BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. AVISTA CORPORATION dba AVISTA UTILITIES, Respondent.	DOCKETS UE-150204 and UG-150205 (*Consolidated*)

EXHIBIT TO
TESTIMONY OF

DAVID C. GOMEZ

STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

Direct Testimony of Avista witness James M. Kensok, Before the Idaho Public Utilities Commission, Case No. AVU-E-15-05
(Provided on CD)

July 27, 2015

DAVID J. MEYER
VICE PRESIDENT AND CHIEF COUNSEL FOR
    REGULATORY & GOVERNMENTAL AFFAIRS
AVISTA CORPORATION
P.O. BOX 3727
1411 EAST MISSION AVENUE
SPOKANE, WASHINGTON 99220-3727
TELEPHONE: (509) 495-4316
FACSIMILE: (509) 495-8851
DAVID.MEYER@AVISTACORP.COM

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION)	CASE NO. AVU-E-15-05
OF AVISTA CORPORATION FOR THE)	CASE NO. AVU-G-15-01
AUTHORITY TO INCREASE ITS RATES)	
AND CHARGES FOR ELECTRIC AND)	
NATURAL GAS SERVICE TO ELECTRIC)	DIRECT TESTIMONY
AND NATURAL GAS CUSTOMERS IN THE)	OF
STATE OF IDAHO)	JAMES M. KENSOK
)	

FOR AVISTA CORPORATION

(ELECTRIC AND NATURAL GAS)

1   **I.   INTRODUCTION**

2   **Q.   Please state your name, employer and business**

3   **address.**

4   A.   My name is James M. Kensok. I am employed by

5   Avista Corporation as the Vice-President and Chief

6   Information and Security Officer (CISO). My business

7   address is 1411 E. Mission Avenue, Spokane, Washington.

8   **Q. Mr. Kensok, please provide information**

9   **pertaining to your educational background and professional**

10 **experience.**

11   A.   I am a graduate of Eastern Washington University

12 with a Bachelor of Arts Degree in Business Administration,

13 majoring in Management Information Systems, and a graduate

14 of Washington State University with an Executive MBA. I

15 have experience through direct application and management

16 of Information Services over the course of my 32-year

17 information technology career. I joined the Company in

18 June of 1996. Over the past 18 plus years, I have spent

19 approximately one year in Avista's Internal Audit

20 Department as an Information Systems Auditor with

21 involvement in performing internal information systems

22 compliance and technology audits. I have been in the

23 Information Services Department for approximately 17 years

24 in a variety of management roles directing and leading

1 information technology and systems, planning, operations,

2 system analysis, complex communication networks, cyber

3 security, applications development, outsourcing

4 agreements, contract negotiations, technical support, cost

5 management, data management and strategic development. I

6 was appointed Vice-President and CIO in January of 2007

7 and Chief Security Officer in January of 2013.

8   **Q.   What is the scope of your testimony?**

9   A.   My testimony will describe the costs associated

10 with Avista's Information Service/Information Technology

11 (IS/IT) programs and projects. These costs include the

12 capital investments for a range of systems used by the

13 Company, including the replacement of the Company's legacy

14 Customer Information and Work and Asset Management System

15 ("Project Compass"), Avistautilities.com WEB replacement,

16 and several more important applications.

17   I also describe the additional IS/IT expenses

18 required to support a range of new and updated

19 applications and systems for cyber security, such as the

20 operation of Project Compass, and the Asset Facilities

21 Management application.

22

1   A table of contents for my testimony is as follows:

9   **Q. Are you sponsoring an exhibit in this**

10   **proceeding?**

11   A.   Yes.   I am sponsoring Exhibit No. 10, Schedules

12   1 through 6.   A report providing an overview of the

13   Company project implemented to replace its legacy customer

14   information system (named Project Compass), is provided in

15   Schedule 1.   Schedule 2 is an update report on the timing

16   and cost of Avista's Project Compass.   An overview of the

17   communication plan related to the "Go Live" of Project

18   Compass is provided as Schedule 3, and a timeline showing

19   the individual communication activities is provided as

20   Schedule 4.   An example of the direct-mail communication

21   is provided as Schedule 5.   Schedule 6 is a high-level

22   summary of the launch of Project Compass including

23   customer service metrics showing performance of the new

24   systems over the first five weeks of operation.

25

1   **II.   IS/IT OPERATING EXPENSES**

2   **Q.   What are the primary business needs supported by**

3   **Avista's Information Services Department?**

4   A.   With advancements in the utility industry, the

5   use of operating, information, and customer-application

6   technologies is increasingly prevalent in day-to-day

7   business operations. The Information Services department

8   provides the technology support required by all Company

9   operations, both internal as well as customer-facing.

10   Examples include field operations, engineering,

11   transmission & distribution operations, power supply,

12   finance, treasury, legal, human resources, customer

13   solutions, customer services, and regulatory functions.

14   Types of support include the design, engineering,

15   implementation, and support of cyber security, computer

16   hardware, application software, data and voice systems and

17   networks, application integration, business continuity and

18   disaster recovery, and data management and mobility. Our

19   customers are provided with mobile solutions for

20   transacting business with Avista that are available 24

21   hours per day, in addition to having more data and

22   information about their energy use and tools to manage

23   their consumption of energy.   Records management is

24   increasing for both electric and natural gas

1   infrastructure, and Avista is experiencing continued

2   growth in the use of its networks by customers and our

3   employees who are increasingly using mobile, real-time

4   systems to transact business and deliver safe and reliable

5   energy services.   These technologies are foundational to

6   Avista's efforts to keep pace with the service

7   expectations of our customers, to fulfill our regulatory

8   requirements, and to achieve cost savings through prudent

9   technology deployments.

10   **Q.   What are the primary drivers of increasing IS/IT**

11   **expenses for 2016 and beyond?**

12   A.   There are four key areas, the first of which is

13   the expense associated with the replacement of obsolete

14   systems, such as the Company's legacy Customer Information

15   and Work Management systems, which will be explained in

16   detail later in my testimony.

17   The second area is the increasing cyber and physical

18   security requirements to protect Company infrastructure.

19   Our industry is increasingly a target from malicious

20   entities, and in order to protect Avista and its

21   customers, we have been required to increase staffing,

22   deploy new security systems, advance employee training,

23   and deploy more sophisticated business-continuity recovery

24   programs.   Meeting expanding regulatory requirements, such

1   as those supporting electric transmission reliability, is

2   also driving cost increases in security compliance.

3   A third focus is the sensor technology and the

4   associated data networks required by the industry's

5   modernization of the electric grid and the improved

6   reliability of our natural gas distribution system.

7   Though there are many advantages for customers and the

8   Company associated with the deployment of these new

9   systems, the expenses to support them are an increasing

10 portion of the costs of providing efficient, safe,

11 reliable, and cost-effective energy services.

12   The fourth driver of Avista's costs is related to the

13 growth in usage of applications, data, and our data

14 networks. As customer expectations and business and

15 compliance requirements continue to grow, they drive the

16 need for new and expanded technology solutions. Although

17 these new solutions provide the most cost-effective way to

18 meet these growing needs, they also increase costs for

19 application licensing, maintenance and support, and for

20 the computer hardware and networks required to enable

21 them.

1   **Q. As Information Services requirements have**

2   **increased, has Avista focused on managing its overall**

3   **technology expenses for the benefit of its customers?**

4   A.   Yes.   Over the past several years, Avista has

5   focused on reducing customer transaction costs through the

6   prudent deployment of technology. Along with meeting

7   customer needs, Avista works continuously to minimize its

8   costs and to maximize employee efficiency through the use

9   of appropriate technology and staffing.

10   As an example, labor cost reductions were achieved

11   through realignment of legacy custom application labor

12   skills with contemporary commercial application skills.

13   This resulted in a $924,000 reduction in contract labor

14   for applications operations and delivery, which was

15   partially offset by an increase of $711,000 as a result of

16   the conversion of nine contract positions to Avista

17   employee positions, for a net reduction in labor costs of

18     $213,000.   See "Applications Systems – Net Labor

19   Reduction" section below for additional information on

20   these labor reductions.

1   Q.   **Please summarize the increases in expenses for**

2   **the 2016 rate year.**

3   A.   Table No. 1 below summarizes the net increase in

4   IS/IT expenses for 2016.[1]   A brief description of each item

5   is provided following Table No. 1.

TABLE NO. 1 Information Services Incremental Expense Increases (2016 vs. Test Period)	System Expense
New Expense From Projects	
Asset Facilities Management Application Migration Replacement	$ 68,437
Project Compass	$ 663,188
Embotics - Data Center Server Management Software Tool	$ 16,940
Enterprise Document Management	$ 42,000
Financial Forecast Model	$ 21,000
iFactor - Outage Reporting and Viewing, and Mobile Capabilities	$ 304,360
Mobility in the Field - Gas Compliance	$ 60,000
Visibility - Gas Compliance	$ 36,120
NetInsight Refresh	$ 93,000
Next Generation Radio System (Dispatch Radio System)	$ 139,062
Radio Telephone Communications Console System Refresh	$ 8,658
Security Systems - Non Labor Additions	$ 80,000
Data Analytics Software Application	$ 60,000
Total New Expense From Projects	**$ 1,592,765**
Other Expenses: (incremental expense)	
Applications Systems - Net Labor Additions	$ (213,092)
Adobe Creative Cloud Suite Software-as-a-Service	$ 52,176
ESRI Geographic Information System	$ 188,796
Microsoft System Maintenance	$ 301,449
Network Systems - Non-Labor Additions	$ 317,905
Network Systems - Net Labor Additions	$ 186,472
Oracle System (Financial Application & Data) Maintenance	$ 113,043
Security Systems - Net Labor Additions	$ 125,383
Total Other Expenses: (incremental expense)	**$ 1,072,132**
TOTAL (New Expense from Project and Other Expenses)	**$ 2,664,896**

**Asset Facilities Management Application Replacement
(Project Atlas) Support Costs — $68,437**
Project Atlas will replace the Company's obsolete
Facilities Management system, and will consist of three
applications with new commercial-off-the-shelf
applications. The project includes replacement of the
electric and natural gas Construction Design application,

---

[1] Although the Company anticipates increased expenses in 2017 above
those in 2016, Company witness Ms. Andrews has not included these
expenses in her 2017 pro forma adjustments. See 2017 IS/IT capital
additions discussion later in my testimony.

