EM&V) was addressed in a
21 Commission-ordered EM&V collaborative (in Docket No. UG-090135). This resulted
22 in two key documents, the EM&V Framework and the 2011 EM&V Plan, filed

1 September 1, 2010, and November 1, 2010, respectively. Together with Avista's
2 regular DSM Annual Business Plans (filed with the Commission and supplemented
3 with programmatic modifications and updated with a review of the natural gas
4 portfolio), these two EM&V documents and the conditions contained in Docket No.
5 UE-100176 established the standards for reporting and independent verification of
6 claimed energy savings.

7 The third applicable docket is regarding prudence of DSM expenditures. Avista
8 has sought findings of prudence in general rate cases for its energy efficiency
9 expenditures since the inception of the DSM Tariff Riders in 1995. As an outcome of a
10 settlement in Avista's 2011 general rate case, the Commission approved a process
11 whereby Avista is to seek a finding of prudence in a "Prudence Filing" to be submitted
12 on June 1, 2012 (per Docket Nos. UE-110876 and UG-110877, Order No. 05). The
13 Company is to file testimony and exhibits with, in essence, parties having the ability to
14 seek a full adjudication of this filing. Order No. 05 states, at paragraph 4: "Within 30
15 days of the filing, any person could request that the Commission set the matter for
16 adjudication. If Avista's request was set for hearing, Movants agree to support a
17 suspension period of up to 6 months."

18 In this testimony, exhibits, and workpapers, Avista provides extensive data and
19 explanation towards assuring that all interested parties are satisfied that the
20 independently verified independent savings exceed required targets and were
21 accomplished in a prudent and cost-effective manner.

22

1 **Q. What specific approvals are requested in this filing?**

2 A. Avista is requesting two approvals: 1) pursuant to RCW 19.285 and
3 WAC 480-109, that Avista has met the requirements of I-937, and 2) that the
4 Commission issue a finding that the expenditures to fund Avista’s electric and natural
5 gas efficiency programs in calendar years 2010 and 2011 were prudent.

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7 **III. OVERVIEW OF PROGRAMS AND 2010-2011 RESULTS**

8 **Q. How are Avista’s DSM programs delivered to customers to achieve**
9 **the targets?**

10 A. Avista’s core objective has historically been to provide customers with
11 cost-effective energy efficiency services. Avista is in its 35th year of doing so. Avista’s
12 approach is to use the most effective “mechanism” to deliver energy efficiency services
13 to customers. These mechanisms are varied and include: 1) prescriptive programs (or
14 “standard offers” such as high efficiency appliance rebates); 2) site-specific or
15 “customized” analyses at customer premises; 3) “market transformational,” or regional,
16 efforts with other utilities through NEEA; 4) low-income energy efficiency services
17 through local Community Action Agencies; 5) low-cost/no-cost advice through a multi-
18 channel communication effort; and 6) support for cost-effective appliance standards and
19 building codes.

20 As part of Avista’s Integrated Resource Planning (IRP) efforts, over 3,000
21 measures are considered and then examined for cost-effectiveness. The Company’s
22 comprehensive energy efficiency outreach, the “Every Little Bit” communications

1 campaign, continues to inform customers of the availability of utility-sponsored energy
2 efficiency programs, as well as general energy efficiency education. Avista's programs
3 are delivered by approximately 29 full-time equivalent employees.

4 **Q. Please describe Avista's efforts to implement the provisions of I-937**
5 **and WAC 480-109, "Acquisition of minimum quantities of conservation and**
6 **renewable energy as required by the Energy Independence Act (chapter 19.285**
7 **RCW)."**

8 A. In Docket No. UE-100176, the Commission approved Avista's Ten-year
9 Achievable Conservation Potential and Biennial Conservation Target Report ("Biennial
10 Conservation Plan" or "BCP"). Avista elected to use the Northwest Power and
11 Conservation Council's Option #1 of its 6th *Power Plan* to establish the Company's
12 acquisition target, adjusted to include electric-to-natural-gas fuel conversions. The
13 acquisition target was 11.6% greater than the Company's Integrated Resource Plan's
14 energy efficiency targets for the same period. Avista's goal was to acquire 128,603
15 annual, first-year MWh of energy efficiency during the 2010-2011 biennium. This was
16 described in the Company's approved BCP in 2010 and 2011, the first I-937 two-year
17 compliance period. Avista opted to use the Council's targets rather than the Company's
18 most recent IRP because the 6th *Power Plan* conservation goals had recently received
19 significant public and expert review.

