Exhibit No.__ (JMK-1T)

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-14_____

DOCKET NO. UG-14_____

DIRECT TESTIMONY OF

JAMES M. KENSOK

REPRESENTING AVISTA CORPORATION

I. INTRODUCTION

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

A. My name is James M. Kensok. I am employed by Avista Corporation as the Vice-President and Chief Information and Security Officer (CISO). My business address is 1411 E. Mission Avenue, Spokane, Washington.

Q. Mr. Kensok, please provide information pertaining to your educational background and professional experience.

A. I am a graduate of Eastern Washington University with a Bachelor of Arts Degree in Business Administration, majoring in Management Information Systems and from Washington State University with an Executive MBA. I have experience through direct application and management of Information Services over the course of my 32-year information technology career. I joined the Company in June of 1996. Over the past 17 plus years, I have spent approximately one year in Avista's Internal Audit Department as an Information Systems Auditor with involvement in performing internal information systems compliance and technology audits. I have been in the Information Services Department for approximately 16 years in a variety of management roles directing and leading information technology and systems; planning, operations, system analysis, complex communication networks, cyber security, applications development, outsourcing agreements, contract negotiations, technical support, cost management, data management and strategic development. I was appointed Vice-President and CIO in January of 2007 and Chief Security Officer in January of 2013.

Q. What is the scope of your testimony?

A. My testimony will describe the costs associated with Avista's information technology programs. These costs include the capital investments for a range of systems used by the Company, including the replacement of the Company's legacy Customer Information and Work and Asset Management System ("Project Compass"). I also describe the additional expenses required to support applications and systems for cyber security and the operation of the new Customer Information and Work and Asset Management Systems. In addition, costs include the refresh of Avista's 20-year-old land mobile radio system, technology investments associated with Avista's grid modernization efforts and increases in application license fees and software maintenance costs. I also discuss the Enterprise Technology capital expenditures that are part of the capital additions testimony provided by Company witness Mr. DeFelice.

The information included within my testimony, related to increased costs associated with Avista's information technology programs, is provided for informational purposes only. As explained by Company witness Ms. Andrews, the Company is basing its electric and natural gas revenue increase requested in this case based on its electric and natural gas Attrition Studies. However, as a "cross check" to the Company's request based on the electric and natural gas Attrition Studies, Ms. Andrews has also prepared electric and natural gas Pro Forma Cross Check Studies, which incorporate Washington's share of the pro forma or 2015 rate year adjustments for expenses and capital additions described further in my testimony.

A table of contents for my testimony is as follows:

Q. Are you sponsoring any exhibits in this proceeding?

A. Yes. I am sponsoring Exhibit No.__(JMK-2), which is a report and attachments providing an overview of Project Compass, the Company's ongoing project to replace its legacy Customer Information and Work and Asset Management System.

II. ENTERPRISE TECHNOLOGY CAPITAL PROJECTS

Q. Please describe each of the Enterprise Technology projects planned for 2013 - 2015.

A. The enterprise technology capital costs for projects to be completed during the period 2013 - 2015 total $166.92 million on a system basis. These investments are identified by project in Table No. 1, below, and each project is briefly described in the following testimony.

TABLE NO. 1
Enterprise Technology Capital Projects (System)

Business Case Name	July - December 2013 $ (000's)	2014 $ (000's)	2015 $ (000's)
AvistaUtilities.com and AvaNet Redesign	$ 1,000	$ 1,538	$ 240
Enterprise Business Continuity Plan	339	482	450
Mobility in the Field	113	690	420
Technology Refresh to Sustain Business Process	10,919	13,862	19,362
Customer Information System Replacement	9,184	67,341	-
Enterprise Security	1,530	2,183	2,185
Technology Expansion to Enable Business Process	3,311	3,836	5,799
Radio Telephone Communications Console System Refresh	(3)	-	-
High Voltage Protection for Substations	1,457	2,014	320
Next Generation Radio Refresh	1,999	7,235	27
GridGlo GFX Integration	-	240	-
Asset Facilities Management Application Migration	-	-	8,350
Financial Forecast Model	-	-	500
Total Enterprise Technology Capital Projects	**$ 29,849**	**$ 99,421**	**$ 37,653**

AvistaUtilities.com and AvaNet Upgrade – 2013: $1,000,000; 2014: $1,538,000; 2015: $240,000

Like many businesses today, the Company is experiencing continued growth in the use of its customer website, Avistautilities.com. The website was originally built in 2006-2007, but because the technology landscape has advanced so quickly, the site does not meet current web best practices for customer usability. This project will update and improve the technology, overall web usability, and customer satisfaction. The website is part of the Company's strategy to provide customers a more effective channel to meet their expectations for self-service options, including mobile, energy efficiency education, and to drive self-service as a means to lower transaction costs.

Enterprise Business Continuity Plan – 2013: $339,000; 2014: $482,000; 2015: $450,000

Avista has developed and maintains an Enterprise Business Continuity Plan (Plan) to support the Company's emergency response, and to ensure the continuity of its critical business systems under crisis conditions. The framework includes the key areas of technology recovery, alternate facilities, and overall business processes. The effort of developing and continuously improving the Plan ensures the readiness of systems, procedures, processes, and people required to support our customers and our communities any time we are required to operate under critical emergency conditions.

Mobility in the Field – 2013: $113,000; 2014: $690,000; 2015: $420,000

This program is designed to increase the Company's use of field mobile dispatch for service employees equipped with mobile devices. Avista has documented 30 field

opportunities to apply mobile technology, and has selected those with the greatest benefit and savings for implementation in a five-year program, named "Visibility in the Field." This effort primarily supports the functions of Leak Survey and Gas Service Dispatch by enabling the use of facility maps on a mobile device.

Technology Refresh to Sustain Business Process – 2013: $10,919,000; 2014: $13,862,000; 2015: $19,362,000

The Company manages an ongoing program to systematically-replace aging and obsolete technology under "refresh cycles" that are timed to optimize hardware/software system changes or industry trends. An example of technology managed under this program is the fleet of personal computers and other computing devices used by field operations, power plant operators, call centers, and our general office employees.

Customer Information and Work and Asset Management System Replacement – 2013: $9,184,000; 2014: $67,341,000

The Company's legacy Customer Information and Work and Asset Management System has been in service for twenty years and is currently being replaced in a multi-year effort named "Project Compass." The major applications being replaced include the Company's Customer Service System, Work Management System, and the Electric and Gas Meter Application. The primary replacement systems are Oracle's Customer Care & Billing application and IBM's Maximo work and asset management application. A portion of the Maximo system was enabled in the fall of 2013, and the full System is planned to be in service in July 2014. I describe the detail of this significant technology project later in my testimony.

Enterprise Security – 2013: $1,530,000; 2014: $2,183,000; 2015: $2,185,000

There are three primary drivers of the increasing costs for Enterprise Security: cyber security, physical security and regulatory standards. Each plays a critical role in supporting our delivery of safe and reliable energy to our customers.

