

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-111882
DOCKET NO. UG-14 ____

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. This included coordinating interdepartmental work such as distribution efficiency planning. 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

1 Director of the Environmental Careers Organization, a national, private, not-for-profit
2 organization.

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

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

7 A. The purpose of my testimony is to present an overview of Avista's 2012-
8 2013 energy efficiency results pursuant to RCW 19.285, also known as "I-937" or the
9 Washington Energy Independence Act and WAC 480-109. Avista acquired 192,749
10 MWh in the 2012-2013 Biennium, exceeding by 78% its Commission-approved I-937
11 target. Dr. Sami Khawaja, Executive Consultant representing Cadmus, presents end use
12 verified savings in his direct testimony (MSK-1T).

13 My testimony also summarizes the cost-effectiveness and other attributes of the
14 Company's DSM programs in support of a request for a finding of prudence of these
15 expenditures in compliance with Order No. 05 in Docket Nos. UE-110876 and UG-
16 110877 (consolidated). To acquire its 2012-2013 Washington electric efficiency
17 savings, Avista spent \$31.5 million with a benefit-to-cost ratio of 1.31, using the
18 Commission-prescribed Total Resource Cost (TRC) test. The Company spent more
19 than \$8.0 million on Washington natural gas energy efficiency which resulted in
20 savings of 1,218,496 therms with a regular-income Utility Cost Test (UCT) benefit-to-
21 cost ratio of 1.01.

1 This is Avista’s second “Biennium Conservation Report” filing under I-937.
2 This is also Avista’s second request for a finding of prudence outside of a general rate
3 case since the inception of the Public Purposes Tariff Rider in 1995. Therefore, I report
4 on compliance with various requirements, provide a brief overview of the Company’s
5 DSM programs, and discuss issues unique to this two-year period.

6 Coincident with this testimony, the Company has filed a request to not make any
7 changes to its current tariff riders, Schedules 91 (electric) and 191 (natural gas).
8 Avista’s Tariff Riders provide revenue to support the Company’s energy efficiency
9 programs. These tariff riders are now on an annual “true-up” schedule, and are required
10 to be filed on or before June 1st each year with a requested effective date of August 1st.
11 The tariff riders are currently sufficient for program funding for the next year.

12 Lastly, I introduce the other witnesses in this filing.

13 **Q. Avista includes in this filing both electric and natural gas efficiency**
14 **results. Please describe natural gas efficiency savings relative to “I-937.”**

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

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

2 A. Yes. I am sponsoring Exhibit No. ____ (BWF-2) and Exhibit No. ____ (BWF-
3 3). Exhibit No. ____ (BWF-2) is Avista's 2013 Annual Report which summarizes
4 Washington 2013 DSM energy savings, compliance with conditions specified in Docket
5 No. UE-111882, and distribution energy savings evaluation. Exhibit No. ____ (BWF-3)
6 shows cost-effectiveness and levelized cost by regular and low-income programs for
7 2012 and 2013.

8 **II. BACKGROUND**

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

10 A. The requirement to meet conservation targets under I-937 became
11 effective on January 1, 2010. On February 10, 2012, the Commission approved, with
12 conditions, Avista's 2012-2013 Biennial Conservation Plan, and associated targets, by
13 Order No. 01 in Docket No. UE-111882. The conditions specified multiple
14 requirements including program delivery, evaluation, reporting, stakeholder
15 involvement, cost-recovery and other items.

16 Evaluation, Measurement and Verification (EM&V) was addressed in a
17 Commission-ordered EM&V collaborative (in Docket No. UG-090135). This resulted
18 in the EM&V Framework, the 2012 EM&V Plan, and the 2013 EM&V Plan, filed
19 September 1, 2010, November 1, 2011, November 1, 2012, and November 1, 2013
20 respectively. Together with Avista's regular DSM Annual Business Plans (filed with
21 the Commission and supplemented with programmatic modifications and updated with
22 a review of the natural gas portfolio), these EM&V documents and the conditions

1 contained in Docket No. UE-111882 established the standards for reporting and
2 independent verification of claimed energy savings.

3 The third applicable docket concerns prudence of DSM expenditures. Avista had
4 sought findings of prudence in general rate cases for its energy efficiency expenditures
5 since the inception of the DSM Tariff Riders in 1995. As an outcome of a settlement in
6 Avista's 2011 general rate case, the Commission approved a process whereby Avista is
7 to seek a finding of prudence in a "Prudence Filing" to be submitted on June 1, 2014
8 (per Docket Nos. UE-110876 and UG-110877, Order No. 05). The Company is to file
9 testimony and exhibits with parties having the ability to seek a full adjudication of this
10 filing.