20 **Q. Would you please summarize Avista's results?**

21 A. Yes. Avista exceeded its 2010-2011 BCP electric targets by 32%,
22 achieving 169,467 MWh from demand-side energy efficiency towards its goal of

1 128,603 MWh. Avista achieved over 2.5 million therms, or 79% of its natural gas
 2 efficiency goals of 3.2 million therms in Washington. Under the Total Resource Cost
 3 (TRC) cost-effectiveness test, the electric efficiency benefits exceeded the costs by a
 4 ratio of 1.58. The Washington natural gas efficiency TRC ratio was 1.19. Illustration
 5 No. 1 provides these and related key metrics.

6 Illustration No. 1:

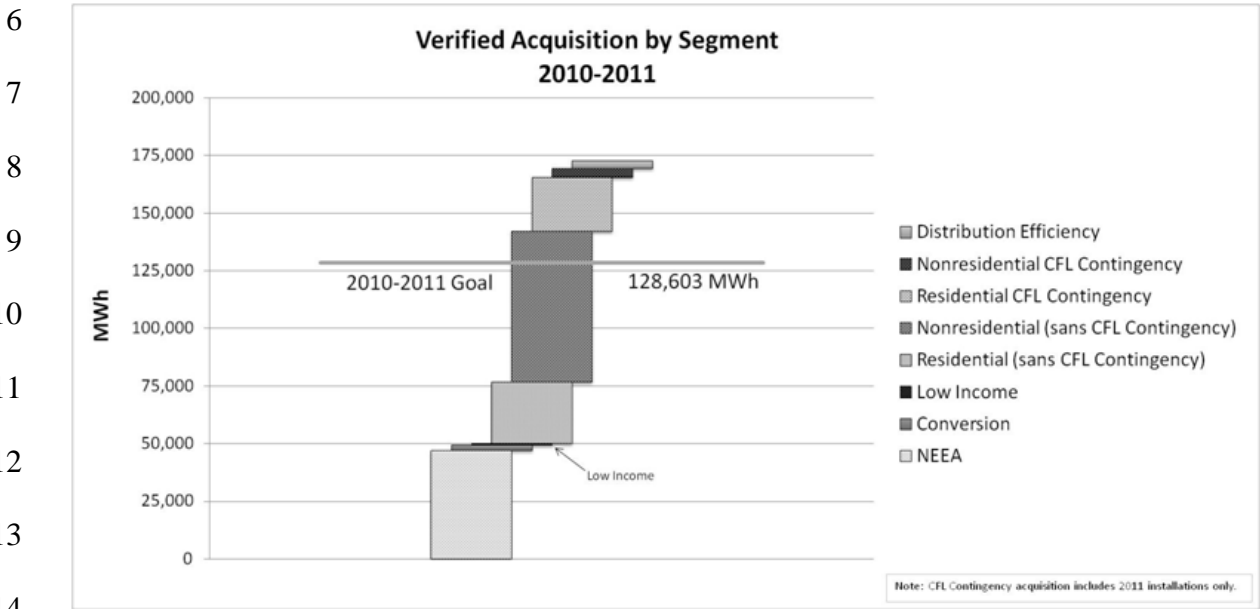
Key Metrics - Washington	2010-2011 Target ¹	2010-2011 Achieved ¹
Local Electric Efficiency Savings (MWh)	125,982	125,212
Local Fuel Efficiency Savings (MWh) ²	2,621	5,495
Regional Electric Efficiency Savings (MWh) ³	<i>see note</i>	47,129
Electric Distribution Efficiency Savings ³	<i>see note</i>	3,512
Electric Production Efficiency Savings	0	0
Local Natural Gas Efficiency Savings	3,181,981	2,499,916
Electric Total Resource Cost Test	>=1.00	1.58
Electric Program Administrator Cost Test	>=1.00	3.60
Natural Gas Total Resource Cost Test	>=1.00	1.19
Natural Gas Program Administrator Cost Test	>=1.00	3.02
Electric Evaluation, Measurement & Verification	3-6%	3.9%
Natural Gas Evaluation, Measurement & Verification	<i>none</i>	\$558,918
Stakeholder Meetings/Webinars	At least 8	38
Total Expenditures	\$37,565,189	\$40,462,697
Electric Expenditures	\$26,778,598	\$29,364,830
Natural Gas Expenditures	\$10,786,591	\$11,097,867