<u>Cyber Security</u>

The security of our electric and natural gas infrastructure is a significant priority at a national and state level, and is of critical importance to Avista. Threats from cyber space, including viruses, phishing, and spyware, continue to test our industry's capabilities. And while these malicious intentions are often unknown, it is clear the methods are becoming more advanced and the attacks more persistent. In addition to these threats, the vulnerabilities of hardware and software systems continues to increase, especially with industrial control systems such as those supporting the delivery of energy. For these reasons, Avista must continue to advance its cyber security strategy and invest in security controls to prevent, detect, and respond to these increasingly frequent and sophisticated attacks.

<u>Physical Security</u>

While considerable attention is focused on cyber security, physical security also remains a concern for our industry. Physical security encompasses the aspects of

employee safety and the protective security of our facilities. Acts of theft, vandalism, and sabotage of critical infrastructure not only results in property losses, but can also directly impact our ability to serve customers. Securing remote unmanned or unmonitored critical infrastructure is difficult, especially when traditional tools such as perimeter fencing are not adequate. In response to these challenges, the Company has focused its resources on remote detection and response, which is creating the need for additional expertise and technology.

Regulatory Obligations

Advancing cyber threats continue to drive change in the regulatory landscape faced by the Company. Early in 2013, President Obama issued the Executive Order "Improving Critical Infrastructure Cybersecurity." The Order directed the National Institute of Standards and Technology to work with stakeholders in developing a voluntary framework for reducing cyber risks to critical infrastructure. The Framework consists of standards, guidelines, and best practices to promote the protection of critical infrastructure. The Federal Energy Regulatory Commission also issued Order 791 on November 22, 2013, approving the North American Electric Reliability Corporation Critical Infrastructure Protection Standards, Version 5. Both of these activities will increase our security-related operating costs because they require the Company's security controls and processes to conform to new standards, guidelines, and best practices.

Technology Expansion to Enable Business Process – 2013: $3,311,000; 2014: $3,836,000; 2015: $5,799,000

This program facilitates technology growth throughout the Company, including technology expansion for the entire workforce, business process automation and increased technology to support efficient business processes. For example; when trucks are added to the fleet, communication equipment needs to be added to the truck; as the Company hosts more customer data, disk storage needs to be expanded, as customers expand their use of the website, additional computing capacity is needed.

Radio Telephone Communications Console System Refresh – 2013: ($3,000)

This project supports the refresh of the Company's Radio Telephone Communications Console System. The "console system" is the hardware and software that provides the communication interface with Avista's Land Mobile Radio system. The new console system is integrated with the Company's Next Generation Radio project, described below, which is refreshing Avista's 20-year-old Land Mobile Radio network. The Company's radio communications provide for operations communication between employee construction and service personnel, field communications and dispatch with Company service centers, emergency communications for community support, responder coordination, and service restoration, and electric and natural gas system operations in the field. This project was completed and transferred into plant in April 2013; however the Company chose to return a server which was initially part of this project, which resulted in a credit which was received in July 2013.

High Voltage Protection Upgrade – 2013: $1,457,000; 2014: $2,014,000; 2015: $320,000

Telecommunication facilities, including Phone, Modem, SCADA, and Metering & Monitoring systems, are commonly co-located inside the Company's high voltage substations. This requires communications technicians to work in close association with our high-voltage electrical equipment. The Company has implemented new high-voltage protection & isolation standards designed to lower potential risks to our personnel and equipment. This project will implement the clearance changes required to meet the new standards.

Next Generation Radio – 2013: $1,999,000; 2014: $7,235,000; 2015: $27,000,000

This project is refreshing Avista's 20-year-old Land Mobile Radio system. The Company maintains this private system because no public provider is capable of supporting communications throughout our rural service territory. And, since our systems comprises a portion of our nation's critical infrastructure, Avista is required to have a communication system that will operate in the event of a disaster. This project fulfills a mandate from the Federal Communications Commission that all licensees in the Industrial/Business Radio Pool migrate to spectrum efficient narrowband technology by January 1, 2013. Avista requested an extension in time for compliance with the narrowband deadline, which was granted by the Federal Communication, until September 30, 2014.

GridGlo GFX Integration – 2014: $240,000

The GFX Platform employs analytical tools to integrate grid performance and customer data to enable predictive analyses needed to support enterprise analytic applications and new customer engagement programs.

Asset Facilities Management Application Migration – 2015: $8,350,000

The project replaces the Company's obsolete, custom Facilities Management system with a commercial, off-the-shelf application. The project includes replacement of the natural gas and electric Construction Design Tool, Edit Tool, and the Company's proprietary Outage Management Tool . These applications aid in the engineering and design of Avista's electric and gas infrastructure, which costs would increase without the aid of this technology. In addition to supporting design, the Outage Management allows the Company to quickly isolate the likely cause of system outages, to communicate proactively with customers, and to quickly and accurately dispatch Avista crews for service restoration.

Financial Forecast Model – 2015: $500,000

After the company finalized the ProForma Cross Check study in this case, more information became available regarding this project, which indicated this project should be included with the Technology Refresh to Sustain Business Process project, described above. However, the estimated costs have not changed for this project.

III. CUSTOMER INFORMATION AND WORK AND ASSET MANAGEMENT SYSTEM REPLACEMENT – PROJECT COMPASS

Q. Please summarize the replacement project for Avista's Customer Information and Work and Asset Management System.

A. Avista's legacy Customer Information System (System) has served the Company and our customers well for 20 years. The term 'legacy' applies to computer hardware and software systems like Avista's that are no longer manufactured, used in contemporary applications, commercially available, or technically supported. The longevity of the Company's legacy system is unusual in the industry, and has been achieved by linking the system over time with commercial and Avista-developed applications that added functionality to the original architecture. This technology strategy has been the foundation of Avista's customer service program. While extending the life of the System has delivered value for customers, our ability to continue to add additional functionality is constrained, and there is mounting business and service risk associated with the many older technologies on which this system depends. Technical assessments of the System highlighted these risks, as well as identifying the pending need for its replacement. In 2010, Avista began the research and planning for replacing its legacy System. Named "Project Compass," the replacement program was planned to encompass a four-year period from initial research to full implementation. An overview of Project Compass, containing a detailed project narrative, as well as supporting documentation, is provided as Exhibit No.__(JMK-2).

Q. Please describe the systems being replaced as part of Project Compass.

A. Avista's legacy Customer Information System is composed of three highly-connected applications, which include:

- Customer Service System – this application supports the traditional utility business functions of meter reading, customer billing, payment processing, credit, collections, field requests and customer service orders;
- Work Management System – this application is used to create orders for service and emergency calls and for construction jobs for customers and Company operations; and
- Electric & Gas Meter Application – this application hosts the data for the Company's in-service electric and gas meters.

Together, these three applications, also referred to as the Avista "Workplace", have been connected over time with many other applications and systems required to conduct all aspects of our customer service and gas and electric business operations. These three Workplace applications are being replaced by Oracle's 'Customer Care & Billing' solution, and IBM's 'Maximo' work and asset management application.

Q. What are the factors driving the need for replacement of Avista's Customer Information System?

A. The rapid evolution of information science technologies has impacted the life cycle availability of older software and hardware products and services, eroding the underlying capabilities of our legacy technology. At the same time, each new generation of technology gives software systems more flexibility and functionality than our legacy system could easily provide. This dual impact adds cost, complexity and risk to the ongoing operation of our legacy technology, and drives the ever-increasing service expectations of customers for all businesses they use, including their utility.