1 Edit Tool Application, and the Company's proprietary
2 Outage Management Application. There will be new
3 incremental on-going technology support costs associated
4 with the new applications. These applications aid in the
5 engineering and design of Avista's electric and natural
6 gas infrastructure, which costs would increase without the
7 aid of this technology. In addition to supporting design,
8 the Outage Management Application allows the Company to
9 quickly isolate the likely cause of system outages, to
10 communicate proactively with customers, and to quickly and
11 accurately dispatch Avista crews for service restoration.
12
13 **Project Compass Support Costs - $663,188**
14 There will be a net increase of $663,188 over current
15 operating expenses associated with the deployment of the
16 Company's new Customer Service and Work and Asset
17 Management Systems implemented as part of Project Compass.
18 The total for new operating expenses required to support
19 these new Systems is $3,020,858, however, there is a
20 corresponding offset in the amount of $2,357,670, which
21 reflects the annual expense reduction in contract services
22 and mainframe computer costs associated with the
23 retirement of the Company's Legacy Customer Service and
24 Work Management Systems. The new costs are for the annual
25 license and maintenance fees associated with the new
26 replacement applications (IBM Maximo and Oracle Customer
27 Care & Billing) and ancillary supporting applications.
28 Costs also include the professional services associated
29 with the real-time operation and maintenance of the
30 applications, and the labor expense supporting management
31 reporting for the new systems. A brief description of
32 each of these costs is provided below:
33
34   Oracle Customer Care & Billing (CC&B) and IBM Maximo
35 Applications
36   • Application Maintenance Fee paid to IBM. This fee
37   supports ongoing application maintenance,
38   enhancements and updates.
39   • Application Maintenance Fee paid to Oracle for
40   system maintenance, enhancements and updates.
41   • Application Maintenance Fee for IBM's Tivoli batch
42   scheduling software, which automates, aggregates
43   and executes batch system functions each day (e.g.
44   customer billing, credit and collections, letters
45   and notices).
46   • License and Maintenance Fee for the Oracle Database
47   System.

1   • License and Maintenance Fee for the Oracle Data
2   Integrator (ODI) Application, which performs the
3   extraction, transfer and loading of data for
4   management reporting.
5   • License and Maintenance Fee for the WebLogic
6   Application, the middleware application layer that
7   is the underlying Java application engine that CC&B
8   and Oracle Utility Analytics (OAU) require to
9   operate.
10
11   Shared Support
12   • License and Maintenance Fee for HP's "Quality
13   Center" Application, which is used to automate the
14   routine user testing of the integrated software
15   systems.
16   • Outside services (labor) supporting management
17   reporting for the Maximo and Customer Care &
18   Billing Applications.
19   • IBM Application Management Services, providing
20   technical resource support for maintaining and
21   managing the real-time availability and performance
22   of the Customer Care & Billing and Maximo
23   application systems for Avista.
24   • License and Maintenance Fee for the GoldenGate
25   Application, a component of the Oracle Utility
26   Analytics (OUA) reporting solution for both Oracle
27   CC&B and IBM Maximo.
28
29 **Embotics – Data Center Server Management Software Tool**
30 **Support Costs - $16,940**
31 The current corporate virtual environment is
32 underutilized. Many servers are allocating memory they
33 are not using causing us to buy more resources to meet the
34 memory requirements. The Embotics software tool can help
35 us right-size the memory, thus allowing us to reduce our
36 current resources and avoid purchasing future resources,
37 making our virtual environment more efficient. This is
38 the software support cost of the Embotics software tool.
39
40 **Enterprise Document Management Support Costs – $42,000**
41 This cost is for software maintenance for a new
42 application used in managing invoice processing and
43 archiving. Currently, documents (i.e., invoices) in
44 various departments are maintained on paper, and are
45 processed manually. The new application allows Avista to
46 scan invoices for electronic storage, processing, and

1   approval, providing for more efficient and timely
2   processing and access to stored documents.
3
4   **Enterprise Voice Portal Application Upgrade Support Costs**
5   **– $242,417**
6   Avista's current automated telephone system is no longer
7   supported. The system manages all customer calls for
8   reporting outages, automated bill pay and billing
9   inquiries, and other types of customer self-service
10 options for our customers. These expenses support the
11 services agreement, providing for software maintenance and
12 management for the replacement voice portal system.
13
14 **Financial Forecast Model Support Costs – $21,000**
15 Avista has chosen to replace the Impact software, which is
16 no longer supported, with the UIPlanner financial model.
17 UIPlanner will provide all existing capabilities as well
18 as efficiency gains and enhancements. The software will
19 help the financial forecasting group accurately and
20 efficiently forecast the financial position of the
21 company, including complex "what-if" scenarios which aid
22 senior management and others in their decision-making.
23 This cost supports the application maintenance for the
24 replacement software.
25
26 **iFactor – (Outage Reporting and Viewing, and Mobile**
27 **Capabilities) Application Support Costs – $147,325**
28 For certain customer-facing web and mobile technologies
29 Avista has decided to not customize as part of its
30 customer web portal refresh of Avistautilities.com
31 (Project Phoenix), but rather integrate to a commercial
32 software platform from iFactor Consulting using two of
33 their modules. The first, called iFactor Storm Center, is
34 a web and mobile GIS map-based outage communications
35 software for utilities. Storm Center communicates power
36 outage information to the public using a map interface for
37 web and for mobile natively on iPhone and Android smart
38 phone devices. The second, called Notifi, is a proactive
39 and interactive customer communications platform designed
40 specifically for utilities, with standard interfaces to
41 utility back-end systems (i.e., Customer Care and Billing
42 CC&B). With automated outbound event processing and
43 preference management for customers, Notifi pushes
44 information to Avista customers, over the channel they
45 want to receive it, including mobile text, email, social
46 media and voice natively on iPhone and Android smart phone
47 devices.

1 **Mobility in the Field Gas Compliance Support Costs –**
2 **$60,000**
3 The Mobility in the Field program is designed to increase
4 the Company's use of field mobile dispatch for service
5 employees equipped with mobile devices. This cost
6 supports the software maintenance agreements that will
7 need to be in place in order to maintain the new system.
8
9 **Visibility Gas Compliance Project On-Going Support Costs –**
10 **$36,120**
11 The Visibility Project was completed as part of the
12 Mobility in the Field program to reduce paper processes in
13 the field through implementing mobile technology. This
14 expense is for data cost and maintenance of hardware and
15 software used for new mobile technology deployed to over
16 20 Leak Surveyors in the field. This new technology
17 improves processes through reducing a previous paper
18 process and enabling the data collection to occur
19 electronically. A data plan is activated for each tablet
20 computer to operate the software application in order to
21 collect the data in the field electronically.
22
23 **NetInsight Refresh Support Costs – $93,000**
24 Web analytics is the measurement, collection, analysis and
25 reporting of web data for purposes of understanding and
26 optimizing web usage and customer transactions. Web
27 analytics is not just a tool for measuring web traffic but
28 can be used as a tool for business and customer research,
29 and to assess and improve the effectiveness of a website.
30 Avista is refreshing its current web analytics system as
31 it has come to end of life by its vendor (IBM). Web
32 analytics will be applied to Avista's upgraded customer
33 web portal and its upgraded Intranet portal, which is used
34 by Avista employees.
35
36 **Next Generation Radio System (Dispatch Radio System)**
37 **Hardware and Software Maintenance – $139,062**
38 These costs support the maintenance contract for the
39 hardware and software infrastructure required to
40 effectively own and operate Avista's Land Mobile Radio
41 System (LMR) (Next Generation Radio system). Avista
42 maintains a private LMR system because no public
43 communications provider is capable of covering all of our
44 service territory including the rural and remote areas.
45 Our LMR system is also designed to operate independent of
46 public providers and to be resilient in the event of

1 disasters that affect other means of communication. The
2 LMR system ensures efficient and effective communications.
3
4 **Radio Telephone Communications Console System Refresh**
5 **Support Costs - $61,048**
6 Deployment of this refreshed console equipment is a
7 prerequisite for the successful implementation of the Next
8 Generation Radio project, described above in my testimony.
9 The integrated console system provides access to the
10 narrowband communication network being deployed in the
11 Next Generation Radio project. These costs are for
12 maintenance fees required to assure the system meets our
13 availability and security requirements for service. In
14 particular, the maintenance fees also provide the Company
15 access to technical support, problem resolution, software
16 patches that address security vulnerabilities, and enable
17 features and enhancements that extend the functionality of
18 the deployed console system, and provide replacement
19 hardware for equipment that fails.
20
21 **Security Systems - Non Labor Additions - $80,000**
22 This incremental expense is for software maintenance,
23 third party vulnerability and penetration testing and for
24 new application services that monitor high-risk utility
25 targets (including both physical and cyber), software to
26 maintain compliance with changing regulations, and
27 phishing email awareness testing.
28
29 **Data Analytics Software Application Support Costs -**
30 **$60,000**
31 This expense is for maintenance and support fees for
32 predictive analytics software related to the Trove
33 Sunstone Platform and Energy Pre-schedule Load Forecasting
34 Application. There are third party data access fees
35 included in the Sunstone Platform as it uses weather data
36 and other third party data as part of its predictive
37 analytics and data science technology. The Pre-Schedule
38 Forecast application provides a precision forecast for the
39 next day energy consumption needs to help make daily
40 resource balance decisions. The application compares its
41 forecasts against actual performance for continuous
42 forecast improvement. The Monthly Forecast predicts
43 monthly consumption up to 36 months in advance. It is
44 used to determine how much energy to buy in advance.

1 **Applications Systems - Net Labor Reduction - ($213,092)**
2 We continue to employ a hybrid (in-source/outsource) labor
3 sourcing model that maximizes business value and delivers
4 consistent   customer   satisfaction.   As   such   we   are
5 transitioning these positions to more closely align with
6 the   technology   being   managed.   Nine   key   application
7 systems contract positions were converted to Avista
8 employee positions in 2015:   1) Operational Technology
9 Lead,   2)   Customer   Technology   Lead,   3)   Back   Office
10 Technology Lead, 4) Systems Analysts (x4), 5) Product
11 Owner, and 6) Program Manager.   In addition, a Product
12 Owner will be added for oversight of application demand in
13 Avista's new Customer Information System (CIS) and Asset
14 Management platforms (Oracle Customer Care and Billing and
15 IBM Maximo).
16
17 **ESRI Geographic Information System Software Maintenance -**
18 **$179,183**
19 ESRI is the core product suite for Avista's geospatial
20 system.   In 2015 we are planning on a refresh of this
21 platform.   Throughout the system refresh process and
22 beyond we will need access to ESRI development staff, via
23 a more robust support agreement.   This improved support
24 agreement grants us access to level 2 and level 3 ESRI
25 developers   to   assist   us   with   incident   and   problem
26 resolution across the ESRI suite of tools.   Further,
27 Avista plans to increase access to its own geospatial
28 information system (GIS) data, through the use of ESRI's
29 client / server software model.   This model requires
30 additional licensing for server software but allows easier
31 access to GIS data through browser based custom and
32 commercial applications.   An   example   of   value   this
33 increased access will bring to our customers is public
34 publishing of waterway access, closures and repairs.
35
36 **Adobe Creative Cloud Suite Software-as-a-Service - $52,176**
37 Creative Cloud by Adobe is a subscription based suite of
38 graphic design tools and is the only upgrade path for
39 Avista's current Adobe Creative Suite perpetual licenses.
40 Avista's creation and use of digital multi-media for
41 print, advertising, web, signage for both internal and
42 external communications relies on sharing files with
43 outside agencies and for internal Avista print and graphic
44 design personnel to all be on the same platform.   Most of
45 these agencies have refreshed to Creative Cloud forcing
46 Avista to follow suit and move to Adobe's required
47 software as a service model (SaaS).