21 1) Savings estimates are annual, first-year savings.
 22 2) While this shows total fuel efficiency acquisition, only 2,621 MWh are applicable
 23 toward the Company's BCP target.
 24 3) Regional electric efficiency and distribution efficiency savings are included within the
 25 local electric efficiency savings target as filed in Docket No. UE-100176.

1 **Q. What is the breakdown of the electric savings by contribution area?**

2 A. Avista’s electric efficiency acquisition is derived from several different
 3 areas. Illustration No. 2, below, shows the various contributions by area towards the
 4 overall 2010-2011 BCP targets.

5 Illustration No. 2



15 The Illustration above disaggregates Avista’s 2010-2011 acquisition into local
 16 acquisition (by customer segment as well as the CFL contingency plan), regional
 17 savings recognized by NEEA during the biennium and ascribed to Avista’s Washington
 18 service territory, and distribution efficiency savings for projects completed during that
 19 period.

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1 **Q. Please address the conditions that were part of the Commission’s**
2 **order in its approval of the Company’s BCP.**

3 A. Nine “conditions” are stated in paragraphs 58 through 67 of the
4 Commission’s Order No. 01 approving the Company’s 2010-2011 targets. Avista has
5 complied with all specified conditions. This is shown in Exhibit No. ____ (BWF-2).

6 **Q. What does NEEA bring to Avista’s DSM portfolio?**

7 A. Avista is one of fourteen direct funders of NEEA since the creation of
8 that organization in 1996. NEEA acts on behalf of funding entities throughout the
9 region to acquire energy efficiency resources through “market transformations” that
10 could not be achieved through individual utility action. NEEA’s market transformation
11 ventures are interventions in key markets that change the trajectory of the acceptance of
12 an energy efficiency product or service. Due to the scale necessary for being effective
13 within these markets, this is best achieved on a regional basis.

14 Avista’s participation in NEEA leads to the acquisition of resources that would be
15 unachievable, or more costly, if it were not achieved through regional cooperation and
16 emphasis.

17 **Q. What acquisition is Avista claiming for NEEA during the 2010-2011**
18 **Biennium?**

19 A. Avista is claiming a total of 5.38 aMW (47,129 MWh’s) from NEEA’s
20 results for this biennium. This value is based upon NEEA’s calculation of total regional
21 savings within Avista’s Washington service territory less those which were captured as
22 part of Avista’s local DSM portfolio, as included in Company witness Lori

1 Hermanson's testimony. This amount also includes the net impact of several one-time
2 adjustments, both positive and negative, that occurred during that biennium.

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IV. DISCUSSION OF SELECTED ISSUES

5 **Q. Why did Avista's electric acquisition achievement exceed its targets**
6 **by 32%?**

7 A. Avista's first and foremost objective is to achieve all cost-effective
8 energy efficiency resources. The 2010-2011 Biennium was the first under the I-937
9 requirements and was the first period for which penalties could be levied for insufficient
10 acquisition. Consequently, the Company integrated the timing of the acquisition of
11 identified cost-effective resources into our business planning strategy to assure
12 compliance with I-937 requirements. This included launching a Compact Fluorescent
13 Lamp (CFL) contingency program in the summer of 2011. The results of this program,
14 in conjunction with the breadth of standard programs and higher than anticipated
15 realization rates in general, allowed the Company to surpass its targets.

16 Another contributing factor to exceeding the target was higher savings reported
17 by NEEA that are attributable to Avista. Historically, NEEA savings ascribed to
18 Avista's Washington service territory has been in the range of 1.0 to 1.4 aMW per year.
19 However, the claimable savings resulting from NEEA's CFL market transformation
20 ventures were steadily declining and there were additional uncertainties relating to
21 methodologies for allocating regional savings to individual utilities and jurisdictions.
22 Avista also had no prior experience with baseline savings consistent with the Council's

1 6th Power Plan. NEEA's calculation of Avista's Washington acquisition under
2 protocols consistent with the Council's 6th Power Plan was released to Avista on March
3 29, 2012 and contained the confirmation of 5.38 aMW of energy savings recognized
4 during the 2010-2011 Biennium, more than twice the Company's previous experience.