11 In this testimony, exhibits, and workpapers, Avista provides extensive data and
12 explanation to demonstrate that the independently verified savings exceed required
13 targets and were accomplished in a prudent and cost-effective manner.

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

15 A. Avista is requesting two approvals: 1) pursuant to RCW 19.285 and
16 WAC 480-109, that Avista has met the requirements of the Energy Independence Act,
17 and 2) that the Commission issue a finding that the expenditures to fund Avista's
18 electric and natural gas efficiency programs in calendar years 2012 and 2013 were
19 prudent.

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III. OVERVIEW OF PROGRAMS AND 2012-2013 RESULTS

Q. Would you please provide a brief overview of Avista’s DSM programs?

A. Yes. Avista has historically had a significant and consistent commitment to energy efficiency, beginning with its programs in 1978. In the mid-1990s, while the electric industry was pulling back from offering energy efficiency services, Avista pioneered the DSM Tariff Rider. Now in its nineteenth year, the tariff rider was the Country’s first distribution charge to fund DSM and is now replicated in many other States. Schedule 91 currently has a rate equal to 3.1% of retail revenue for electric service and the Schedule 191 rate is 2.3% of retail revenue for natural gas.

The Company’s approach to energy efficiency is based on two key principles. The first is to pursue all cost-effective kilowatt hours and therms by offering financial incentives for energy saving measures within simple financial payback periods. As will be described by Company witness Mr. Drake, the Company’s programs are delivered across a full customer spectrum. Virtually all customers have had the opportunity to participate and many have directly benefited from the program offerings. All customers have indirectly benefited through enhanced resource cost-efficiencies as a result of this portfolio approach.

1 **Q. Would you please summarize Avista’s results?**

2 A. Yes. Avista exceeded its 2012-2013 BCP electric targets by 78%,
3 achieving 192,749 MWh from demand-side energy efficiency towards its goal of
4 108,589 MWh. Avista achieved therm savings of over 613,922 million therms. Under
5 the Total Resource Cost (TRC) cost-effectiveness test, the electric efficiency benefits
6 exceeded the costs by a ratio of 1.31. The Washington natural gas regular income
7 efficiency utility cost test ratio was 1.01. Illustration No. 1 provides these and related
8 key metrics.

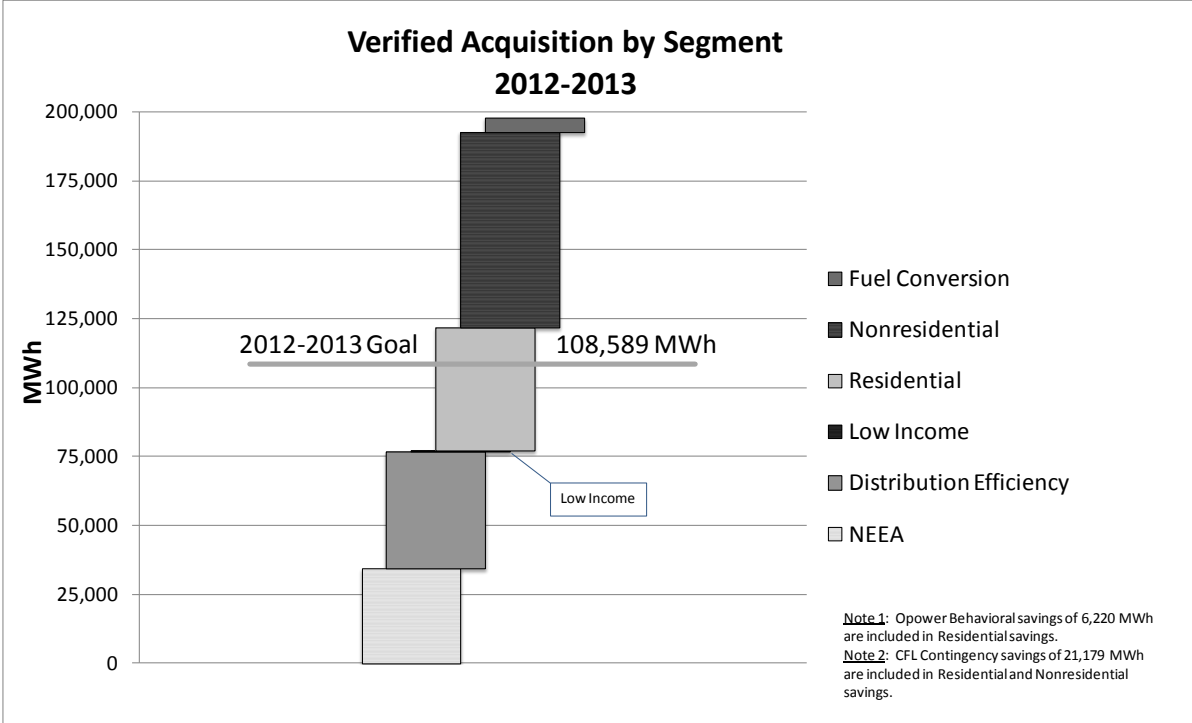
9 Illustration No. 1:

Key Metrics – Washington	2012-2013 Target ¹	2012-2013 Achieved ¹
Local Electric Efficiency Savings (MWh)	76,202	116,030
Electric Distribution Efficiency Savings (MWh)	32,387	42,292
Electric Production Efficiency Savings (MWh)	0	0
Regional Electric Efficiency Savings (MWh)	0	34,427
TOTAL EIA (“I-937” SAVINGS)	108,589	192,749
Local Fuel Efficiency Savings (MWh)	n/a	4,642
TOTAL ELECTRIC SAVINGS (MWh)		197,391
Local Natural Gas Efficiency Savings (therms)		1,218,496
Electric Total Resource Cost Test	>= 1.00	1.32
Electric Program Administrator Cost Test	>= 1.00	2.16
Natural Gas Utility Cost Test (Regular Income)	>= 1.00	1.01
Electric Evaluation, Measurement, and Verification	3 – 6%	5.8%
Natural Gas Evaluation, Measurement, and Verification	n/a	\$282,848
Stakeholder Meetings/Webinars	At least 8	12
Electric Expenditures	\$26,985,290	\$31,545,109
Natural Gas Expenditures ²	\$4,418,181	\$8,078,863
¹ Savings estimates are annual, first-year savings.		
² 2012 natural gas budget only.		

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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 2012-2013 BCP targets.

5 Illustration No. 2



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 17 The Illustration above disaggregates Avista’s 2012-2013 acquisition into local
 18 acquisition, and distribution efficiency savings for projects completed during that
 19 period.

20 **Q. Is Avista claiming fuel efficiency savings of 4,642 MWh for purposes**
 21 **of reporting under the Energy Independence Act?**

1 A. No. Avista has been providing rebates for fuel switching from electric
2 end-use to natural gas direct-use since 1992. As a core value for our customers' benefit,
3 direct use of natural gas at the customer's burner trip is more efficient than running
4 natural gas through combustion turbines and using the electrical output for similar end-
5 uses.

6 However, while fuel efficiency savings are included in Avista's Integrated
7 Resource Plan and its annual DSM Business Plans, such savings have been deemed to
8 not be claimable under the Energy Independence Act and are not included in related
9 claimed savings.

10 **Q. Would you please describe the inclusion of compact fluorescent lamp**
11 **(CFLs) savings in 2012 and 2013?**

12 A. Yes. During the approval process of Avista's claimed savings for the
13 2010-2011 Biennium, the Company proposed a methodology based on third party
14 independent evaluation by Cadmus. This would have had the effect of counting all
15 claimable savings in 2011. However, the Commission ruled that Avista should use the
16 unit energy savings (UES) and associated methodology as defined by the Regional
17 Technical Forum, including its In-service Rate (ISR). The ISR recognizes customers do
18 not install all CFLs at acquisition, rather the RTF's studies show a rate of installation
19 over time. Therefore, Avista's claimed savings for 2012-2013 includes energy
20 efficiency savings of 21,179 MWh from CFLs distributed in 2011 and installed during
21 the first several months of 2012, completing 12 months of first-year installations

1 savings per the RTF guidelines. These realized savings were not included in Avista's
2 approved 2010-2011 Biennium.

3 **Q. Opower savings are included for the 2012-2013 Biennium. Please**
4 **compare this with the Commission's recent ruling regarding behavioral savings**
5 **relative to a company's conservation potential assessment.**

6 A. Behavioral savings were shown to be cost-effective in Avista's 2013
7 DSM Business Plan (filed November 1, 2012) if the program expenses could be
8 managed to a level providing a positive benefit-cost ratio. The Company's conservation
9 assessment potential (performed by EnerNOC) for this time period assumed a
10 behavioral program (based on industry data and Avista's avoided costs) would not be
11 cost-effective. However, the Company determined, through implementing the program
12 design, that this offering could be administered cost-effectively. Thereafter, Avista
13 signed a contract with Opower¹ in early 2013 and launched a residential behavioral
14 program in mid-year. Cadmus' impact evaluation, pursuant to Commission-approved
15 standards for behavioral program evaluation, shows 6,220 MWh savings in 2013.
16 Avista is claiming these savings for the 2012-2013 Biennium based on what Avista
17 knew at the time to be claimable savings under the Energy Independence Act.