1 **Microsoft System Maintenance – $301,449**
2 The incremental increase in maintenance fees reflects
3 vendor price increases for existing systems, as well as
4 costs associated with the deployment of new systems. One
5 such new system is "desktop virtualization," which
6 provides a highly flexible and much-more secure desktop
7 computer environment. In addition, this approach supports
8 a more complete desktop disaster recovery strategy, as all
9 components are essentially saved in the data center and
10 backed up through traditional redundant maintenance
11 systems. In addition, because no data is saved to the
12 user's device there is much less chance that any critical
13 data can be retrieved and compromised in the event a
14 device is lost.
15
16 **Network Systems – Non-Labor Additions Support Costs –**
17 **$317,905**
18 This cost is for service and maintenance fees paid to
19 network providers such as AT&T and Verizon for increased
20 network capacity and system support. As network capacity
21 is increased the electronics that move data/voice traffic
22 over the networks must be upgraded. The upgraded
23 electronics require maintenance and service contracts to
24 keep them current on security patches, firmware upgrades
25 and general performance tuning and support.
26
27 The increased utilization of Company networks has
28 resulted, in part, from the increased data associated with
29 customer access to billing and energy use data and new
30 technology supporting Avista's electric grid
31 modernization, notably feeder automation, smart
32 transformers, and faulted circuit indicator projects.
33
34 **Network Systems – Net Labor Additions – $186,472**
35 The Communications Technician Apprenticeship role is
36 designed to allow individuals to move into a new field and
37 gain the training required to be proficient in a craft.
38 We currently have three existing technicians that are
39 within four years of full eligibility for retirement. It
40 has been our practice to hire an apprentice and invest in
41 their training so they will be fully competent in the role
42 by the time the Sr. Tech retires.

1   **Oracle System (Financial Application & Data) Maintenance –**
2   **$113,043**
3   Avista uses Oracle products to provide, maintain and
4   manage its primary business databases, supporting
5   financial, supply chain, operations, customer service, and
6   real-time infrastructure data. This cost covers increases
7   in recurring maintenance fees as well as incremental costs
8   associated with new Oracle databases that are being
9   licensed. In 2015 we will be introducing a new Oracle
10 tool that will allow us to keep our Java environment
11 updated to the most current supported version minimizing
12 customer complaints related to system availability.
13
14 **Security Systems – Net Labor Additions – $125,383**
15 Due to increasing physical security threats, Avista has
16 made a strategic decision to convert an existing physical
17 security contract position to a fulltime employee. This
18 long-term position has responsibility for physical
19 security at all Avista properties.
20
21 **Smart Circuits Distribution Automation Support Costs –**
22 **$287,756**
23 This incremental cost is for non-labor software and
24 hardware maintenance fees associated with Avista's
25 modernization of its electric grid. These fees were paid
26 previously from funds associated with the Company's
27 SmartGrid Investment Grant awarded under the American
28 Recovery and Reinvestment act of 2009. This cost-sharing
29 grant expired in January 2015, at which time the necessary
30 hardware and software maintenance fees reverted to an
31 ongoing Company expense.

32

33   **III.   IS/IT CAPITAL PROJECTS**

34   **Q.   Please describe each of the IS/IT capital**

35 **projects planned for 2015 - 2017.**

36   A.   The IS/IT capital costs for projects to be

37 completed during the period from January 1, 2015 through

38 December 31, 2017 total $220.8 million on a system basis.

39 These investments are identified by project in

1   Table No. 2, below, and each project is briefly described

2   in the following testimony.

TABLE NO. 2			
IS/IT Capital Projects (System)			
	2015	2016	2017
Business Case Name	$ (000's)	$ (000's)	$ (000's)
AvistaUtilities.com Upgrade	$ 5,145	$ 2,000	$ -
Enterprise Business Continuity Plan	1,043	450	450
Mobility in the Field	420	320	-
Technology Refresh to Sustain Business Process	21,379	16,095	16,095
Customer Information and Work & Asset Management System	96,685	-	-
Enterprise Security	5,400	3,200	3,200
Technology Expansion to Enable Business Process	7,431	5,552	5,799
AFM COTS Migration	-	-	15,608
High Voltage Protection Upgrade	1,252	415	-
Next Generation Radio Refresh	4,007	-	-
Microwave Refresh	2,755	3,050	3,050
	$ 145,517	$ 31,082	$ 44,202

26   **AvistaUtilities.com Upgrade - 2015: $5,145,000; 2016:**
27   **$2,000,000; 2017: $0**
28   Like many businesses today, the Company is experiencing
29   continued growth in the use of its customer website,
30   Avistautilities.com. The website was originally built in
31   2006-2007, but because the technology landscape has
32   advanced so quickly, the site does not meet current web
33   best practices for customer usability and security. This
34   project will update and improve the technology, overall
35   web usability, security and customer satisfaction. The
36   website is part of the Company's strategy to provide
37   customers a more effective channel to meet their
38   expectations for self-service options, including mobile,
39   energy efficiency education, and to drive self-service as
40   a means to lower transaction costs. The Company is also
41   upgrading its AvaNet System (Avista Intranet), however,
42   those costs are included in the IS/IT Technology Refresh
43   to Sustain Business Process project, described below.
44

1 **Enterprise Business Continuity Plan – 2015: $1,043,000;**
2 **2016: $450,000; 2017: $450,000**
3 Avista has developed and maintains an Enterprise Business
4 Continuity Plan (Plan) to support the Company's emergency
5 response, and to ensure the continuity of its critical
6 business systems under crisis conditions. The framework
7 includes the key areas of technology recovery, alternate
8 facilities, and overall business processes. The effort of
9 developing and continuously improving the Plan ensures the
10 readiness of systems, procedures, processes, and people
11 required to support our customers and our communities any
12 time we are required to operate under critical emergency
13 conditions.
14
15 **Mobility in the Field – 2015: $420,000; 2016: $320,000;**
16 **2017: $0**
17 This program is designed to increase the Company's use of
18 field mobile dispatch for service employees equipped with
19 mobile devices. Avista has documented 30 field
20 opportunities to apply mobile technology, and has selected
21 those with the greatest benefit and savings for
22 implementation in a five-year program, named "Visibility
23 in the Field." This effort primarily supports the
24 functions of Leak Survey and Gas Service Dispatch by
25 enabling the use of facility maps on a mobile device.
26
27 **Technology Refresh to Sustain Business Process – 2015:**
28 **$21,379,000; 2016: $16,095,000; 2017: $16,095,000**
29 The Company manages an ongoing program to systematically-
30 replace aging and obsolete technology under "refresh
31 cycles" that are timed to optimize hardware/software
32 system changes or industry trends. An example of
33 technology managed under this program is the fleet of
34 personal computers and other computing devices used by
35 field operations, power plant operators, call centers, and
36 our general office employees.
37
38 The technology refresh business case is organized by
39 technology type. The major categories are Applications,
40 Network Systems, Communication Systems, Central
41 (Compute/Storage) Systems, Distributed Systems and
42 Environmental (Power, HVAC, Fire, etc.) Systems. Each
43 category of technology has a steering committee for
44 governance. The steering committees are members of Avista
45 leadership team. Steering committee members not only
46 provide oversight on program scope, schedule and budget,
47 they also monitor project priority for business value and

1   the risk associated with product obsolescence.   Funding
2   approval by the Capital Planning Group is routinely set
3   below the business case requested level.

4
5   The business case program generally has over one hundred
6   active projects each year.   The scope spans technology
7   solutions   for   back   office,   customer   facing,   energy
8   operating and control systems.   A sample of the 2015
9   project scope is as follows: Enterprise Voice Portal
10 (IVR),   Office   Communicator   &   Voicemail,   Communication
11 Management System, Metropolitan Area Network Transport,
12 Avista Intranet, Financial Forecast Model, Claims System,
13 Java 1.7x, Nucleus, Oracle Database 12c, Internet Explorer
14 11, Citrix Platform, HP CAE/Radia, MS Office 2013, Rugged
15 Computers, and TWACS telemetry.   Each project has formal
16 project management and adheres to our Project Management
17 Office (PMO) process.

18
19 **Customer Information and Work and Asset Management System**
20 **− 2015: $96,685,000**
21 The Company's legacy Customer Information and Work and
22 Asset Management System had been in service for twenty
23 years and has been replaced in a multi-year effort named
24 "Project Compass."   The major applications replaced
25 include   the   Company's   Customer   Service   System,   Work
26 Management   System,   and   the   Electric   and   Gas   Meter
27 Application.   The primary replacement systems are Oracle's
28 Customer Care & Billing application and IBM's Maximo work
29 and asset management application.   A portion of the Maximo
30 system was enabled in the fall of 2013, and the full
31 System entered service in February 2015.   I describe the
32 detail of this significant technology project later in my
33 testimony.

34
35 **Enterprise Security − 2015: $5,400,000; 2016: $3,200,000;**
36 **2017: $3,200,000**
37 There are three primary drivers of the increasing costs
38 for Enterprise Security: cyber security, physical security
39 and regulatory standards.   Each plays a critical role in
40 supporting our delivery of safe and reliable energy to our
41 customers.

42
43   Cyber Security
44   The   security   of   our   electric   and   natural   gas
45   infrastructure   is   a   significant   priority   at   a
46   national   and   state   level,   and   is   of   critical
47   importance to Avista.   Threats from cyber space,

1   including viruses, phishing, and spyware, continue to
2   test our industry's capabilities.   And while these
3   malicious intentions are often unknown, it is clear
4   the methods are becoming more advanced and the
5   attacks more persistent.   In addition to these
6   threats, the vulnerabilities of hardware and software
7   systems continue to increase, especially with
8   industrial control systems such as those supporting
9   the delivery of energy.   For these reasons, Avista
10 continues to advance its cyber security program by
11 investing in security controls to prevent, detect,
12 and respond to these increasingly frequent and
13 sophisticated attacks.   Examples of projects that
14 fall under this category include a secure electronic
15 file transfer system for inbound and outbound files;
16 network access control to monitor, detect, and
17 enforce rules for wired and wireless devices
18 connecting to the network; and a website filtering
19 solution to reduce intentional and unintentional
20 malware found on internet sites.
21
22 Physical Security
23 While considerable attention is focused on cyber
24 security, physical security also remains a concern
25 for our industry.   Physical security encompasses the
26 aspects of employee safety and the protective
27 security of our facilities and critical
28 infrastructure.   Acts of theft, vandalism, and
29 sabotage of critical infrastructure not only result
30 in property losses, but can also directly impact our
31 ability to serve customers.   Securing remote unmanned
32 or unmonitored critical infrastructure is difficult,
33 especially when traditional tools such as perimeter
34 fencing by itself are not adequate.   In response to
35 these challenges, the Company has focused its
36 resources on additional physical security protection
37 (i.e., lighting and crash barriers), remote detection
38 and response technology, which is creating the need
39 for additional physical security items, expertise and
40 technology.
41
42 Regulatory Obligations
43 Advancing cyber threats continue to drive change in
44 the regulatory landscape faced by the Company.   Early
45 in 2013, President Obama issued the Executive Order
46 "Improving Critical Infrastructure Cyber security."
47 The Order directed the National Institute of