5 **Q. What is a realization rate and how does this affect claimed savings?**

6 A. Energy efficiency savings are estimated based on the per-measure (e.g.,
7 T-8 commercial lighting, ENERGY STAR® Dishwashers, or ceiling insulation)
8 accepted value multiplied by the number of units installed. Thereafter, the number of
9 units installed is verified for accuracy and proper installation and the actual savings
10 value per measure can be tested by data loggers, billing analysis and other analytical
11 means. If the actual savings per measure are confirmed without change and if the
12 number of installations, upon verification, are found to be properly installed and equal
13 to those claimed, then the realization rate is 100%. If the actual savings level per
14 measure is less or if the installed units are less, then the realization rate would be less.
15 Because this is Avista's first experience with independent third-party evaluation of the
16 electric DSM portfolio, the Company conservatively opted to assume lower realization
17 rates for purposes of business planning.

18 **Q. What is a Technical Reference Manual and what is its relation to**
19 **this filing?**

20 A. A Technical Reference Manual (TRM) is, at its essence, a list of
21 prescriptive (or standard offer) measures with an assigned unit energy savings (UES)
22 value. This approach is described in the Company's EM&V Framework and is

1 referenced in its annual EM&V Plan. For the most part, this is consistent with the RTF,
2 the energy efficiency advisory committee supporting the Northwest Power and
3 Conservation Council. Avista's EM&V Plan calls for every program and measure to be
4 evaluated and verified by an independent third-party entity. The Cadmus Group was
5 selected to provide this independent verification, including the review of the Company's
6 TRM.

7 Unit energy savings values contained within the TRM will be updated in
8 conjunction with evaluation results and applicable best available science, leading to any
9 necessary refinements of energy savings estimates of existing programs.

10 **Q. Why do you say that Avista's approach to EM&V is "for the most**
11 **part" consistent with the RTF?**

12 A. Avista seeks to use the best science available to determine claimed
13 savings. Avista looks first to the RTF, but recognizes that RTF unit energy savings
14 estimates may be based upon regional program experience, unique delivery
15 mechanisms, or other program attributes which are not necessarily consistent with
16 Avista's programs, markets served or purpose to which the UES is being applied.
17 Beyond the UES itself, other relevant data or analytical components are also considered
18 for use by Avista to leverage the value of the RTF's evaluation portfolio.

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1 **Q. Would you please provide examples of this?**

2 A. Yes. I will point out two examples, Avista's appliance recycling
3 program and Avista's CFL contingency program, both of which will be further
4 described by Dr. Sami Khawaja.

5 Avista questioned why the RTF's unit energy savings for the appliance
6 recycling program differed from program design estimates. The Cadmus Group,
7 through its independent review of Avista's TRM, presented UES values for the
8 refrigerator and freezer-recycling program unique to Avista's program delivery and
9 service territory considerations. Following significant analysis, discussion and effort
10 with the Council Staff, The Cadmus Group and Avista, we consider the issue resolved
11 by incorporating data specific to Avista's service territory in the analytical methodology
12 employed by the RTF.

13 The RTF's established UES for direct mail standard CFLs is 15 kWh/lamp
14 based on its August 30, 2011 resolution. At the Commission open meeting of June 30,
15 2011, two months prior to the RTF's action, Avista stated that the Company's delivery
16 mechanism, program design, and potential for greater CFL saturation are different than
17 those underlying the RTF calculations. Avista stated that 24 kWh/lamp was a
18 reasonable and conservative planning estimate but that the actual savings would be
19 measured by impact analysis. The Cadmus Group has determined that the UES for
20 Avista's CFL Contingency Program is 38.65 kWh/lamp for residential applications.
21 Avista understands that Council Staff concurs with the assumptions and methodology
22 through which this UES was derived.