18 Later, on December 18, 2013, in Docket No. UE-132045 the Commission
19 determined behavioral savings should be included in claimable targets only if the

¹ Opower is the global leader in providing cloud software to the utility industry. Opower's platform uses big data analytics and cutting-edge behavioral science to enable utilities to achieve measurable outcomes, including energy efficiency, customer engagement and demand response. Founded in 2007, Opower is headquartered in Arlington, Virginia, with offices in San Francisco, London, Singapore and Tokyo.

1 savings are identified in a company's CPA. Avista has made that modification, on a
2 going-forward basis, for its 2014-2015 Biennium, as reflected in its 2014 Revised DSM
3 Business Plan filed April 23, 2014.

4 **Q. Was Avista's 2012-2013 I-937 acquisition achievement, 177% of the**
5 **target for that biennium, typical of the Company's expected performance?**

6 A. No. The Company proposed a range of acquisition rather than a single
7 point target for the 2012-2013 bienniums. The range was to reflect the substantial
8 uncertainty surrounding key components of the Company's planned acquisition. The
9 Company was particularly concerned with the quantity of measurable acquisition that
10 could be achieved based upon installed and verified distribution efficiency
11 improvements, which comprised 30% of the total I-937 acquisition target.

12 **Q. What would the Company's acquisition relative to these targets have**
13 **been in the absence of the 2012-2013 savings claimed from the CFL contingency**
14 **program and the Opower residential behavioral program?**

15 A. The Company would still have achieved its target for 2012-2013 claimed
16 savings. Without the CFL contingency program and the Opower residential behavior
17 program, Avista would still have been 52% over the acquisition target.

18 **Q. Please address the conditions that were part of the Commission's**
19 **order in its approval of the Company's Biennial Conservation Plan.**

20 A. Ten "conditions" are stated in paragraphs 23 through 33 of the
21 Commission's Order No. 01 approving the Company's 2012-2013 targets. Avista has
22 complied with all specified conditions. This is shown in Exhibit No. ____ (BWF-2).

1 **Q. Do the 2012-2013 results reflect Avista’s participation in regional**
2 **energy efficiency efforts?**

3 A. Yes. The numbers in Illustration No. 1 include 34,427 MWh of first-
4 year Washington savings acquired through Northwest Energy Efficiency Alliance’s
5 (NEEA) regional efforts.

6 Avista has been, and continues to be, an advocate for using a regional approach
7 to obtain electric efficiency through the transformation of markets for efficiency
8 measures and services. For some measures, a large-scale, cross-utility approach is the
9 most cost-effective means to achieve energy efficiency savings and transform the
10 market. This approach is particularly effective for markets composed of large numbers
11 of homogenous smaller usage consumers, such as the residential and small commercial
12 markets.

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14 **IV. STAKEHOLDER ENGAGEMENT AND THIRD-PARTY EVALUATION**

15 **Q. What has been Avista’s perspective regarding stakeholder**
16 **involvement?**

17 A. Avista’s energy efficiency programs have benefited by input from
18 customer groups, external experts, and other thought leaders. During the 2012-2013
19 Biennium, Avista’s primary stakeholders had the opportunity to participate in 12 all-day
20 meetings and webinars convened by Avista with topics unique to the Company’s DSM
21 efforts. Further, parts of three Avista Integrated Resource Planning Technical Advisory

1 Committee meetings were devoted to the Company's DSM efforts in 2012 and 2013. A
2 summary of these meetings is shown in 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 Cadmus for Avista's**
6 **evaluation, measurement, and verification?**

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

14 Illustration Nos. 1 and 2 presented earlier in my testimony, summarize the
15 claimed savings by Avista for the 2012-2013 Biennium. Dr. Khawaja presents the
16 details, including the methodology for determining these end-use savings.

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

18 A. Paragraph 28 of the Commission's Order No. 01 in Docket No. UE-
19 111882 provides that Avista must spend a reasonable amount of its DSM budget on
20 EM&V, including a reasonable proportion on independent, third-party EM&V. Avista
21 has paid \$1,573,271 and \$282,848 for Washington electric and natural gas EM&V

1 respectively, or 5.8% of its DSM electric budget for independent evaluation of the
2 2012-2013 Biennium.