1   Standards and Technology to work with stakeholders in
2   developing a voluntary framework for reducing cyber
3   risks to critical infrastructure.   The framework
4   consists of standards, guidelines, and best practices
5   to promote the protection of critical infrastructure.
6   The Federal Energy Regulatory Commission also issued
7   Order 791 on November 22, 2013, approving the North
8   American Electric Reliability Corporation Critical
9   Infrastructure Protection Standards, Version 5.
10   Therefore, we continue to invest in capital assets to
11   comply with these requirements and continue to
12   improve the security of our infrastructure.
13   Additionally, these activities will increase our
14   security-related operating costs (as discussed
15   earlier in my testimony) because they require the
16   Company's security controls and processes to conform
17   to new standards, guidelines, and best practices.
18   Examples of projects that fall under this category
19   include improvements to physical security at the
20   Noxon Rapids facility and the refresh of our Security
21   Incident and Event Management System, which is an
22   analytic system that alerts and reports on security
23   incidents and anomalous activity.
24
25   **Technology Expansion to Enable Business Process – 2015:**
26   **$7,431,000; 2016: $5,552,000; 2017: $5,799,000**
27   This program facilitates technology growth throughout the
28   Company, including technology expansion for the entire
29   workforce, business process automation and increased
30   technology to support efficient business processes.   For
31   example; when trucks are added to the fleet, communication
32   equipment needs to be added to the truck; as the Company
33   hosts more customer data; disk storage needs to be
34   expanded, as customers expand their use of the website,
35   additional computing capacity is needed.
36
37   **AFM COTS Migration – 2015: $0; 2016: $0; 2017: $15,608,000**
38   The project replaces the Company's obsolete, custom
39   Facilities Management system (Project Atlas) with a
40   commercial, off-the-shelf application.   The project
41   includes replacement of the natural gas and electric
42   Construction Design Tool, Edit Tool; and the Company's
43   proprietary Outage Management Tool.   These applications
44   aid in the engineering and design of Avista's electric and
45   gas infrastructure, which costs would increase without the
46   aid of this technology.   In addition to supporting design,
47   the Outage Management allows the Company to quickly

1 isolate the likely cause of system outages, to communicate
2 proactively with customers, and to quickly and accurately
3 dispatch Avista crews for service restoration. Also
4 included in the project scope are field mobility
5 applications including a version upgrade to the Ventyx/ABB
6 mobile workforce management system and the addition of
7 mobile tools. These applications will work with the
8 Construction Design, Edit and Outage Management
9 applications to deliver work electronically to field
10 personnel and return completion results electronically to
11 the initiating systems improving the timeliness and
12 accuracy of the work results.

14 **High Voltage Protection Upgrade – 2015: $1,252,000; 2016:**
15 **$415,000; 2017: $0**
16 Telecommunication facilities, including Phone,
17 Communication Switches, SCADA, and Metering & Monitoring
18 systems, are commonly co-located inside the Company's high
19 voltage substations. This requires communications
20 technicians to work in close association with our high-
21 voltage electrical equipment. The Company has implemented
22 new high-voltage protection & isolation standards designed
23 to lower potential risks to our personnel and equipment.
24 This project will implement the clearance changes required
25 to meet the new standards.

27 **Next Generation Radio Refresh – 2015: $4,007,000; 2016:**
28 **$0; 2017: $0**
29 This project refreshes Avista's 20-year-old Land Mobile
30 Radio system. The Company maintains this private system
31 because no public provider is capable of supporting
32 communications throughout our rural service territory.
33 And, since our systems comprise a portion of our nation's
34 critical infrastructure, Avista is required to have a
35 communication system that will operate in the event of a
36 disaster. This project fulfills a mandate from the
37 Federal Communications Commission that all licensees in
38 the Industrial/Business Radio Pool migrate to spectrum
39 efficient narrowband technology.

41 **Microwave Refresh – 2015: $2,755,000; 2016: $3,050,000;**
42 **2017: $3,050,000**
43 The company manages an ongoing program to systematically-
44 replace aging and obsolete technology under "refresh
45 cycles" that are timed to optimize hardware/software
46 system changes. This project will replace aging microwave
47 communications technology with current technology to

1 provide for high speed data communications. These
2 communication systems support relay and protection schemes
3 of the electrical transmission system. Reducing Avista's
4 risk of failure of these critical communication systems
5 will have a significant beneficial impact on Avista's
6 transmission capacity and ability to serve our customers
7 electrical needs.

8

9 **IV. CUSTOMER INFORMATION AND WORK AND ASSET MANAGEMENT**

10 **SYSTEM REPLACEMENT – PROJECT COMPASS**

11 **Q. Please summarize the replacement project for**

12 **Avista's Customer Information and Work and Asset**

13 **Management systems.**

14 A. In 2010, Avista began the research and planning

15 for replacing its legacy Customer Information and Work

16 Management System. Named "Project Compass," the Project

17 replaced the Company's legacy applications with Oracle's

18 'Customer Care & Billing' solution, and IBM's 'Maximo'

19 work and asset management application. An overview of

20 Project Compass, containing a detailed project narrative

21 of the early stages of implementation, as well as

22 supporting documentation, is attached as Exhibit No. 10,

23 Schedule 1.

24 **Q. Can you provide a synopsis of the importance of**

25 **these systems and the magnitude of the replacement effort**

26 **undertaken by the Company?**

1   A.   Yes.   While it's common for a business to

2   install one major enterprise software system at a time,

3   such as a customer service, financial management, supply

4   chain, or asset management system, through Project Compass

5   Avista installed two major systems simultaneously.   This

6   was   necessary   because   our   legacy   system   contained   a

7   customer service module and a work management module that

8   were   highly   integrated   and   both   were   in   need   of

9   replacement.   The effort required not only that these two

10   systems be installed and integrated, but that together,

11   they   be   integrated   with   approximately   100   other

12   applications and systems required to perform the Company's

13   integrated business operations.   Some of these systems

14   include the Avista customer website, the Company's various

15   internal systems (such as financial applications, varied

16   databases, supply chain, crew dispatch, outage management

17   reporting), systems of outside financial institutions used

18   by the Company and our customers, and the many vendors who

19   support our delivery of electric and natural gas service,

20   such as bill printing and presentment.

21   Customer information and work and asset management

22   systems are central to enabling an organization's daily

23   operations.   For Avista, they support functions ranging

24   from customer calls, to automated service on the phone

1   system or web, storage and access of electric and natural

2   gas   asset   information,   customer   billing,   outage

3   management,   customer   work   scheduling,   ordering

4   construction   materials,   and   managing   customer   account

5   information.   Together, these two systems enable over 200

6   individual work processes requiring over 3,500 individual

7   process   steps.   They   support   the   work   of   over   700

8   individual employees, and the new work processes and tools

9   required a significant training effort.   Avista's training

10   staff delivered over 40 different instructor-led courses

11   (each delivered several times to different groups of end

12   users), in training sessions that ranged from two hours to

13   175   hours   per   course.   Avista   employees   received   over

14   30,000 hours of training for the new systems under this

15   program.   At the close of April 2015, Avista employees had

16   worked just over 299,500 hours on Project Compass; this is

17   in   addition   to   the   staff   effort   of   the   37   contract

18   companies that supported the Project.

19   **Q.   Have these new systems been placed into service?**

20   A.   Yes.   The   first   day   of   service   for   the   new

21   systems (the "Go Live") was February 2, 2015, and, as

22   explained later, the deployment of these new systems was

23   very successful.

1   Q.   Please describe the Company's legacy Customer

2   Information System?

3   A.   Avista's legacy Customer Information System

4   (System) served the Company and our customers well from

5   1994 to 2015. That longevity was unusual in the industry,

6   and was achieved by linking the system over time with

7   commercial and Avista-developed applications that added

8   functionality to the original architecture. This

9   technology strategy was the foundation of Avista's

10 customer service program for many years. While extending

11 the life of the System delivered value for customers, our

12 ability to continue to add new functionality was

13 constrained, and there was mounting business and service

14 risk associated with the many older technologies on which

15 the system depended. Technical assessments of the System

16 highlighted these risks and identified the need for its

17 replacement.

18   Q.   Please describe the systems that were replaced

19 as part of Project Compass.

20   A.   Avista's legacy Customer Information System was

21 composed of three highly-connected applications, which

22 included:

23   • Customer Service System – this application supported
24   the traditional utility business functions of meter
25   reading, customer billing, payment processing,

1   credit, collections, field requests and customer

2   service orders;

3   • <u>Work Management System</u> – this application was used to

4   create orders for service and emergency calls and for

5   construction jobs for customers and Company

6   operations; and

7   • <u>Electric & Gas Meter Application</u> – this application

8   hosted the data for the Company's in-service electric

9   and gas meters.

10

11   Together, these three applications, also referred to

12   as the Avista "Workplace", were connected over time with

13   many other applications and systems required to conduct

14   all aspects of our customer service and gas and electric

15   business operations.

16   **Q. What were the factors driving the need for**

17   **replacement of Avista's Customer Information System?**

18   A. The rapid evolution of information science

19   technologies impacts the life cycle availability of older

20   software and hardware products and services, and eroded

21   the underlying capabilities of our legacy technology. At

22   the same time, each new generation of technology gives

23   software systems more flexibility and functionality than

24   our legacy system could have easily provided. This dual

25   impact added cost, complexity and risk to the ongoing

26   operation of our legacy technology, and helped drive the

27   ever-increasing service expectations of customers for all

28   businesses they use, including their utility.

1   The Company's legacy system was supported by a

2   network of older technologies, many of which were

3   expensive to operate and/or were no longer sold,

4   maintained or supported. As a result, Avista and its

5   primary support contractor (Hewlett-Packard) employed many

6   technical 'workarounds' required to continue using the

7   legacy System. Key limitations associated with those

8   technologies are briefly described below:

9   Platform – The Company's Customer Information System

10   was dependent on a mainframe-computing platform because it

11   used databases and program applications developed for that

12   environment. While a mainframe was the only platform with

13   enough power to support the System when it was designed,

14   it is more expensive to operate today than mid-range

15   computers having ample capability. Because mainframe

16   platforms had become far less common, the available

17   expertise required to manage, maintain and update these

18   systems had become more limited. In addition to the

19   realtime execution of programs on the mainframe, required

20   by the Workplace applications, the programs and data

21   stored there had to be updated every night in what was

22   known as a 'batch' program. The batch updated base data

23   and performed other functions such as producing customer

24   bills.

1   Computer Languages - Avista's Workplace applications

2   were written in COBOLv2, a version of the programming

3   language that had not been used in applications, or sold

4   or supported for many years.

5   Another computer language key to Avista's legacy

6   system was known as Smalltalk. This language was used to

7   generate the display information on network computers used

8   by our customer service representatives. And like

9   COBOLv2, Smalltalk was also no longer commercially sold or

10   supported.

11   Supporting Applications -Avista's legacy applications

12   were generated using a case tool known as ADW (Application

13   Development Workbench), and the applications were

14   difficult to change without using the ADW tool. Avista's

15   version of ADW was no longer manufactured or supported,

16   and, in addition, it could only run on an OS/2 operating

17   system that likewise had not been sold or supported for

18   many years.