Q. Please describe what you mean when you say 'eroding the underlying integrity' of the Company's legacy technology.

A. The Company's legacy system is supported by a network of older technologies, many of which are expensive to operate and/or are no longer sold, maintained or supported. As a result, Avista and its primary support contractor (Hewlett-Packard)

employ many technical 'workarounds' required to continue using the legacy System. Key limitations associated with these technologies are briefly described below:

Platform – The Company's Customer Information System is dependent on a mainframe-computing platform because it uses databases and program applications developed for that environment. While a mainframe was the only platform with enough power to support the System when it was designed, it is more expensive to operate today than mid-range computers having ample capability. Because mainframe platforms are far less common today, the expertise required to manage, maintain and update these systems is becoming more limited. In addition to the realtime execution of programs on the mainframe, required by the Workplace applications, the programs and data stored there must be updated every night in what is known as a 'batch' program. The batch updates base data and performs other functions such as producing customer bills.

Computer Languages – Avista's Workplace applications are written in COBOLv2, a version of the programming language that has not been used in applications, or sold or supported for many years.

Another computer language key to Avista's legacy system is known as Smalltalk. This language is used to generate the display information on network computers used by our customer service representatives. And like COBOLv2, Smalltalk is also no longer commercially sold or supported.

Supporting Applications –Avista's legacy applications are generated using a case tool known as ADW (Application Development Workbench), and the applications are difficult to change without using the ADW tool. Avista's version of ADW, is no longer

manufactured or supported, and in addition, it can only run on the OS/2 operating system that likewise has not been sold or supported for many years.

Technical Resources – Maintaining the Company's legacy system requires training and support of technical staff competent in these older programming languages, applications, and computer operating systems. The Avista-Hewlett-Packard support staff, many of whom grew up with these legacy technologies when they were mainstream, have either retired, or are anticipated to do so in the next few years. Replacing knowledgeable staff has become extremely difficult because there is no longer technical training or schooling available for these old languages, applications and systems. Younger technicians must be trained in house, and in addition, it is difficult to channel these employees into career tracks that have very-limited and diminishing future application.

Q. Are there risks associated with the continued operation of the Company's legacy system?

A. Yes, as described above, many of the obsolete elements of the Customer Information System are supported by very-specialized applications, which themselves are obsolete and no longer supported, or by complex technology workarounds. Each of these introduces a level of risk that is greater than that associated with contemporary hardware, operating systems, technical support, and business applications. And because these risks increase as the technology continues to age, the cumulative risk to the Company grows as the longevity of the System is extended.

Q. Are these risks unique to Avista's legacy system?

A. No, this discussion illustrates the general technology principle shared by many legacy systems like the Company's. Even though they may continue to perform their

intended functions, they are subject to greater and greater risk over time, and consequently, are considered to be problematic.

Q. Beyond increasing business risks, are there other considerations for replacing the system?

A. Yes, there are several which I describe below:

System Modifications – The legacy architecture of the Company's System makes it cumbersome and expensive to modify or to add new functionality. This arises because the linkages between the applications of Avista's Workplace, along with the software applications that connect Workplace with the many other applications and systems required to support the Company's operations, are 'hardwired' together. The result is that a programming change made to one application often requires complementary changes in both the connecting software and the other applications themselves. Because the system has been stretched over time so far beyond its original design considerations, these layers of changes have geometrically increased the complexity of the entire system. Finally, because the legacy System is used only by Avista, these application development costs must be borne entirely by our customers.

System Replacement Costs – Continuing to add complexity to the legacy System can also make its eventual replacement more expensive. This is because the functionality that's been programmed into the legacy System must also be programmed or 'configured' in the new replacement applications when they are installed. Generally, as the complexity of the legacy System increases, then the cost, complexity and technical competence required to install the replacement system increases as well.

Constrained Capability – In addition to the risks and costs of extending its service life, the ultimate flexibility of the platform has been largely exhausted. Designed as a meter-based billing system, the Company has cost-effectively expanded its capability by seamlessly integrating technologies barely imagined when the system was designed; home computers were uncommon, the internet was in its infancy, there were no e-mail services, few cell phones, no text or SMS messaging, and no mobile computing, as supported by today's smart phones and tablets. However, while the System has been able to accommodate many significant developments over time, it still lacks the fundamental capabilities required today to support the new service options viewed by customers as 'basic service', or the many utility product offerings becoming more common in our region and around the Country.

Q. Did the Company consider other options to reinforce its legacy System, short of replacement?

A. Yes. Periodically, Avista and its support partner, EDS/Hewlett-Packard, evaluated the System's capabilities as well as options for its possible modernization. In 2002, as some of the technologies supporting Avista's System, such as ADW, were becoming unsupported, an assessment was made of the feasibility of moving the Company's system from the mainframe platform to a contemporary mid-range platform and operating system. The benefits of such a process, commonly known as 'replatforming', were forecast over time and were compared with the estimated costs for completing the work. Results of this work indicated that replatforming the System at that time was not cost-effective, and as a result, this work did not proceed.

The next assessment was made in 2003 and focused on ways to reduce the risk associated with the ADW application, at the time running on aging desktop computers using the OS/2 operating system. The project report recommended Avista purchase specialized software to emulate the OS/2 system on contemporary computers and operating systems. This recommendation was implemented.

The legacy System was reviewed again in 2006 as part of a larger information technology review conducted for the entire Company. The report noted the Company's Customer Information System as a 'high risk' application that was a candidate for either replacement or "refactoring." The latter refers to a process of changing the internal structure of the existing application code to reduce its complexity and improve its readability. While this process helps reduce the risk associated with legacy software, it does not markedly change its basic properties or performance. Refactoring of the Customer Service System was not evaluated further at that time.

Most recently, in 2010, the Company again considered reinvesting in its legacy System as a means to delay its ultimate replacement. As a prelude to requesting vendor proposals to support such an effort, the Company sent a Request for Information to several major information technology vendors to describe the legacy System, and to gauge their interest in participating in next steps. As Avista continued to weigh the possibility of this approach being feasible, as a way to delay the replacement of its System, it ultimately determined that commencing with the research and planning for the current replacement project was a prudent course of action.

Q. Why did Avista consider the current timing of the replacement project to be appropriate?

A. The decision on timing was influenced by many factors, including, among other considerations: the window of availability of employee and contract technical resources; the timing of the expiration of the long-term services contract with Hewlett – Packard for System support; the continued accumulation of business and service risks associated with operating the legacy System; the increasing complexity and replacement costs associated with its continued operation, and the very-limited capability of the legacy System to deliver additional customer service options, both present, and into the future.