1 The above two examples demonstrate that other relevant data or analytical
2 components are considered by Avista, through its third party evaluator, to leverage the
3 value of the RTF's evaluation portfolio.

4 **Q. What has been Avista's perspective regarding stakeholder**
5 **involvement?**

6 A. Avista's energy efficiency programs have benefited by input from
7 customer groups, external experts, and thought leaders. I am unaware of any utility that
8 has a longer-running, continuous stakeholder involvement effort than Avista's, which
9 began in 1992.

10 In an effort to improve our advisory process, in June of 2010 Avista contracted
11 Dr. Dune Ives of Milepost Consulting to independently facilitate our meetings and
12 webinars. The Company engaged two nationally-recognized EM&V experts, Steve
13 Schiller and Dr. Chris Ann Dickerson, to provide technical assistance. Steve Schiller
14 was later retained by the Commission Staff in its 2011 Conservation Working Group
15 process.

16 During the 2010-2011 Biennium, Avista's primary stakeholders had the
17 opportunity to participate in nineteen all-day meetings and eleven webinars convened
18 by Avista with topics unique to the Company's DSM efforts. In addition, six all-day
19 meetings specific to BCP issues were held by the UTC Staff, including Avista, other
20 utilities, and our primary stakeholders. Further, parts of three Avista Integrated
21 Resource Planning Technical Advisory Committee meetings were devoted to the

1 Company's DSM efforts in 2010 and 2011. A summary of these meetings is shown in
2 Exhibit No. ____ (BWF-2).

3 The Company has also sought to keep stakeholders informed of DSM activities
4 through a quarterly newsletter, monthly reports and other communications.

5 **Q. Would you please describe the engagement of the Cadmus Group for**
6 **Avista's evaluation, measurement, and verification?**

7 A. Yes. A central component of Avista's EM&V Framework and EM&V
8 Annual Plan is independent, or third-party, verification of the Company's claimed
9 efficiency savings. The Cadmus Group was retained, after a competitive Request-for-
10 Proposal process, to perform impact and process evaluations. Impact evaluation
11 measures actual savings at the customer premises through a variety of quantitative
12 methods and physical equipment. Process evaluations examine potential for program
13 delivery improvements based on participant and non-participant surveys, among other
14 means.

15 **Q. Dr. Khawaja makes a series of recommendations in his testimony**
16 **regarding suggested improvements to Avista's DSM programs. What is the**
17 **Company's response to these recommendations?**

18 A. The purpose of impact evaluations and process evaluations is for
19 continued program improvement. The Company has historically reviewed and
20 modified its DSM programs for improved use of customer funds and better service to
21 customers. Dr. Khawaja's recommendations continue in this vein.

1 Cadmus' recommendations have been reviewed by the Company and generally
2 fall into three categories. First, there are items that Avista has completed or is in the
3 process of implementing. Cadmus has shared with the Company and its Advisory
4 Group preliminary findings in some programs. An example of this was Cadmus'
5 discussion of our low-income programs at Avista's October 18th and 19th, 2011,
6 Advisory Group Meeting. The second category of Cadmus's recommendations are
7 concepts that will be implemented immediately. An example of this is to consider
8 performing three- to six-month post-installation random inspections to confirm measure
9 persistence and potentially to identify opportunities to improve performance. The third
10 general category concerns areas that we need to provide further information for others'
11 consideration. For example, regarding information systems, there are only a few
12 options available on the market and we have thoroughly researched these. These
13 options are stand-alone systems which are not fully integrated into utility systems such
14 as customer and financial databases. In addition, being a dual-fuel utility adds
15 complexity that has not been fully addressed by the major vendors. Furthermore, the
16 Company is currently in the process of updating its legacy Customer Service System.
17 Utility database systems available on the market currently do not meet all of the
18 Company's energy efficiency processing and tracking needs. These types of software
19 modules are currently under development and may be available in approximately two
20 years. In the meantime, the Company plans to continue with its current systems, since
21 program tracking has been effective.

1 Exhibit No. ____ (BWF-4) provides Avista's perspective and next steps regarding
2 each impact finding and recommendation shown in Dr. Khawaja's testimony. Exhibit
3 No. ____ (BWF-5) provides Avista's perspective and next steps regarding each process
4 finding and recommendation shown in Dr. Khawaja's testimony.