19   Technical Resources - Maintaining the Company's

20   legacy system required training and support of technical

21   staff competent in these older programming languages,

22   applications, and computer operating systems. The Avista-

23   Hewlett-Packard support staff, many of whom grew up with

24   those legacy technologies when they were mainstream, had

1   either retired, or were anticipated to do so in the next

2   few years.   Replacing knowledgeable staff had become

3   extremely difficult because there was no longer technical

4   training or schooling available for these old languages,

5   applications and systems. ·Younger technicians had to be

6   trained in-house, and in addition, it was difficult to

7   channel these employees into career tracks that had very-

8   limited and diminishing future application.

9   **Q.   Were there risks associated with the continued**

10   **operation of the Company's legacy system?**

11   A.   Yes, as described above, many of the obsolete

12   ·elements of the Customer Information System were supported

13   by very-specialized applications, which themselves were

14   obsolete and no longer supported, or by complex technology

15   workarounds.   Each of these introduced a level of risk

16   that was greater than that associated with contemporary

17   hardware, operating systems, technical support, and

18   business applications.   And because these risks increased

19   as the technology continued to age, the cumulative risk to

20   the Company grew as the longevity of the System was

21   extended.

22   **Q.   Were these risks unique to Avista's legacy**

23   **system?**

1   A.   No, this discussion illustrates the general

2   technology principle shared by many legacy systems like

3   the Company's.   Even though they may continue to perform

4   their intended functions, they are subject to greater and

5   greater risk over time, and consequently, are considered

6   to be problematic.

7   **Q.   Beyond increasing business risks, were there**

8   **other considerations for replacing the system?**

9   A.   Yes, there were several which I describe below:

10 System Modifications – The legacy architecture of the

11 Company's System made it cumbersome and expensive to

12 modify or to add new functionality.   That arose because

13 the linkages between the applications of Avista's

14 Workplace, along with the software applications that

15 connected Workplace with the many other applications and

16 systems required to support the Company's operations, were

17 'hardwired' together.   The result was that a programming

18 change made to one application often required

19 complementary changes in both the connecting software and

20 the other applications themselves.   Because the system had

21 been stretched over time so far beyond its original design

22 considerations, these layers of changes had geometrically

23 increased the complexity of the entire system.   Finally,

24 because the legacy System was used only by Avista, these

1   application development costs had to be borne entirely by

2   our customers.

3   System Replacement Costs – Continuing to add

4   complexity to the legacy System could have made its

5   eventual replacement more expensive. This was because the

6   functionality that was programmed into the legacy System

7   also had to be programmed or 'configured' in the new

8   replacement applications when they were installed.

9   Generally, as the complexity of the legacy System

10   increased, then the cost, complexity and technical

11   competence required to install the replacement system

12   increased as well.

13   Constrained Capability – In addition to the risks and

14   costs of extending its service life, the ultimate

15   flexibility of the platform had been largely exhausted.

16   Designed as a meter-based billing system, the Company had

17   cost-effectively expanded its capability by seamlessly

18   integrating technologies barely imagined when the system

19   was designed; home computers were uncommon, the internet

20   was in its infancy, there were no e-mail services, few

21   cell phones, no text or SMS messaging, and no mobile

22   computing, as supported by contemporary smart phones and

23   tablets. However, while the System had been able to

24   accommodate many significant developments over time, it

1   still lacked the fundamental capabilities required today

2   to support the new service options viewed by customers as

3   'basic service', or the many utility product offerings

4   becoming more common in our region and around the Country.

5   **Q.   Did the Company consider other options to**

6   **reinforce its legacy System, short of replacement?**

7   A.   Yes.   Periodically, Avista and its support

8   partner, EDS/Hewlett-Packard, evaluated the System's

9   capabilities as well as options for its possible

10 modernization.   In 2002, as some of the technologies

11 supporting Avista's System, such as ADW, were becoming

12 unsupported, an assessment was made of the feasibility of

13 moving the Company's system from the mainframe platform to

14 a contemporary mid-range platform and operating system.

15 The benefits of such a process, commonly known as

16 'replatforming', were forecast over time and were compared

17 with the estimated costs for completing the work. Results

18 of this work indicated that replatforming the System at

19 that time was not cost-effective, and as a result, this

20 work did not proceed.

21   The next assessment was made in 2003 and focused on

22 ways to reduce the risk associated with the ADW

23 application, at the time running on aging desktop

24 computers using the OS/2 operating system.   The project

1 report recommended Avista purchase specialized software to

2 emulate the OS/2 system on contemporary computers and

3 operating systems. This recommendation was implemented.

4   The legacy System was reviewed again in 2006 as part

5 of a larger information technology review conducted for

6 the entire Company. The report noted the Company's

7 Customer Information System as a 'high risk' application

8 that was a candidate for either replacement or

9 "refactoring." The latter refers to a process of changing

10 the internal structure of the existing application code to

11 reduce its complexity and improve its readability. While

12 this process helps reduce the risk associated with legacy

13 software, it does not markedly change its basic properties

14 or performance. Refactoring of the Customer Service System

15 was not evaluated further at that time.

16   Most recently, in 2010, the Company again considered

17 reinvesting in its legacy System as a means to delay its

18 ultimate replacement. As a prelude to requesting vendor

19 proposals to support such an effort, the Company sent a

20 Request for Information to several major information

21 technology vendors to describe the legacy System, and to

22 gauge their interest in participating in next steps. As

23 Avista continued to weigh the possibility of this approach

24 being feasible, as a way to delay the replacement of its

1 System, it ultimately determined that commencing with the

2 research and planning for the replacement project was a

3 prudent course of action.

4 **Q.   Why did Avista consider the timing of the**

5 **replacement project to be appropriate?**

6 A.   The decision on timing was influenced by many

7 factors, including, among other considerations: the window

8 of availability of employee and contract technical

9 resources; the timing of the expiration of the long-term

10 services contract with Hewlett - Packard for System

11 support; the continued accumulation of business and

12 service risks associated with operating the legacy System;

13 the increasing complexity and replacement costs associated

14 with its continued operation, and the very-limited

15 capability of the legacy System to deliver additional

16 customer service options, both present, and into the

17 future.

18 **Q.   Was the Company's replacement project unique**

19 **among peer utilities?**

20 A.   No.   Nationwide, many utilities had undertaken

21 the same effort in replacing their Customer Information

22 Systems, and many were replacing systems installed around

23 the year 2000, a technology 'generation' newer than

24 Avista's.   Several utilities in the Northwest were among

1   those engaged in some phase of a major replacement

2   project.

3   **Q.   Did the Company assess the experience of others**

4   **to help avoid some of the pitfalls associated with**

5   **replacing these large information technology Systems?**

6   A.   Yes.   The Company took advantage of shared

7   industry knowledge, reviewed case studies, and conducted

8   its own in-depth interviews with several peer utilities to

9   gather a base of 'lessons learned.'   This pre-project

10 research helped Avista identify and incorporate key

11 measures into the design and management of its replacement

12 project, to both circumvent and help mitigate these

13 challenges.

14   **Q.   What initial steps did the Company take in**

15 **researching and evaluating potential replacement software**

16 **solutions?**

17   A.   An early step involved retaining a firm with

18 proven expertise in this discipline to assist the Company

19 with the complex process of developing a detailed list of

20 business requirements and then evaluating and selecting

21 the right combination of products and vendors to best meet

22 them.   A detailed request for proposals was developed from

23 this initial work and sent to leading application and

1   services vendors in September 2010. Avista selected Five

2   Point Partners[2] from those firms submitting proposals.

3   **Q.   What additional activities were required to**

4   **support this evaluation?**

5   A.   Avista and Five Point spent two months working

6   with employee teams to develop a detailed inventory of the

7   range and complexity of the Company's business processes.

8   This inventory was used to develop the "Current State Map"

9   that included every work process in the business, and

10   every technology requirement needed to support it. These

11   results were included in the technical specifications that

12   accompanied the Request for Proposals sent to vendors.

13   The current-state map included over 200 work processes and

14   approximately 3,500 individual process steps or system

15   requirements.

16   **Q.   Please list the vendors who responded to the**

17   **Request for Proposals**

18   .   A.   Avista received responses from vendors on

19   October 28, 2011, and immediately began the review and

20   evaluation process. Below is a list of the vendors who

21   responded and the solutions and roles they proposed for

---

[2] Five Point Partners is a consulting organization serving the utility,
mining, revenue management, and transportation industries, offering a
full life cycle of highly-focused enterprise consulting services from
IT assessment and analysis, to implementation and post go-live support
services.

1   delivering   a   solution   set   to   Avista.   A   detailed

2   description   of   the   proposal   solicitation   and   review

3   process, as well as the final evaluation and selection of

4   vendors   is   provided   in   Exhibit   No.   10,   Schedule   1,

5   beginning on page 27.

Vendor	Product or Service Offering	Customer Information System Application	Enterprise Asset Management Application	Mobile Work Management Application	Other Vendors
IBM	Systems Integration	**SAP** Customer Relationship & Billing (CR&B)	**SAP** Enterprise Asset Management (EAM)	**ClickSoft** Mobile Work Management (MWM)	---
IBM	Systems Integration & Software Applications	**SAP** CR&B	**IBM** Maximo Asset Management	---	---
EP2M	Systems Integration	**Oracle** Customer Care & Billing (CC&B)	**Oracle** Asset Management	**Oracle** MWM	---
Wipro	Systems Integration	**Oracle** CC&B	**IBM** Maximo	**Ventyx** Service Suite	---
HCL AXON	Systems Integration	**SAP** CR&B	**SAP** EAM	**ClickSoft** MWM	Technology Associates
HCL AXON	Systems Integration	**SAP** CR&B	**Meridium** Asset Management	**ClickSoft** MWM	Technology Associates
HCL AXON	Systems Integration	**SAP** CR&B	**IBM** Maximo	**ClickSoft** MWM	Technology Associates
Sparta	Integration Services	**SAP** CR&B	**SAP** EAM	**Ventyx** Service Suite	Vesta Partners
Logica	Software Application	---	**Logica** Asset Management	---	---
Meridium	Software Application	---	**Meridium** Asset Management	---	Partners with Wipro
HPES	Systems Integration	---	----	---	General Services Only

21   **Q.   How were the proposals evaluated?**

22   A.   In its initial review, Avista's Project Compass

23   team   evaluated   and   scored   each   proposal   according   to

1   detailed criteria, grouped under four global Project

2   criteria:

3   **Functionality** – Assessment of the proposals as meeting

4   Avista's Minimum Requirements, Functional Capabilities,

5   Project Drivers, Customer Service Fit, Enterprise Asset

6   Management Fit, Mobile Work Management Fit, and

7   Technical Fit.

8

9   **Technology** – Evaluation of the technical hardware and

10   software needs and costs, and technology implications of

11   the proposals, with respect to Avista's core information

12   technology strategies.

13

14   **Implementation Partner** – Assessment of the vendor's

15   implementation strategy, installation approach,

16   capabilities, timeliness, staffing, and compatibilities

17   with Avista's project plans.

18

19   **Cost** – Evaluation of the vendor's proposed cost as an

20   element of the initial screening.

21

22   **Q.   What replacement applications did Avista select?**

23   A.   Avista continued its detailed evaluation of

24   proposals, interviewed prospective vendors, and evaluated

25   various possible combinations of application solutions and

26   vendors, in the process of making its final selections.