Q. Is the Company's replacement project unique among peer utilities?

A. No. Nationwide, many utilities have undertaken the same effort in replacing their Customer Information Systems, and many are replacing systems installed around the year 2000, a technology 'generation' newer than Avista's. Several utilities in the Northwest are among those engaged in some phase of a major replacement project. Avista's understanding of the status of these efforts is summarized below:

Company	State(s)	Status
Cascade Natural Gas & Intermountain Gas	OR/WA/ID	Currently using Oracle's Customer Care & Billing application in Oregon and Washington, which replaced their prior system installed in 1999. Planning to install this system in their Idaho service area in late 2014-2015.
Northwest Natural Gas	OR/WA	Currently using commercial system installed around year 2000. Now in the process of evaluating potential for upgrades and/or system replacement in near future.
Puget Sound Energy	WA	Recently placed in service new SAP and Outage Management applications in April 2013. Now engaged in system stabilization.
Portland General Electric	OR	Beginning evaluation phase for the replacement of their customer information and meter data management applications, expected to be completed in next 5 years.
Idaho Power	ID	Planning to place in service a new SAP customer information system in September 2013.
PacifiCorp	ID/OR/WA	Currently evaluating systems for possible installation over the coming five years.
Seattle City Light	WA	Engaged in the early installation work of their recently selected Oracle Customer Care & Billing system.

Q. Did the Company assess the experience of others to help-avoid some of the pitfalls associated with replacing these large information technology Systems?

A. Yes. The Company took advantage of shared industry knowledge, reviewed case studies, and conducted its own in-depth interviews with several peer utilities to gather a base of 'lessons learned.' This pre-project research helped Avista identify and incorporate key measures into the design and management of its replacement project, to both circumvent and help mitigate these challenges.

Q. What initial steps did the Company take in researching and evaluating potential replacement software solutions?

A. An early step involved retaining a firm with proven expertise in this discipline to assist the Company with the complex process of developing a detailed list of business requirements and then evaluating and selecting the right combination of products and vendors to best meet them. A detailed request for proposals was developed from this initial work and sent to leading application and services vendors in September 2010. Avista selected Five Point Partners[1] from those firms submitting proposals.

Q. What additional activities were required to support this evaluation?

A. Avista and Five Point spent two months working with employee teams to develop a detailed inventory of the range and complexity of the Company's business processes. This inventory was used to develop the "Current State Map" that included every work process in the business, and every technology requirement needed to support it. These results were included in the technical specifications that accompanied the Request for

[1] 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.

Proposals sent to vendors. The current-state map included over 200 work processes and approximately 3,500 individual process steps or system requirements.

Q. Please list the vendors who responded to the Request for Proposals

A. Avista received responses from vendors on October 28, 2011, and with the help of Five Point, immediately began the review and evaluation process. Below, is a list of the vendors who responded and the solutions and roles they proposed for delivering a solution set to Avista. A detailed description of the proposal solicitation and review process, as well as the final evaluation and selection of vendors is provided in Exhibit No.__(JMK-2), 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

Q. How were the proposals evaluated?

A. In its initial review, Avista's Project Compass team and Five Point evaluated and scored each proposal according to detailed criteria, grouped under four global Project criteria:

Functionality – Assessment of the proposals as meeting Avista's Minimum Requirements, Functional Capabilities, Project Drivers, Customer Service Fit, Enterprise Asset Management Fit, Mobile Work Management Fit, and Technical Fit.

Technology – Evaluation of the technical hardware and software needs and costs, and technology implications of the proposals, with respect to Avista's core information technology strategies.

Implementation Partner – Assessment of the vendor's implementation strategy, installation approach, capabilities, timeliness, staffing, and compatibilities with Avista's project plans.

Cost – Evaluation of the vendor's proposed cost as an element of the initial screening.

Q. What replacement applications did Avista select?

A. With the assistance of Five Point Partners, Avista continued its detailed evaluation of proposals, interviewed prospective vendors, and evaluated various possible combinations of application solutions and vendors, in the process of making its final selections. Oracle's Customer Care & Billing application was chosen to replace Avista's legacy Customer Service module, and IBM's Maximo asset and work management application was selected to replace the Company's Work Management System and its Electric and Gas Meter Application. In addition to the applications, Avista retained the services of EP2M and IBM to support the installation and integration of the new Systems.

Having completed the selection/procurement phase, Avista commenced with the activities of implementing the new Systems.

Q. What were the early activities of the Implementation Phase?

A. They focused on installing and configuring the new Oracle and IBM applications, and the custom programming required to support application extensions and integrations. Before this work could begin, however, Avista had to complete an eight-month effort known as "design," in which the business processes inventoried in the Current State Map were mapped into the new Systems. This was performed by cross-functional teams of employees who were also responsible to identify the applications, data and integrations with all other systems that were required to perform each step of every business process. This work produced a detailed list of technical system requirements for each process step. The technical capabilities of the Customer Care & Billing application and the Maximo application were then evaluated against these detailed lists of technical requirements. In the majority of cases, the applications were able support all the requirements of a process step within their off-the-shelf capabilities. For these processes, the Company was able to move directly to the work of application configuration.

Q. Please describe the work of configuring the applications.

A. Configuring the application initially involves selecting parameters, embedding algorithms, or entering data to enable the logic of the application to perform the functions in sequence required by the Company's various work processes. The applications are designed with a series of input tables that organize the process of setting configuration parameters. Each input table, which could represent one particular type of customer service agreement, for example, may have up to 100 individual, flexible, and configurable fields.

Configuring each field requires entering from one to several individual values, instructions, or algorithms to establish the future of the new base System. Each field in each table is often cross-linked with content in dependent fields in complementary tables, creating a complex of dependencies between many multiples of tables and fields. This initial work requires the person entering the configuration settings on a particular table to work iteratively and sequentially in configuring the dependent fields in the other tables in one integrated work flow. As one example of the workload involved, it required one technician working full-time over six months to configure the existing rate tariff settings into the new System for each of the 142 different Avista service agreements across our jurisdictions. Considering the Customer Care & Billing application has 1,686 configuration tables, containing 12,158 configurable fields, the magnitude and complexity of this task is quickly evident.

Q. What is the value of using off-the-shelf applications when they require so much specialized configuration?

A. Today's commercial off-the-shelf computer applications offer many advantages to the alternative of developing proprietary, customized software. First, even though configuration is labor intensive, it is only a fraction of the labor that was expended by the vendor to develop the programming code of the base application itself. The next significant advantage, is that the cost of developing the base application is shared among all of the vendor's user client companies, like Avista. These applications are also compatible with the "enterprise service bus" architecture of today's information technology systems, and are designed to be integrated with other enterprise applications and systems (e.g. customer service, financial, and supply-chain applications). Client users are also part of a "users community" where they can share their experience with the application, identify

problem areas and glitches, and suggest system modifications and enhancements. Finally, the vendor provides periodic technical updates of the applications for its client users, driven in part by the input shared in the user forums, and at a very reasonable shared cost. While these periodic system updates provide high value at low cost, the value can be substantially diluted by the additional complexity and work required to support customized programming for system extensions.