5 **Q. What was the cost of Avista's independent evaluation?**

6 A. Paragraph 62 of the Commission's Order No. 01 in Docket No. UE-
7 100176, requires that 3-6% of Avista's DSM budget is to be dedicated to EM&V.
8 Avista has paid \$1.1 million and \$559,000 for Washington electric and natural gas
9 EM&V respectively, or 4.3%, of its DSM electric (3.7%) and natural gas (5.3%) budget
10 for independent evaluation for the 2010-2011 Biennium.

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V. DISTRIBUTION EFFICIENCY SAVINGS

13 **Q. What were Avista's contemplated distribution efficiency savings for**
14 **the 2010-2011 Biennium?**

15 A. Avista stated in its 2010-2011 BCP related to distribution efficiency (at
16 page 16):

17 Avista's incorporation of distribution efficiency upgrades is in accordance
18 with the methodology established by the Northwest Energy Efficiency
19 Alliance (NEEA) and published in the Distribution Efficiency Initiative
20 Report (DEI 2008). These distribution efficiency upgrades include the
21 addition of capacitor banks and voltage regulators controlled in a
22 complimentary manner to provide system optimization, loss minimization
23 and to reduce end of line voltage levels. Avista's estimate of the savings
24 for distribution efficiency is approximately 1.85% of controlled load based
25 on this NEEA methodology.

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Because the distribution efficiency feeder improvements are on a one-to-
four year construction cycle, the majority of these savings will not be
recognized until a future two-year compliance period (e.g. 2012-2013).

1 Avista is expecting approximately 3% to 6% (or 7,000 MWh's) of the
2 currently identified distribution efficiency potential to be completed in the
3 current two-year (2010-2011) compliance period.
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5 **Q. What distribution efficiency savings were achieved during the 2010-**
6 **2011 Biennium?**

7 A. The Company did not achieve its estimated distribution efficiency
8 potential for the period 2010-2011. The method Avista has implemented for achieving
9 distribution efficiency is called voltage optimization. This methodology relies on the
10 existence of a "digital electric model" used in conjunction with voltage regulators to
11 raise and lower voltage, capacitor banks to provide for power factor correction and a
12 distribution management system (DMS) that can calculate and make adjustments in real
13 time. This method is most effective when the circuit voltage has little deviation end-to-
14 end or is considered to have a flat voltage profile. In order to achieve a flat profile,
15 capacitor banks are used to attain near unity power factor or 1.00. Without capacitor
16 banks, average power factor can typically fluctuate from approximately 0.95 leading to
17 0.95 lagging. Power factor is dynamic, changing constantly as load on the circuit
18 changes. A capacitor bank may be needed for a few hours multiple times a day. Given
19 a flat voltage profile, voltage regulators are used to reduce voltage which in turn
20 reduces both loads and losses. The DMS continuously calculates power flows to
21 determine a course of action for the capacitor banks and the voltage regulators.

22 Avista originally planned to implement the fully-capable system in the 2012-
23 2013 timeframe. It was thought that some of the capacitor banks could be utilized for
24 power factor correction prior to the full implementation. Without the full

1 implementation in place, the manual effort required to manage power factor correction,
 2 while coordinating with automated voltage regulators, was deemed inappropriate.
 3 Accordingly, only savings from reconductoring efforts were captured for 2010-2011.
 4 Although the Company did not achieve its combined goal of the reconductoring and
 5 power factor correction savings, it is important to note that the reconductoring savings
 6 achieved a greater amount than that initially estimated by 1.2%.

7 The estimated and actual savings for reconductoring and power factor correction
 8 are shown in the Illustration below:

9 Illustration No. 3

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2010-2011 Distribution Efficiency Savings						
	Reconductoring		Power Factor Correction		Totals	
	<i>Actual Savings</i>	<i>Estimated Savings</i>	<i>Actual Savings</i>	<i>Estimated Savings</i>	<i>Actual Savings</i>	<i>Estimated Savings</i>
<i>Project</i>	<i>MWh/YR</i>	<i>MWh/YR</i>	<i>MWh/YR</i>	<i>MWh/YR</i>	<i>MWh/YR</i>	<i>MWh/YR</i>
SGIG	3,372.60	2,826.00		4,054.00	3,372.60	6,880.00
SGDP	140.16	120			140.16	120
Totals	3,512.76	2,946.00		4,054.00	3,512.76	7,000.00

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18 **Q. How were these savings measured and verified?**

19 A. The distribution savings were verified using SyneGEE engineering
 20 analysis tools in conjunction with annual average load as measured by the field devices
 21 with the distribution management system. These SynerGEE models were run in both a
 22 pre-reconductoring configuration and a post reconductoring configuration to determine

1 the loss reduction. No additional measures or calculation were required for
2 reconductoring alone.