27   Oracle's Customer Care & Billing application was chosen to

28   replace Avista's legacy Customer Service module, and IBM's

29   Maximo asset and work management application was selected

1   to replace the Company's Work Management System and its

2   Electric and Gas Meter Application. In addition to the

3   applications, Avista retained the services of EP2M and IBM

4   to support the installation and integration of the new

5   Systems. Having completed the selection/procurement phase,

6   Avista commenced with the activities of implementing the

7   new Systems.

8   **Q. What were the early activities of the**

9   **Implementation Phase?**

10   A. They focused on installing and configuring the

11   new Oracle and IBM applications, and the custom

12   programming required to support application extensions and

13   integrations. Before this work could begin, however,

14   Avista had to complete an eight-month effort known as

15   "design," in which the business processes inventoried in

16   the Current State Map were mapped into the new Systems.

17   This was performed by cross-functional teams of employees

18   who were also responsible for identifying the

19   applications, data and integrations with all other systems

20   that were required to perform each step of every business

21   process. This work produced a detailed list of technical

22   system requirements for each process step. The technical

23   capabilities of the Customer Care & Billing application

24   and the Maximo application were then evaluated against

1   these detailed lists of technical requirements. In the

2   majority of cases, the applications were able support the

3   requirements of a process step within their off-the-shelf

4   capabilities. For these processes, the Company was able to

5   move directly to the work of application configuration.

6   **Q.   Please describe the work of configuring the**

7   **applications.**

8   A.   Configuring the application initially involves

9   selecting parameters, embedding algorithms, or entering

10   data to enable the logic of the application to perform the

11   functions in sequence required by the Company's various

12   work processes.   The applications are designed with a

13   series of input tables that organize the process of

14   setting configuration parameters.   Each input table, which

15   could represent one particular type of customer service

16   agreement, for example, may have up to 100 individual,

17   flexible, and configurable fields.   Configuring each field

18   requires entering from one to several individual values,

19   instructions, or algorithms to establish the future of the

20   new base System.   Each field in each table is often cross-

21   linked with content in dependent fields in complementary

22   tables, creating a complex of dependencies between many

23   multiples of tables and fields.   This initial work

24   requires the person entering the configuration settings on

1   a particular table to work iteratively and sequentially in

2   configuring the dependent fields in the other tables in

3   one integrated work flow. As one example of the workload

4   involved, it required one technician working full-time

5   over six months to configure the existing rate tariff

6   settings into the new System for each of the 142 different

7   Avista service agreements across our jurisdictions.

8   Considering the Customer Care & Billing application has

9   1,686 configuration tables, containing 12,158 configurable

10 fields, the magnitude and complexity of this task is

11 quickly evident.

12   **Q.   What was the value of using off-the-shelf**

13 **applications when they required so much specialized**

14 **configuration?**

15   A.   Today's commercial off-the-shelf computer

16 applications offer many advantages to the alternative of

17 developing proprietary, customized software. First, even

18 though configuration is labor intensive, it is only a

19 fraction of the labor that was expended by the vendor to

20 develop the programming code of the base application

21 itself. The next significant advantage, is that the cost

22 of developing the base application is shared among all of

23 the vendor's user client companies, like Avista. These

24 applications are also compatible with the "enterprise

1 service bus" architecture of today's information

2 technology systems, and are designed to be integrated with

3 other enterprise applications and systems (e.g. customer

4 service, financial, and supply-chain applications).

5 Client users are also part of a "users community" where

6 they can share their experience with the application,

7 identify problem areas and glitches, and suggest system

8 modifications and enhancements. Finally, the vendor

9 provides periodic technical updates of the applications

10 for its client users, driven in part by the input shared

11 in the user forums, and at a very reasonable shared cost.

12 While these periodic system updates provide high value at

13 low cost, the value can be substantially diluted by the

14 additional complexity and work required to support

15 customized programming for system extensions.

16   Q. What is meant by "Customization" and

17 "Extensions"?

18   A. As described above, while there is considerable

19 flexibility within the application's off-the-shelf

20 capabilities to accommodate a range of business processes,

21 many were complex enough that they required programming of

22 software code outside the application itself. This

23 programming is referred to as "customization," and the

24 work-process capability enabled by this custom code is

1   referred to as an "enhancement" or "extension." All of the

2   customized programming required to support Avista's use of

3   the vendor applications was referred to as application

4   "development." The process of development is complex and

5   labor intensive, and began with a description of the

6   process steps that a particular extension would perform

7   (its system requirements). Each set of requirements

8   proceeded to the contractors' offshore development staff

9   where it was translated into a technical specification

10   used to guide the development of the actual programming

11   code for the extension. Once the development staff has

12   written the code, the contractor performed what is known

13   as unit testing. The code, along with defects identified

14   in unit testing, were returned to the development staff

15   for analysis and repair. When those defects were

16   repaired, the code was again subjected to unit testing and

17   the next tranche of defects was identified and returned

18   for repair. Because the initial base program code was

19   extremely complex, this iterative process was very labor

20   intensive and time consuming.

21   **Q. Did Avista anticipate that extensions would be**

22   **necessary at the time it decided to purchase the Customer**

23   **Care and Maximo applications?**

1   A.   Yes.   Even though the Company went through an

2   exhaustive process, as described above, to ensure the

3   selected applications had the capabilities necessary to

4   support Avista's business needs, the Company was fully

5   aware that any application it selected would require the

6   development of extensions.

7   **Q.   Did Avista make an effort to manage the number**

8   **of extensions required?**

9   A.   Yes.   The Company was committed to capturing the

10   value   delivered   by   implementing   off-the-shelf

11   applications, and accordingly, our goal was to optimize

12   the number of extensions required.   To accomplish this,

13   the Company evaluated each circumstance where the need for

14   an extension was identified, and determined if it could be

15   avoided by changing Avista's work process.   In some

16   instances, it was either impossible or not cost effective

17   to change the work process.   But in others, the need for

18   an enhancement was eliminated by redesigning the work

19   process so the steps could be accomplished within the

20   capabilities of the application.   The effort required to

21   change work processes was significant, however, because

22   each   process   often   impacted   the   workflow   of   many

23   departments across the Company.   For each process that was

24   changed,   Avista   organized   individual   employee   teams,

1   representing   the   multiple   departments   affected,   to

2   redesign the structure to be effective for customers and

3   the Company, and compatible with the applications.

4   **Q.   What were some of the other key Implementation**

5   **activities?**

6   A.   In addition to configuring the applications, and

7   developing the coding required for the extensions, the

8   Project team engaged in the work of integrating the

9   applications, and began performing conversions of all

10   necessary data.

11   **Q.   What is involved in the work of applications**

12   **integration?**

13   A.   Integration requires the development of custom

14   programming code that functionally connects the Maximo and

15   Customer Care & Billing applications with each other, and

16   with the approximately 100 systems that support the

17   Company's customer service and business operations.   An

18   'integration' refers to the connection between separate

19   computer applications that allows them to work in concert

20   to   perform   allied   functions.   Integrations   involve

21   exchanges of data, transmission of instructions or changes

22   in   state,   performance   of   computations   and   other

23   algorithms, and myriad other shared functions. In addition

24   to integration connections between applications, this work

1   also encompassed the development of the Company's

2   "enterprise service bus." The latter is essentially an

3   integration network shared by the integrated applications.

4   Some of the systems integrated with the Maximo and

5   Customer Care & Billing applications, include the Avista

6   customer website, the Company's various internal systems

7   such as financial applications and databases, supply

8   chain, crew dispatch and outage management reporting,

9   systems from a range of financial institutions used by the

10   Company and our customers, and the many vendors who

11   support our delivery of natural gas and electric service,

12   such as bill printing and presentment.

13   **Q. What was involved in the data conversion**

14   **process?**

15   A. All of the Company's existing data, whether

16   customer account information, energy use history, electric

17   and natural gas facilities data of all types, mapping

18   system information, and regulatory and compliance

19   information, etc., had to be transferred from existing

20   computer hardware and data bases, such as the Company's

21   mainframe systems, to new data formats, databases, and

22   computer platforms that are connected with the new

23   applications. First, the data in Avista's existing

24   databases was mapped according to where it would

1   eventually reside in the new database systems. The data

2   were then extracted and loaded into the new systems, and

3   the integrity of the loaded data was validated for

4   accuracy. Defects in data conversion were identified in

5   the process, defects were repaired, and the data

6   load/validation exercise was repeated.

7   **Q.   Please describe the work of testing the new**

8   **application Systems.**

9   A.   There are three major areas of System testing

10   that all played a critical role in the successful

11   implementation of the new applications. These are known

12   as "System Testing," "Systems Integration Testing," and

13   "User Acceptance Testing."

14   When the work of configuration was complete, Avista

15   and its contractors commenced with <u>System Testing</u>. The

16   purpose was to ensure the applications performed properly

17   *as they had been configured* to support Avista's business

18   processes. Testing focused on identifying and repairing

19   the technical defects that arose during configuration of

20   such a large and complex System. The process simulated

21   individual business functions, each known as a "test

22   case," and tracked the defects reported during the

23   exercise. System Testing for the Customer Care & Billing

24   application required Company employees and contractors to

1   write and test over 4,300 individual test-case scenarios.

2   A similar set of approximately 3,800 test cases unique to

3   the Maximo application also had to be developed and

4   tested.   In the testing process, defects were identified

5   and analyzed, the root cause was isolated and repaired,

6   and the test case was run again until it was defect free.

7   Systems Integration Testing occurred next in the

8   sequence and was similar to the process used in System

9   Testing. But instead of focusing on configurations, it

10   tested the custom integration code to ensure the new

11   applications performed properly with all of the other

12   integrated systems. The number of System Integration test

13   cases developed for the Customer Care & Billing

14   application was over 2,400.   These test cases were

15   completely different from those developed for the System

16   Testing.   Approximately 800 unique test cases were

17   developed for testing the system integrations with the

18   Maximo application.   The process of identifying and

19   remediating defects and conducting re-testing was similar

20   to the process used for System Testing.

21   In the final testing phase, User Acceptance Testing,

22   Avista employees who would be using the new System to

23   serve our customers, performed mock business transactions

24   on the completed System as it would function when

1 implemented.   User Acceptance Testing had the twin

2 objectives of scrubbing the Systems further to identify

3 and repair any critical defects, and to identify and

4 implement changes to the Systems that would make them more

5 user friendly and function more smoothly and efficiently.

6 Over 11,000 individual test cases were developed and

7 executed during the course of testing for the Project.

8   **Q.   Very briefly, what was the purpose of creating**

9 **the reporting templates?**

10   A.   A diverse set of management reports is produced

11 by departments across the Company, on a daily, weekly,

12 monthly, quarterly, and annual basis, to meet a broad

13 range   of   financial,   regulatory,   and   managerial

14 requirements.   A specific application is required to

15 produce each of these reports. Because Project Compass was

16 changing the organization and storage of the Company's

17 data, its customer, asset and work management applications

18 and systems, and the ways these systems were integrated,

19 all of the applications that produced these management

20 reports had to be re-developed.   There were 155 separate

21 reports that had to be produced relying principally on

22 information from the Customer Care & Billing application,

23 and 60 reports that had to be produced using data

24 primarily from Maximo.   The program coding required to

1 produce each individual report, along with the

2 verification of the data conversion, had to be tested and

3 repaired in the same iterative manner described for the

4 other configuration and enhancement testing procedures.