Q. What is meant by "Customization" and "Extensions?"

A. As described above, while there is considerable flexibility within the application's off-the-shelf capabilities to accommodate a range of business processes, some were complex enough that they required programming of software code outside the application itself. This programming is referred to as "customization," and the work-process capability enabled by this custom code is referred to as an "enhancement" or "extension." All of the customized programming required to support Avista's use of the vendor applications is referred to as application "development." The process of development is complex and labor intensive, and begins with a description of the process steps that a particular extension will perform (its system requirements). Each set of requirements proceeds to the contractors' offshore development staff where it is translated into a technical specification that will guide the development of the actual programming code for the extension. Once the development staff has written the code, the contractor performs what is known as unit testing. The code, along with defects identified in unit testing, are returned to the development staff for analysis and repair. When those defects are repaired, the code again undergoes unit testing and the next tranche of defects is identified and returned for

repair. Because the initial base program code is extremely complex, this iterative process is very labor intensive and time consuming.

Q. Did Avista anticipate that extensions would be necessary at the time it decided to purchase the Customer Care and Maximo applications?

A. Yes. Even though the Company went through an exhaustive process, as described above, to ensure the selected applications had the capabilities necessary to support Avista's business needs, the Company was fully aware that any application it selected would require the development of extensions. Accordingly, when Avista developed its vendor contracts for the applications and the integration services, it included approximately 20,000 hours of contract development time to support programming for anticipated extensions.

Q. Has Avista made an effort to manage the number of extensions required?

A. Yes. The Company is committed to capturing the value delivered by implementing off-the-shelf applications, and accordingly, our goal has been to optimize the number of extensions required. To accomplish this, the Company evaluated each circumstance where the need for an extension was identified, and determined if it could be avoided by changing Avista's work process. In some instances, it was either impossible or not cost effective to change the work process. But in others, the need for an enhancement was eliminated by redesigning the work process so the steps could be accomplished within the capabilities of the application. The effort required to change work processes was significant, however, because each process often impacts the workflow of many departments across the Company. For each process that was changed, Avista organized individual

employee teams, representing the multiple departments affected, to redesign the structure to be effective for customers and the Company, and compatible with the applications.

Q. What other Implementation activities are currently underway?

A. In addition to configuring the applications, and developing the coding required for the extensions, the Project team engaged in the work of integrating the applications, performing conversions of all necessary data, developing management reporting templates, conducting exhaustive tests of the systems, developing and implementing training for employees on the new systems and new work processes, and preparing customer communications in advance of placing the new Systems is service.

Q. What is involved in the work of applications integration?

A. Integration requires the development of custom programming code that functionally connects the Maximo and Customer Care & Billing applications with each other, and with the approximately 100 systems that support the Company's customer service and business operations. An 'integration' refers to the connection between separate computer applications that allows them to work in concert to perform allied functions. Integrations involve exchanges of data, transmission of instructions or changes in state, performance of computations and other algorithms, and myriad other shared functions. In addition to integration connections between applications, this work also encompasses the development of the Company's "enterprise service bus." The latter is essentially an integration network shared by the integrated applications. Some of the systems integrated with the Maximo and Customer Care & Billing applications, include the Avista customer website, the Company's various internal systems such as financial applications and databases, supply chain, crew dispatch and outage management reporting, systems from a

range of financial institutions used by the Company and our customers, and the many vendors who support our delivery of natural gas and electric service, such as bill printing and presentment.

Q. What is involved in the data conversion process?

A. All of the Company's existing data, whether customer account information, energy use history, electric and natural gas facilities data of all types, mapping system information, and regulatory and compliance information, etc., must be transferred from existing computer hardware and data bases, such as the Company's current mainframe systems, to new data formats, databases, and computer platforms that are connected with the new applications. First, the data in Avista's existing databases is mapped according to where it will eventually reside in the new database systems. The data are then extracted and loaded into the new systems, and the integrity of the loaded data is validated for accuracy. Defects in data conversion are identified in the process, defects are repaired, and the data load/validation exercise is repeated.

Q. Please describe the work of testing the new application Systems.

A. There are three major areas of System testing that all play a critical role in the successful implementation of the new applications. These are known as "System Testing," "Systems Integration Testing," and "User Acceptance Testing."

When the work of configuration is complete, Avista and its contractors commence with System Testing. The purpose is to ensure the applications perform properly *as they have been configured* to support Avista's business processes. Testing focuses on identifying and repairing the technical defects that arise during configuration of such a large and complex System. The process simulates individual business functions, each known as a "test

case," and tracks the defects reported during the exercise. System Testing for the Customer Care & Billing application required Company employees and contractors to write and test 1,935 individual test-case scenarios. A similar set of test cases unique to the Maximo application also had to be developed and tested. In the testing process, defects are identified and analyzed, the root cause is isolated and repaired, and the test case is run again until it is defect free.

Systems Integration Testing occurs next in the sequence and is similar to the process used in System Testing. But instead of focusing on configurations, it tests the custom integration code to ensure the new applications perform properly with all of the other integrated systems. While the number of System Integration test cases for the Customer Care & Billing application is not yet finalized, it is expected to range between 2,200 and 2,400. These test cases are completely different from those developed for the System Testing. A similar set of unique test cases was also developed for testing the system integrations with the Maximo application. The process of identifying and remediating defects and conducting re-testing is similar to the process used for System Testing.

In the final testing phase, User Acceptance Testing, Avista employees who will be using the new System to serve our customers, perform mock business transactions on the completed System as it will function when implemented. User Acceptance Testing has the twin objectives of scrubbing the Systems further to identify and repair any critical defects, and to identify and implement changes to the Systems that will make them more user friendly to and function more smoothly and efficiently.

Q. Very briefly, what is purpose of creating the reporting templates?

A. A diverse set of management reports is produced by departments across the Company, on a daily, weekly, monthly, quarterly, and annual basis, to meet a broad range of financial, regulatory, and managerial requirements. A specific application is required to produce each of these reports. Because Project Compass is changing the organization and storage of the Company's data, its customer, asset and work management applications and systems, and the ways these systems are integrated, all of the applications that currently produce these management reports must also be re-developed. There are 155 separate reports that will have to be produced relying principally on information from the Customer Care & Billing application, and 60 reports that will be produced using data primarily from Maximo. The program coding required to produce each individual report, along with the verification of the data conversion, must be tested and repaired in the same iterative manner described for the other configuration and enhancement testing procedures.

Q. Please describe the training programs associated with Implementation.

A. Like testing of the new Systems, timely and comprehensive employee training for the new applications and new work processes is critical to successful implementation. Avista and its contractor are designing the content of the training modules, and training sessions will commence in the second quarter of 2014. Approximately 420 employees affected by the new Customer Care & Billing application will receive training. And 411 employees whose work will be affected by the new Maximo asset management system will receive training. The duration of training classes for Customer Care & Billing processes will range up to 120 hours, with Avista's 150 customer service employees receiving the most intensive training. Training for the Maximo application will range from up to 48 hours for affected employee groups. Within each of these two training pools

(Customer Care & Billing and Maximo) the training materials will be tailored to the actual job roles of each employee, and training modules will include both classroom and computer-based sessions.

Q. What has been the magnitude of the Implementation effort to date?

A. For the period through November 2013, Avista employees had logged over 138,000 hours on Project Compass implementation, and contractors had spent an additional 21,000 hours. Approximately $43.4 million was spent on the Project for the same period.