3 **Q. Recognizing that the majority of the Company's distribution**
4 **efficiency savings are expected in the 2012-2013 Biennium and recognizing that**
5 **distribution efficiency EM&V is a focus of current efforts, what would be the effect**
6 **of not including 2010-2011 distribution efficiency savings against the 2010-2011**
7 **overall I-937 targets?**

8 A. The distribution efficiency savings for the 2010-2011 Biennium compose
9 2% of Avista's I-937 claimed savings. While the Company is claiming these savings
10 for this period, please note that if the distribution savings were not counted, Avista
11 would still have exceeded its 2010-2011 targets by 32%. This is an issue, therefore, that
12 would not affect current I-937 compliance and, moreover, is an issue to be addressed
13 during the 2012-2013 Biennium as described in the Commission's Order 01 in Docket
14 UE-111882 at Paragraph 28, Part (6)(g):

15 For savings claimed from distribution efficiency, Avista Corporation must
16 provide third-party verified values calculated using applicable parts of the RTF's
17 Automated CVR Protocol No. 1, Voltage Optimization Protocol, or any other
18 protocol recognized by the RTF following the date of this order. This
19 requirement does not prevent Avista Corporation from developing an additional
20 EM&V methodology for distribution efficiency and advocating at a future
21 Commission proceeding for the recognition of third-party verified savings
22 calculated using that methodology.
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VI. OTHER COMPANY WITNESSES

Q. Would you please provide a brief summary of the testimony of the other witnesses representing Avista in this proceeding?

A. Yes. The following witnesses are presenting direct testimony on behalf of Avista:

Lori B. Hermanson, Senior Utility Resource Analyst, will report on the cost-effectiveness and regulatory prudence of the 2010-2011 electric and natural gas DSM portfolio. As the project manager for evaluation, Ms. Hermanson describes the administration of The Cadmus Group contracting process and addresses other evaluation issues. Ms. Hermanson explains:

- Washington electric programs have been cost-effective from both a Total Resource Cost (TRC) and Program Administrator Cost Test (PACT) perspective. The 2010-2011 TRC benefit-to-cost ratio of 1.58, for the Washington electric DSM program portfolio, is cost-effective, with a net TRC benefit to customers of over \$33.6 million. The 2010-2011 PACT benefit-to-cost ratio is cost-effective with a net PACT benefit of over \$65.4 million. The levelized TRC and PACT cost is \$42.48 and \$18.33 per MWh, respectively. The overall portfolio of measures has a weighted average measure life of 12 years for 2010-2011.
- The Washington natural gas DSM program portfolio has a 2010-2011 TRC ratio of 1.19. The 2010-2011 PACT benefit cost ratio is 3.02. Therefore, the Washington natural gas DSM portfolio passes the PAC test in 2010-2011. The levelized TRC and PAC cost is \$1.07 and 41.5 cents per therm, respectively. The overall portfolio of measures has a weighted average measure life of 21 years for 2010-2011.

Dr. Sami Khawaja, Senior Vice President and Group Manager, The Cadmus Group, will present the results of third party verification of Avista’s 2010-2011 DSM electric and natural gas portfolio. Dr. Khawaja will describe the methodology and conclusions of his company’s independent impact evaluations and process evaluations

1 that are a central component of Avista's EM&V Framework and EM&V Plan. His
2 testimony concludes that Avista's Washington electric DSM programs achieved 132%
3 of its 2010-2011 Commission-approved target and its natural gas DSM programs
4 achieved 79% of its natural gas IRP targets.

5 **Q. Does that complete your pre-filed direct testimony?**

6 A. Yes, it does.