5 **Q.** **Please describe the training programs associated**

6 **with Implementation.**

7 A. Like testing of the new Systems, timely and

8 comprehensive employee training for the new applications

9 and new work processes was critical to successful

10 implementation. Avista and its contractor designed the

11 content of the training modules, and training sessions

12 commenced in the second quarter of 2014.

13 **Q.** **What was Avista's initial capital budget for the**

14 **overall replacement project?**

15 A. A budget of $80 million was approved on December

16 6, 2012 for the capital replacement costs associated with

17 Project Compass. That initial budget allocation among key

18 Project activities is provided in Exhibit No. 10,

19 Schedule 1, Attachment 15.

20 **Q.** **Why didn't the Company authorize an initial**

21 **project budget at the time it decided to replace its**

22 **legacy System?**

23 A. Although Avista discussed potential costs of the

24 project early in its inception, and approved preliminary

1   budgets through the course of Project development, it did

2   not establish a formal capital budget until the Project

3   was more defined.   Avista had learned through its peer

4   utility interviews, and from the support and advice of

5   outside experts, that organizations commonly undermined

6   the success of their software projects by making cost

7   commitments too early in the development stages.   This

8   mistake undermines predictability, increases risk and

9   project inefficiencies, and generally impairs the ability

10   to manage a project to a successful conclusion.

11   **Q.   Is this typical of enterprise software projects?**

12   A.   Yes.   Typically, early in the scoping of a

13   software project, particular details of the application

14   being designed/installed, detailed knowledge of the

15   Company's specific business requirements, details of the

16   solution sets, as well as the management plan, identified

17   staffing needs, and many other variables are simply

18   unclear.   Accordingly, estimates of the potential cost of

19   the project are highly variable. As these sources of

20   variability are further investigated and resolved, the

21   uncertainty in the project decreases; likewise, so does

22   the variability in estimates of the project cost.   This

23   phenomenon, widely discussed in the literature and often

1   associated with author Steve McConnell[3], is known as the

2   "Cone of Uncertainty", presented in Illustration No. 1,[4]

3   below.

4   **Illustration No. 1**
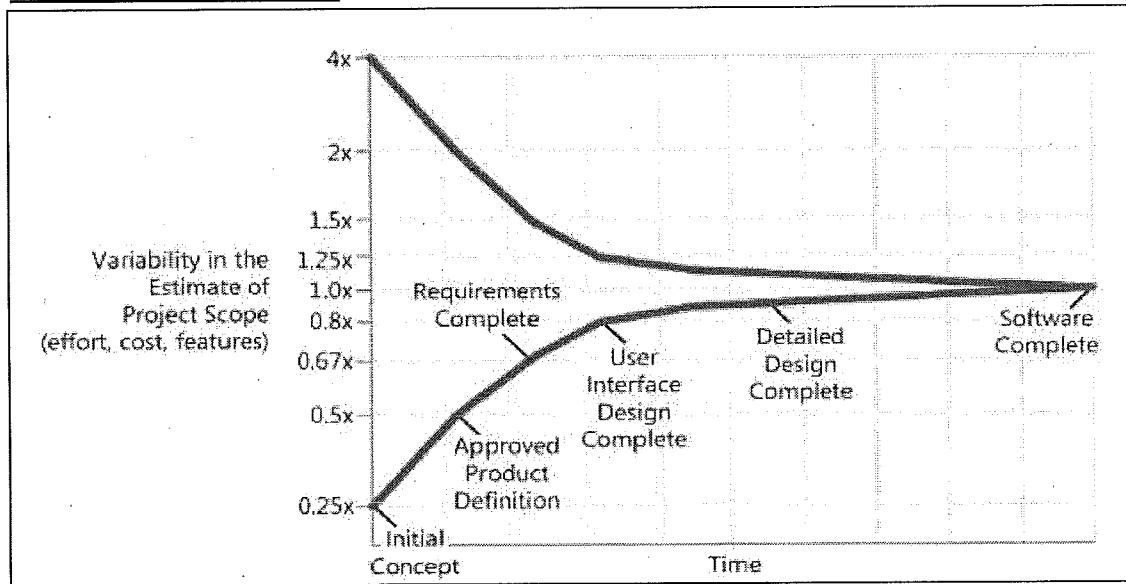
13   As illustrated above, significant narrowing of the

14   uncertainty generally occurs during the first 20-30% of

15   the total calendar time for the project. The uncertainty

16   will only decrease, however, through deliberate and active

17   project research and design, required to further define

18   the scope, requirements, implementation details and

19   estimates of component costs. And, this uncertainty must

20   continue to be constrained throughout the course of the

21   project by the use of effective project controls.

---

[3] Software Estimation: Demystifying the Black Art. Steve McConnell, Microsoft Press, 2006
[4] id. Figure 4.2, 96.1/751.

1   **Q. In light of this cost uncertainty, how could**

2 **Avista determine that replacing its legacy system was**

3 **'cost effective' for customers well before the formal**

4 **project scope and budget were developed and the actual**

5 **final costs could be known?**

6   A.   The decision point for the Company in 2010 was

7 whether to significantly reinvest in its legacy technology

8 as the means to defer its ultimate replacement, or

9 instead, to invest in the planning and exploration of

10 options needed to support its replacement. The Company

11 determined, as explained in detail in Exhibit No. 10,

12 Schedule 1, that the timing was appropriate to replace its

13 legacy Customer Information System. The Company's focus

14 then was to assess its needs, evaluate options, and select

15 a set of solutions that would meet the long-term needs of

16 the Company and its customers at the lowest possible cost.

17 At that point, the Company engaged in the progressive

18 stages of project design needed to prudently define the

19 likely scope and potential cost of the replacement

20 project. Through this work, uncertainty around the project

21 was narrowed and potential costs were further refined, to

22 the point that Avista was confident purchasing the

23 selected applications and proceeding with the work of

24 implementation. Even though this was several months before

1   the budget was approved, Avista had by that time built the

2   foundation needed to initiate a successful project: the

3   ability to deliver a solution that would meet its long-

4   term customer service and business requirements in an

5   optimized approach, and in a manner that would achieve the

6   least cost for its customers.

7   While Avista believed its initial estimates of scope,

8   timeline and budget for the project were reasonable, and

9   was committed to control the Project to best meet each

10   estimate, it was also cognizant that the success of the

11   project would not be defined by whether or not each

12   estimate, including the budget, was precisely met.   In

13   contrast with a 'not-to-exceed' metric, the software

14   budget is a management tool that allows senior leaders to

15   make   informed   enterprise-level   decisions,   and   that

16   provides an effective tool for the project manager to

17   control project activities in an effort to meet the

18   estimates   of   each   deliverable   (timeline,   scope,

19   functionality, and cost).   In describing the relationship

20   between software project estimates and final results,

21   McConnell states:

22   "The primary purpose of software estimation is
23   not to predict a project's outcome; it is to
24   determine whether a project's targets are
25   realistic enough to allow the project to be

1   controlled to meet them."[5] "Typical project
2   control activities include removing noncritical
3   requirements, redefining requirements, replacing
4   less-experienced staff with more-experienced
5   staff, and so on."[6] "In practice, if we deliver
6   a project with about the level of functionality
7   intended, using about the level of resources
8   planned, in about the time frame targeted, then
9   we typically say that the project "met its
10   estimates," despite all the analytical impurities
11   implicit in that statement. Thus, the criteria
12   for a "good" estimate cannot be based on its
13   predictive capability, which is impossible to
14   assess, but on the estimate's ability to support
15   project success…[7]

16   Avista believes it designed and developed such an

17 implementation plan and budget for Project Compass. By

18 this, we mean that the overall Project record would

19 demonstrate its proper research and design, robust

20 planning and estimating, effective management and

21 controls, and that its delivered scope, timeline and cost,

22 would be reasonable, cost effective and prudent.

23   **Q. When did Avista initially expect to place these**

24 **new Systems into service?**

25   A. A portion of the Maximo asset management

26 application was placed into service in the fall of 2013,

27 and Avista initially targeted September 2014 (which was

28 later revised to July 2014) for the "Go Live" of the

---

[5] id. At 42/751.
[6] id. At 39/751.
[7] id. At 41/751.

1   remainder of the Maximo application and the Oracle

2   Customer Care & Billing System.

3   **Q.   Did Avista believe that it might ultimately have**

4   **to push out the Go Live to a later date?**

5   A.   Yes, it did.   While the Go Live target date was

6   an important project planning and management tool, its

7   successful accomplishment was dependent on every major

8   project activity reaching a critical and timely state of

9   completion.   As described above, the major implementation

10   activities, which are highly-interdependent and were being

11   executed in parallel tracks, were in and of themselves

12   large and complex undertakings.   In setting the Go Live

13   target date, Avista was cognizant of the compounding

14   nature of the challenges associated with launching such a

15   large and complex system, and of the consequences of

16   proceeding to Go Live before all systems were ready.

17   Accordingly, in the event Avista were to determine there

18   was a critical lag in any of the primary implementation

19   activities, including employee training, data conversion,

20   management reporting, System Testing, Integration Testing,

21   User-Acceptance Testing, application hosting, post-Go Live

22   technical support, or customer communications, it would

23   move out the Go Live to ensure a successful launch of the

24   System.

1   Q.   Would it be uncommon for one of the key

2 activities to be delayed?

3   A.   Not at all.   In any complex technology

4 initiative such as Avista's Project Compass, issues were

5 constantly emerging that impacted the estimated completion

6 dates of the many project activities. When this happened,

7 the Compass team had to take deliberate steps to make up

8 time or reduce costs to keep the overall Project on its

9 intended course, scope, estimated timeline, and estimated

10 budget.

11   Q.   Would Avista have considered a decision to push

12 out the Go Live date, or to approve spending beyond the

13 estimated project budget to be a failure in the delivery

14 of the new System?

15   A.   No. The basis for this conclusion lies in the

16 Company's efforts to research and understand the root

17 causes of the failed projects of other utilities, in its

18 systematic application of those learnings to the design of

19 the Project, and the efforts it made to aggressively

20 control the project toward its target scope, timeline and

21 budget. In short, as stated earlier in this testimony,

22 Avista was confident it has selected the best-optimized

23 solution for the Company and its customers, and that it

24 would be delivered at the least cost, irrespective of

1   whether the project planning targets for the timeline and

2   budget were explicitly met.

3   Q.   Did Avista ultimately extend the Go Live Date

4   during Project implementation?

5   A.   Yes.   As mentioned, the Company initially

6   targeted September of 2014 for the Go Live of the

7   remainder of the Maximo application and the Customer Care

8   & Billing system.   In June of 2014, the decision was made

9   to extend the Go Live operation for the Project to the

10   first quarter of 2015.

11   Q.   Did the Company also revise the project budget

12   in conjunction with the re-forecasted timeline?

13   A.   Yes it did.   In June of 2014, the Company

14   revised the capital cost for the Project to $100 million.

15   In November 2014, the Project budget was revised to

16   approximately $107 million.   The Company's Board of

17   Directors supported that budget amount and authorized a

18   spending limit of $110 million.