Q. What is Avista's budget for the overall replacement project?

A. A final budget of $80 million was approved on December 6, 2012 for the capital replacement costs associated with Project Compass. The initial budget allocation among key Project activities is provided in Exhibit No.__(JMK-2), Attachment 15.

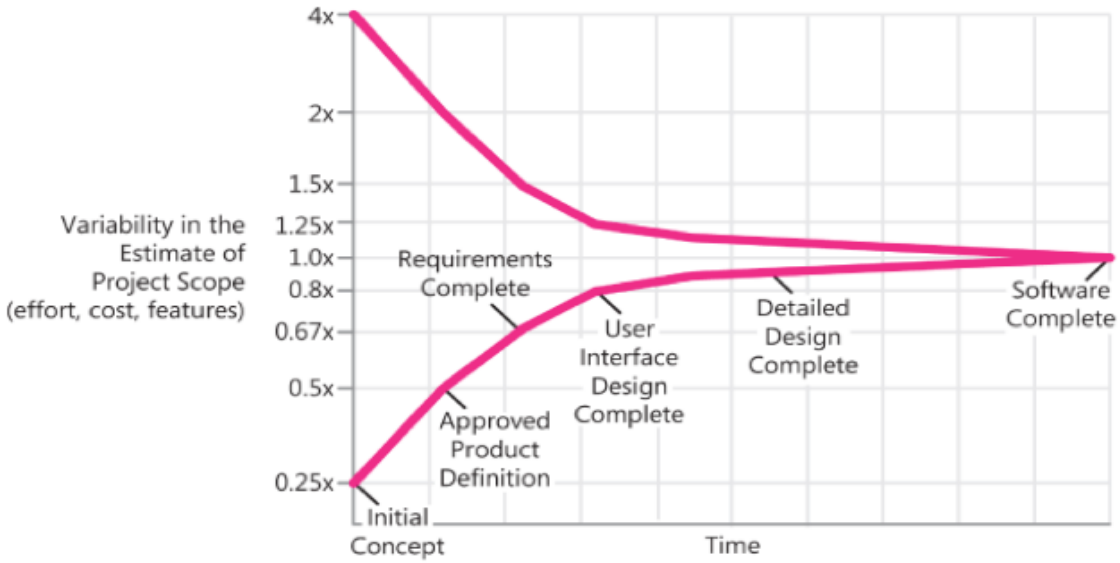
Q. Why didn't the Company authorize a final project budget at the time it decided to replace its legacy System?

A. Although Avista discussed potential costs of the project early in its inception, and approved preliminary budgets through the course of Project development, it did not establish a final capital budget until the Project was well-enough defined to do so with a reasonable degree of confidence. Avista has learned through its peer utility interviews, and from the support and advice of outside experts, that organizations commonly undermine the success of their software projects by making cost commitments too early in the development stages. This mistake undermines predictability, increases risk and project inefficiencies, and generally impairs the ability to manage a project to a successful conclusion.

Q. Is this typical of enterprise software projects?

A. Yes. Typically, early in the scoping of a software project, particular details of the application being designed/installed, detailed knowledge of the Company's specific business requirements, details of the solution sets, as well as the management plan, identified staffing needs, and many other variables are simply unclear. Accordingly, estimates of the potential cost of the project are highly variable. As these sources of variability are further investigated and resolved, the uncertainty in the project decreases; likewise, so does the variability in estimates of the project cost. This phenomenon, widely discussed in the literature and often associated with author Steve McConnell[2], is known as the "Cone of Uncertainty", presented in Illustration No. 1[3], below.

Illustration No. 1



As illustrated above, significant narrowing of the uncertainty generally occurs during the first 20-30% of the total calendar time for the project. The uncertainty will only

[2] Software Estimation: Demystifying the Black Art. Steve McConnell, Microsoft Press, 2006

[3] id. Figure 4.2, 96.1/751.

decrease, however, through deliberate and active project research and design, required to further define the scope, requirements, implementation details and estimates of component costs. And, this uncertainty must continue to be constrained throughout the course of the project by the use of effective project controls.

Q. In light of this cost uncertainty, how could Avista determine that replacing its legacy system was 'cost effective' for customers well before the final project scope and budget were developed?

A. The decision point for the Company in 2010 was whether to significantly reinvest in its legacy technology as the means to defer its ultimate replacement, or instead, to invest in the planning and exploration of options needed to support its replacement. The Company determined, as explained in detail in Exhibit No.__(JMK-2), that the timing was appropriate to replace its legacy Customer Information System. The Company's focus then was to assess its needs, evaluate options, and select a set of solutions that would meet the long-term needs of the Company and its customers at the lowest possible cost. At that point, the Company engaged in the progressive stages of project design needed to prudently define the likely scope and potential cost of the replacement project. Through this work, uncertainty around the project was narrowed and potential costs were further refined, to the point that Avista was confident purchasing the selected applications and proceeding with the work of implementation. Even though this was several months before the final budget was approved, Avista had by that time built the foundation needed to initiate a successful project: the ability to deliver a solution that would meet its long-term customer service and business requirements in an optimized approach, and in a manner that would achieve the least cost for its customers.

While Avista believes its estimates of scope, timeline and budget for the project are reasonable, and it is committed to control the Project to best meet each estimate, it is also cognizant that the success of the project will not be defined by whether or not each estimate, including the budget, is precisely met. In contrast with a 'not-to-exceed' metric, the software budget is a management tool that allows senior leaders to make informed enterprise-level decisions, and that provides an effective tool for the project manager to control project activities in an effort to meet the estimates of each deliverable (timeline, scope, functionality, and cost). In describing the relationship between software project estimates and final results, McConnell states:

> "The primary purpose of software estimation is not to predict a project's outcome; it is to determine whether a project's targets are realistic enough to allow the project to be controlled to meet them."[4] "Typical project control activities include removing noncritical requirements, redefining requirements, replacing less-experienced staff with more-experienced staff, and so on."[5] "In practice, if we deliver a project with about the level of functionality intended, using about the level of resources planned, in about the time frame targeted, then we typically say that the project "met its estimates," despite all the analytical impurities implicit in that statement. Thus, the criteria for a "good" estimate cannot be based on its predictive capability, which is impossible to assess, but on the estimate's ability to support project success…[6]

Avista believes it has designed and developed such an implementation plan and budget for Project Compass. By this, we mean that the overall Project record will demonstrate its proper research and design, robust planning and estimating, effective management and controls, and that its delivered scope, timeline and cost, are reasonable, cost effective and prudent.

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

Q. Has the Company since revised its approved project budget of $80 million?

A. No. The current working estimate for completing the Project is $78.96 million.

Q. When does Avista expect to place these new Systems into service?

A. The final steps in the Implementation Phase involve 'migrating' the Company's customer service and business operations from the legacy systems and platforms to the new hardware, applications and systems. This step is known as the "Cut Over," and precedes the final step of disabling the existing System and placing the new System into service, known as the "Go-Live." A portion of the Maximo asset management application was placed into service in the fall of 2013, and Avista is targeting July 2014 for the Go Live of the remainder of the Maximo application and the Oracle Customer Care & Billing System.