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V. DISTRIBUTION EFFICIENCY SAVINGS

5 **Q. What was the nature of Avista's distribution efficiency savings?**

6 A. Avista's Conservation Voltage Reduction (CVR)² program was a part of
7 its two Smart Grid projects. CVR was implemented in 2013. In Spokane, the
8 Company's smart circuits project involved upgrading fourteen substations and fifty-
9 eight distribution feeders. In Pullman, Avista's Smart Grid Demonstration project
10 encompassed updating and automating the distribution system, installing an advanced
11 metering infrastructure, implementing a Web portal where customers can monitor their
12 energy use, and a demand response pilot project, with upgrades to three substations and
13 thirteen feeders. Approximately 50% of the Spokane Circuits Projects and the Pullman
14 Demonstration Project were funded by the Department of Energy through the American
15 Recovery and Reinvestment Act.

16 Both projects incorporate Integrated Volt Var Control (IVVC). The IVVC
17 predictive application leverages existing power flow models, loading information, and
18 network topology to calculate the minimum voltage on the feeder. The IVVC module
19 issues commands to the station or midline regulators to maintain the minimum voltage
20 set-point within a specified voltage dead-band. Avista based its business case for IVVC

² CVR is a type of distribution efficiency, also known as conservation voltage regulation or voltage optimization. CVR is the long-term practice of controlling distribution voltage levels in the lower range of acceptable levels, as defined by the American National Standards Institute (ANSI; ANSI 1995), to reduce demand and energy consumption.

1 on the avoided cost of energy resulting from the reduction of load by lowering the
2 distribution line voltage.

3 Commissioning of IVVC in Spokane and Pullman began in September 2013 and
4 concluded on December 31, 2013.

5 **Q. Would you please summarize distribution efficiency savings**
6 **acquired during the 2012-2013 Biennium?**

7 A. Yes. Avista distribution savings acquisition in 2012 and 2013 totaled
8 42,292 MWh, exceeding its minimum target of 32,387 MWh. The savings were
9 verified by third-party evaluator Navigant based on the Regional Technical Forum
10 (RTF) Automated Conservation Voltage Reduction Protocol No. 1 as required by the
11 Commission's Order No. 01 in Docket No. UE-111882. Navigant also evaluated the
12 Washington State University (WSU) Voltage Optimization Validation Methodology as
13 well as applying Navigant's Regression Methodology for determining distribution
14 energy levels, arriving at similar results as the RTF protocol. These latter two
15 approaches are consistent with the Commission's Order allowing Avista to develop
16 additional methodologies as stated by Order 01 in Docket UE-111882 at Paragraph 28,
17 Part (6)(g):

18 For savings claimed from distribution efficiency, Avista Corporation must
19 provide third-party verified values calculated using applicable parts of the
20 RTF's Automated CVR Protocol No. 1, Voltage Optimization Protocol, or
21 any other protocol recognized by the RTF following the date of this order.
22 This requirement does not prevent Avista Corporation from developing an
23 additional EM&V methodology for distribution efficiency and advocating
24 at a future Commission proceeding for the recognition of third-party
25 verified savings calculated using that methodology.
26

1 Exhibit __ (BWF-2), Appendix 5, is Navigant's report describing its evaluation
2 and conclusions.

3 **VI. OTHER WITNESSES**

4 **Q. Would you please provide a brief summary of the testimony of the**
5 **other witnesses sponsoring testimony in this filing?**

6 A. Yes. The following additional witnesses are presenting direct testimony:
7 Chris Drake, Manager of Demand Side Management Program Delivery, will
8 describe Avista's energy efficiency program offerings available to Washington
9 customers and program management perspectives. Mr. Drake will also respond to
10 Evaluation, Measurement and Verification findings and recommendations specific to
11 implementation issues.

12 Dr. Sami Khawaja, Executive Consultant, The Cadmus Group, will present the
13 results of third party verification of Avista's 2012-2013 DSM electric and natural gas
14 portfolio. Dr. Khawaja will describe the methodology and conclusions of his
15 company's independent impact evaluations and process evaluations that are a central
16 component of Avista's EM&V Framework and EM&V Plan. His testimony concludes
17 that Avista's Washington electric DSM programs achieved 152.3% of its 2012-2013
18 Commission-approved target and its natural gas DSM programs achieved 46.3% of its
19 natural gas IRP targets.

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

21 A. Yes, it does.