19   Q.   Has Avista described the factors responsible for

20   adjustments to the Go Live date and project budget?

21   A.   Yes.   The discussion is contained in a June 2014

22   report attached to this testimony as Exhibit No. 10,

23   Schedule 3.   As explained in the report, the process of

24   coding extensions for the applications was more complex

1   than initially expected. Because of this complexity and

2   the volume of code that had to be tested, the process of

3   remediating defects in the code also required more time

4   than was estimated in the initial project plan.

5   **Q.   As the Project approached the February 2015 Go**

6   **Live date, what preparations did the Company make to**

7   **ensure a successful launch of the new systems?**

8   A.   The process of taking new application systems

9   live involves the execution of hundreds of highly-

10   coordinated tasks that must be accomplished within a very

11   short window of time, typically two to three days. In the

12   first steps, the legacy systems are locked from use and

13   the new applications are initialized in what's referred to

14   as the "production" or operating environment. The new

15   applications and their many integrations are then

16   subjected to a final round of comprehensive system tests.

17   Then, the process of extracting, transforming, and moving

18   data from the legacy databases and systems to the new

19   application systems begins, along with the process of

20   validating the data. During this process, referred to as

21   the "Cutover," neither the Company's legacy systems nor

22   the new applications are available to support its normal

23   business operations. As a result, and as customers

24   continue to conduct business with Avista during this

1   period, several thousand transactions have to be logged

2   manually for later entry into the new systems. Finally,

3   the new systems are enabled and available for service in

4   the Go Live step, while the Company's legacy systems are

5   disabled from service.

6   **Q. Please provide an overview of the communication**

7   **program Avista developed to familiarize its customers with**

8   **the new systems?**

9   A. The process began with the identification of

10   changes associated with the new systems (such as the

11   assignment of a new account number) that had the potential

12   to impact customers. An employee team was chartered to

13   accomplish this assessment and it identified 61 points of

14   change, grouped under 13 different categories. The team

15   also developed initial recommendations for each change

16   area that included the need for and timing of customer

17   communications, as well as communication channels. An

18   initial customer communication plan was developed and

19   included key project messages and strategies and timelines

20   for communicating with customers. The Company then

21   organized a customer focus group for participants to

22   review and provide input on the draft communication plan

23   and customer materials. The plan was refined using this

24   feedback and was executed through diverse communication

1   channels   that   included   residential   and

2   commercial/industrial customer newsletters, a bill insert,

3   a direct mailing to all customers with special envelope

4   messaging, a billing envelope for two months with special

5   messaging,   on-bill   messages,   social   media   including

6   Twitter   and   Facebook,   and   additional   communications   to

7   targeted customer segments via email and direct mail.   A

8   key   communications   channel   is   Avista's   website

9   (avistautilities.com),   which   provides   flexibility   in

10   disseminating   information   to   customers   in   a   dynamic

11   environment prior to, during, and following the Cutover

12   and Go Live.   The website messaging included a home page

13   banner   and   targeted   landing   page   with   special   content,

14   including a video for customers on how to read their new

15   bill.   Other customer communication channels included the

16   automated   phone   system   with   on-hold   messaging.   An

17   overview   of   the   communication   plan   is   provided   as

18   Exhibit No.   10,   Schedule   3,   and   a   timeline   showing   the

19   individual   communication   activities   is   provided   as

20   Exhibit No. 10, Schedule 4.   An example of the direct-mail

21   communication is provided as Exhibit No. 10, Schedule 5.

1   Q.   **Please give a high-level overview of the**

2 **activities associated with Post-Go Live support.**

3   A.   Post-Go Live Support is composed of two

4 principal activities that begin immediately following the

5 Go Live to help ensure the successful implementation of

6 the new systems. **Project stabilization** refers to the work

7 of making needed changes to the application

8 Configurations, Extension code, and Integration code, and

9 then updating the operating applications through new

10 releases to production. **Project support** is focused on

11 providing technical assistance to new users of the new

12 applications, and on processing any application or work

13 process issues that are identified during the course of

14 operations.

15   Q.   **Briefly describe the work of project**

16 **stabilization?**

17   A.   During the course of testing the new

18 applications and working through the process of Code

19 Defect Management, the emphasis is focused on repairing

20 defects that are known as "critical" or "blocking." These

21 defects have priority because the applications and

22 integrations cannot perform properly until the defects are

23 removed. While most of the minor defects (those that do

24 not impair the application's core business performance),

1   are also repaired during the testing phase, it is common

2   for some to be held for releases to production that occur

3   after the Go Live.

4   In addition to these, there are inevitably some new

5   defects that emerge during the early operation of the

6   systems that were not identified during the application

7   testing phase. Plus, the live operation of the new

8   applications identifies some work process improvements

9   that   require   modification   of   the   application

10 configurations   or   code.   Through   this   process,   the

11 efficiency   and   performance   of   the   new   applications   is

12 improved, and important technical knowledge is transferred

13 from the application developers to those who will have

14 responsibility   for   the   long-term   maintenance   of   the

15 systems.

16   **Q.   What are the tasks associated with the work of**

17 **project support?**

18   A.   Several   integrated   technical   teams   were

19 organized to support new users of the new applications.

20 The support process begins when a user has a question or

21 reports a problem to a group composed of subject matter

22 experts/mentors who can address a range of technical and

23 work process-related questions.   This group can in turn

24 rely   on   two   technical   support   teams   representing   the

1 Maximo and Customer Care & Billing applications. These

2 support teams answer technical questions as well as

3 identify the source of a reported problem (e.g. a defect

4 in the application, the need for a work process change, or

5 a training issue). These issues are reported to either

6 the project stabilization group, or the team responsible

7 for managing the Post-Go Live applications, where they are

8 ultimately resolved.

9   **Q.   Did the Company anticipate the possibility of a**

10 **diminution in some service levels associated with the**

11 **transition?**

12   A.   Yes.   Even with its comprehensive preparations,

13 Avista understood from the experience of others that such

14 a transition is, at best, associated with at least a

15 short-term decline in some service levels (e.g. call

16 center grade of service).   Even with sufficient

17 preparation, the transition involves employees moving from

18 very familiar practices to new work processes, using new

19 software tools, and employing temporary manual work

20 processes.   In addition to changes for employees,

21 customers were required to make changes to their accounts,

22 to become familiar with a new bill format, and experience

23 some process changes from those with which they were

24 familiar.   This combination can result in more customer

1   calls and longer call-handle times as everyone becomes

2   more familiar and efficient with the new tools and

3   processes.

4   Q.   Did the Company prepare for these effects?

5   A.   Yes.   Avista estimated potential customer call

6   volumes and changes in employee productivity, to

7   anticipate and provide for likely staffing needs.   In

8   addition to staffing changes, the Company developed

9   metrics to track its performance following the Go Live, as

10   well as employing new tools (such as virtual hold[8]) to help

11   ease and streamline transactions for customers during the

12   transition.

13   Q.   How would you characterize the overall success

14   of the Cutover activities?

15   A.   In short, this process was very successful.   The

16   comprehensive plan developed to coordinate the Cutover

17   activities was very complete and was extremely useful in

18   managing the time and resources needed to complete each of

19   the hundreds of required tasks on a very tight timeline.

20   The learnings from the three previous full dress

21   rehearsals were also invaluable in completing and refining

[8] Virtual hold is the option an on-hold customer can select to retain
their position in the call queue and receive a call back from the next
available customer service representative.

1 the plan.   Over 300 employees were engaged in support of

2 the Cutover activities.

3   **Q.   Were you pleased with the first day of operation**

4 **of the new systems following the Go Live operation?**

5   A.   Yes, very much so.   The new systems and work

6 processes, along with Avista's employees, performed very

7 well on the first day of service to our customers.   I

8 believe   the   Company's   comprehensive   and   prudent

9 preparations   for   a   successful   transition   to   the   new

10 systems   were   reflected   in   the   very   successful   Go   Live

11 operation.

12   **Q.   What   were   some   of   the   indicators   of   the**

13 **successful launch of the new systems?**

14   A.   At   the   enterprise   level,   the   new   systems

15 performed well, not only in directly enabling the required

16 work   processes   (such   as   accurately   printing   customers'

17 bills), but also in their smooth integration and operation

18 with over 100 other allied applications and systems.   The

19 "system performance," the measure of the capacity of the

20 computer   hardware   and   network   systems   to   support   the   new

21 applications "under load," was also very positive.   In

22 addition to these measures, there were no blocking defects

23 identified, and there were fewer overall defects than had

24 been anticipated; many of those were resolved before the

1   second day of operation.   Finally, there were far fewer

2   employee calls to the technical support teams than had

3   been expected – an indicator that the employee training

4   program had been highly effective.

5   From the customer's perspective, Company employees

6   were well-equipped to answer questions, resolve issues and

7   concerns, and perform the desired transactions.   As

8   anticipated, the high volume of calls to our contact

9   centers, combined with the additional time spent on each

10   call (associated with the new web format, revised

11   transactions, new account numbers, and new tools and new

12   work processes), resulted in a lower than normal grade of

13   service, longer hold time, and longer average handling

14   time.   Even with these expected reductions in service,

15   however, Avista was pleased with its overall performance

16   on the first day of operation, in particular because our

17   actual results were better than the forecast, even though

18   the volume of calls was heavier than had been expected.

19   Results from the second day of operation were

20   exceptionally positive.   The Company's grade of service

21   exceeded our standard (pre-Go Live) benchmark of 80%, and

22   average handling time, which also improved from the first

23   day, was better than had been forecasted.   Performance

24   during the remainder of the first month of operation was

1   essentially on par with the Company's pre-Go Live business

2   operations, a truly outstanding implementation

3   performance. A high-level summary of the launch of the new

4   systems, including customer service metrics for the first

5   five weeks of operation, is provided in Exhibit No. 10,

6   Schedule 6.

7   **Q. When do you expect the capital investment**

8   **required to implement the new systems to be complete?**

9   A. The last major implementation release of the new

10 applications was completed on May 17, 2015. The close out

11 of the capital investment for the Project is expected to

12 be complete in the third quarter of 2015, following

13 receipt of final invoices associated with the project.

14   **Q. What is the expected final cost for the Project?**

15   A. The Company expects the total capital investment

16 for the Project to be approximately $107 million.

17   **Q. Are there any Project development costs that**

18 **will continue after the new Systems are in service?**

19   A. Yes. As described in the foregoing testimony and

20 schedules, the scope for Project Compass at Go Live was to

21 replace the functionality of the Company's legacy System.

22 Once the new systems were stabilized, the Company planned

23 to make additional investments to add new functionality,

24 such as the option for customers to choose their preferred

1 communication channel. Opportunities will continue to be

2 identified, over time, for adding functionality to serve

3 the evolving needs of customers, to improve the efficiency

4 or effectiveness of the new System for employees, or to

5 integrate new or modified applications and systems. As was

6 the case with the Company's Legacy System, there was

7 essentially a continuous capital development effort

8 required to support the System from its inception, to

9 accommodate changing technology, the growing needs of our

10 customers, new regulatory requirements, and the perpetual

11 effort to optimize the value of the investment.

12   **Q.** **Does** **this** **conclude** **your** **pre-filed** **direct**

13 **testimony?**

14   A. Yes.