Q. Is it possible that Avista would push out the Go Live to a later date?

A. Yes, it is. While the Go Live target date is an important project planning and management tool, its successful accomplishment is dependent on every major project activity reaching a critical and timely state of completion. As described above, the major implementation activities, which are highly-interdependent and are being executed in parallel tracks, are in and of themselves large and complex undertakings. In setting the Go Live target date, Avista is cognizant of the compounding nature of the challenges associated with launching such a large and complex system, and of the consequences of proceeding to Go Live before all systems are ready. In addition to many examples in the utility industry, one need look no further than the recent catastrophic launch of "healthcare.gov" to

understand the consequences of proceeding to Go Live before the system is ready for prime time. Accordingly, in the event Avista determines there is a critical lag in any of the primary implementation activities, including employee training, data conversion, management reporting, System Testing, Integration Testing, User-Acceptance Testing, application hosting, post-Go Live technical support, or customer communications, it will move out the Go Live to ensure a successful launch of the System.

Q. Would it be uncommon for one of the key activities to be delayed?

A. Not at all. In any complex technology initiative such as Avista's Project Compass, issues are constantly emerging that impact the estimated completion dates of the many project activities. When this happens, the Compass team has had to take deliberate steps to make up time or reduce costs to keep the overall Project on its intended course, scope, estimated timeline, and estimated budget.

Q. Would Avista consider a decision to push out the Go Live date, or to approve spending beyond the estimated project budget to be a failure in the delivery of the new System?

A. No, it would not. The basis for this conclusion lies in the Company's efforts to research and understand the root causes of the failed projects of other utilities, in its systematic application of those learnings to the design of the Project, and the efforts it has made to aggressively control the project toward its target scope, timeline and budget. In short, as stated earlier in this testimony and exhibit, Avista is confident it has selected the best-optimized solution for the Company and its customers, and that it will be delivered at the least cost, irrespective of whether the project planning targets for the timeline and budget are explicitly met.

Q. Is the Company presently aware of any specific issues that it believes will cause it to increase the budget or push-out the Go Live date?

A. No. not at this time.

Q. Are there any capital costs associated with Project Compass that will continue after the new Systems are in place serving Avista's customers?

A. Yes. Even after rigorous System and User testing, comprehensive employee training on the new applications and work processes, and timely customer communications highlighting service changes, industry experience demonstrates the value of having key technical support teams available to users for a period after the Go Live of the new systems. Accordingly, the Company will keep contract technical teams in place for a period up to six months after the Go Live date, in the phase referred to as "project stabilization." This work focuses on the post Go Live technical support of the new applications, information technology staff, and customer service and other Avista employees.

Q. Are there any Project development costs that will continue after the new Systems are in service?

A. Yes. Although Avista cannot point to any specific development activities at present, the Company's experience with large information-technology projects is that often even before the System is placed in service, opportunities will be identified for adding functionality to serve the evolving needs of customers, to improve the efficiency or effectiveness of the new System for employees, or to integrate new or modified applications and systems. As was the case with the Company's Legacy System, there was essentially a continuous development effort required to support the System from its inception, to

accommodate changing technology, the growing needs of our customers, new regulatory requirements, and the perpetual effort to optimize the value of the investment.

IV. INFORMATION SYSTEM OPERATING EXPENSES

Q. What are the primary business needs supported by Avista's Information Services Department?

A. With advancements in the utility industry, the use of operating, information, and customer-application technologies is increasingly prevalent in day-to-day business operations. The Information Services department provides the technology support required by all Company operations, both internal as well as customer facing. Examples include field operations, engineering, transmission & distribution operations, power supply, finance, treasury, legal, human resources, customer solutions, customer services, and regulatory functions. Types of support include the design, engineering, implementation, and support of Cyber security, computer hardware, application software, data and voice systems and networks, application integration, business continuity and disaster recovery, and data management and mobility. Our customers expect mobile solutions for transacting business with Avista that are available 24 hours per day, in addition to having more data and information about their energy use and tools to manage their consumption of energy. Records management is increasing for both gas and electric infrastructure, and Avista is experiencing continued growth in the use of its networks by customers and our employees who are increasingly using mobile, real-time systems to transact business and deliver safe and reliable energy services. These technologies are foundational to Avista's efforts to keep

pace with the service expectations of our customers, to fulfill our regulatory requirements, and to achieve cost savings through prudent technology deployments.

Q. What are the primary drivers increasing Information Systems expenses?

A. There are four key areas, the first of which is the expense associated with the replacement of obsolete systems, such as the Company's legacy Customer Information and Work Management systems, described above.

The second area is the increasing cyber and physical security requirements to protect Company infrastructure. Our industry is increasingly a target for malicious entities, and in order to protect Avista and its customers, we have been required to increase staffing, deploy new security systems, improve employee training, and deploy more sophisticated business-continuity recovery programs. Meeting expanding regulatory requirements, such as those supporting electric transmission reliability, is also driving cost increases in security compliance.

A third focus is the sensor technology and the associated data networks required by the industry's modernization of the electric grid and the improved reliability of our natural gas distribution system. Though there are many advantages for customers and the Company associated with the deployment of these new systems, the expenses to support them are an increasing portion of the costs of providing efficient, safe, reliable, and cost-effective energy services.

The fourth driver of Avista's costs is related to the growth in usage of applications, data, and our data networks. As customer expectations and business and compliance requirements continue to grow, they drive the need for new and expanded technology solutions. Although these new solutions provide the most cost-effective way to meet these

growing needs, they also increase costs for application licensing, maintenance and support, and for the computer hardware and networks required to enable them.

Q. As Information Services requirements have increased, has Avista focused on managing its overall technology expenses for the benefit of its customers?

A. Yes. Over the past several years, Avista has focused on reducing customer transaction costs through the prudent deployment of technology. Along with meeting customer needs, Avista works continuously to minimize its costs and to maximize employee efficiency through the use of appropriate technology.

During the period 2010 through 2013, the Information Services expense budget at Avista remained flat to slightly declining. Over the same period, however, the Company completed and supported many new Information Services projects. Examples that benefit customers today, include the implementation of advanced cyber-security protection (protecting power plant operations, the electric transmission and distribution system, natural gas delivery, financial data, and customer and employee data), a new tax application, a financial system upgrade, and SmartGrid support technology.

TABLE NO. 2
Information Services Incremental Expense Increases (2015 vs. 2013)

Description		System Expense
New Expense From Projects:		
Compass (net increase over current customer & work management system)	$	487,652
Radio Telephone Communications Console System Refresh		136,962
Next Generation Radio		126,941
Security - Non Labor Additions		105,000
Mobile Gas Compliance and Efficiency		34,400
Enterprise Document Management		40,000
Enterprise Voice Portal Application Upgrade		105,000
Total New Expense from Projects	**$**	**1,035,955**
Other Expenses: (incremental expenses for existing systems)		
Network Services	$	336,000
SmartGrid Support Costs - (50% matching funds discontinued in 2015)		274,053
Incremental maintenance cost increase for existing software applications		
Oracle Database and Software Maintenance		172,000
Microsoft Software Maintenance		87,094
IntelliResponse Software Maintenance		179,939
Total Other Expenses	**$**	**1,049,086**
TOTAL (New Expenses from Projects and Other Expenses)	**$**	**2,085,041**

Q. Please summarize the increases in expenses for the 2015 rate year.

A. Table 2 below summarizes the net increase in Information System expenses for year 2014, and which continue through the 2015 rate year. A brief description of each program is provided following Table 2.

Project Compass - There will be a net increase of $487,652 in the expenses associated with the deployment of the Company's new Customer Service and Work and Asset Management Systems implemented as part of Project Compass. The total for new operating expenses required to support these new Systems is $2,776,652, however, there is a corresponding offset in the approximate amount of $2,289,000, which reflects the annual expense reduction in contract services and mainframe computer costs associated with the

retirement of the Company's Legacy Customer Service System. The new costs support the annual license and maintenance fees for the new primary applications (Maximo and Customer Care & Billing) and supporting applications. Costs also include the labor and professional services associated with the realtime operation and maintenance of the applications, and the labor expense supporting management reporting for the new Systems. A brief description of each of these costs is provided below:

IBM Maximo Application

- Application Maintenance Fee paid to IBM. This fee, which is shared among the Maximo user/clients supports ongoing application maintenance, enhancements and updates.

Oracle Customer Care & Billing Application

- Application Maintenance Fee paid to Oracle for system maintenance, enhancements and updates.
- Application Maintenance Fee for IBM's Tivoli batch scheduling software, which automates, aggregates and executes batch system functions each day (e.g. customer billing, credit and collections, letters and notices).
- License and Maintenance Fee for the Oracle Database System.
- License and Maintenance Fee for the Oracle Data Integrator Application, which performs the extraction, transfer and loading of data for management reporting.

Shared Support

- Labor associated with the operation and maintenance of the Maximo and Customer Care & Billing integrations with Avista's Enterprise Service Bus application architecture.
- License and Maintenance Fee for HP's "Quality Center" Application, which is used to automate the routine user testing of the integrated software systems.
- HP services (labor) supporting management reporting for the Maximo and Customer Care & Billing Applications.
- IBM Application Management Services, providing technical resource support for maintaining and managing the realtime availability and performance of the Customer Care & Billing and Maximo application systems for Avista.

Radio Telephone Communications Console System Refresh ($136,962) - Deployment of this refreshed console equipment is a prerequisite for the successful implementation of the Next Generation Radio project, described above in my testimony. The integrated console system provides access to the narrowband communication network being deployed in the Next Generation Radio project. These costs are for maintenance fees required to assure the system meets our availability and security requirements for service. In particular, the maintenance fees also provide the Company access to software patches that address security vulnerabilities, and enable features and enhancements that extend the functionality of the deployed console system.

Next Generation Radio Hardware and Software Maintenance ($126,941) Similar to the costs for the console system as described above, these costs support the maintenance contracts for the hardware and software infrastructure required to effectively own and operate the Next Generation Radio system.

Enterprise Security – Non Labor Additions ($105,000) - This incremental expense is for software maintenance for new application services that monitor high-risk utility targets (including both physical and cyber), third party independent penetration testing, data breach response programs, and business continuity recovery programs.

Mobile Gas Compliance and Efficiency ($34,400) - This cost supports software maintenance for a new mobile application used to provide our employees near-real-time gas facility information in the field. The collection of near-real-time information on a mobile platform improves productivity and safety for our employees and customer satisfaction through improved response time.

Enterprise Document Management ($40,000) - This incremental cost is for software maintenance for a new application used in managing invoice processing and archiving. Currently, documents (i.e., invoices) in various departments are maintained on paper, and are processed manually. The new application allows Avista to scan invoices for electronic storage, processing, and approval, providing for more efficient and timely processing and access to stored documents.

Enterprise Voice Portal Application Upgrade ($105,000) – Avista's current automated telephone system will no longer be supported after 2014. The system manages all customer calls for reporting outages, automated bill pay and billing inquiries, and other types of customer self-service options for our customers. These expenses support the services agreement, providing for software maintenance and management for the replacement voice portal system.

Network Services (hardware, networks, etc.) ($336,000) - This cost is for service and maintenance fees paid to network providers such as AT&T and Verizon for increased network capacity and system support. As network capacity is increased the electronics that move data/voice traffic over the networks must be upgraded. The upgraded electronics require maintenance and service contracts to keep them current on security patches, firmware upgrades and general performance tuning and support.

The increased utilization of Company networks has resulted, in part, from the increased data associated with customer access to billing and energy use data and new technology supporting Avista's electric grid modernization, notably feeder automation, smart transformers, and faulted circuit indicator projects.

SmartGrid Support ($274,053) - This incremental cost is for non-labor software and hardware maintenance fees associated with Avista's modernization of its electric grid. These fees were paid previously from funds associated with the Company's SmartGrid Investment Grant awarded under the American Recovery and Reinvestment act of 2009. This cost-sharing grant will expire in January 2015, at which time the necessary hardware and software maintenance fees will revert to an ongoing Company expense.

Increases in Application Maintenance Fees ($439,033) - Avista licenses all commercial software it employs in the conduct of its business. The Company experiences periodic increases in the application licensing and maintenance fees for existing applications, such as those described below. The Company also faces incremental cost increases associated with licenses for new applications supporting new technology such as virtual desktops and application and data servers. Avista works to minimize the need for additional licenses by maintaining stringent controls over existing licenses and through a systematic assessment of existing licenses that can be discontinued.

Oracle Database Maintenance ($172,000) - Avista uses Oracle products to provide, and maintain and manage its primary business databases, supporting financial, supply chain, operations, customer service, and realtime infrastructure data. This cost covers increases in recurring maintenance fees as well as incremental costs associated with new Oracle databases that are being licensed.

Microsoft Software Maintenance ($87,094) - The incremental increase in maintenance fees reflects vendor price increases for existing systems, as well as costs associated with the deployment of new systems. One such new system is "desktop virtualization," which provides a highly flexible and much-more secure desktop computer environment. In addition, this approach supports a more complete desktop disaster recovery strategy, as all components are essentially saved in the data center and backed up through traditional redundant maintenance systems. In addition, because no data is saved to the user's device there is much less chance that any critical data can be retrieved and compromised in the event a device is lost.

IntelliResponse Software Maintenance ($179,939) – This cost is for maintenance fees for a new technology that will improve the effectiveness of customer self-service on Avista's web portal. When a customer using the web has a question, they can select the IntelliResponse application, which employs a Question and Answer directory to quickly answer the customer's question. In addition to providing a better customer experience, the application will also reduce operating expenses by reducing calls to the Contact Center. Over 18,000 customer questions were handled by this application between April and November 2013, and over 90% of the questions were answered accurately according to a post-question survey.

Q. In Table No. 2 above, do any of these items have related offsetting expenses? If yes, would you please explain them?

A. No. The majority of costs included above support new applications being deployed by the Company, and increases in maintenance costs for existing applications (i.e. increased non-labor expense for software maintenance and licensing fees and software and hardware costs). Certain offsets, such as those described above for the Compass Project, have already been reflected in the operating areas where these applications are deployed, and will not provide additional offsets within the budgets of the Information Services Department.

Q. Does this conclude your pre-filed direct testimony?

A. Yes.