BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-20_____

DOCKET NO. UG-20_____

DIRECT TESTIMONY OF

JAMES M. KENSOK

REPRESENTING AVISTA CORPORATION

1   **I.   INTRODUCTION**

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

3   A.   My name is James M. Kensok. I am employed by Avista Corporation as the Vice-

4   President, Chief Information Officer (CIO) and Chief Information Security Officer (CISO). My

5   business address is 1411 E. Mission Avenue, Spokane, Washington.

6   **Q.   Would you please provide information pertaining to your educational**

7   **background and professional experience?**

8   A.   I am a graduate of Eastern Washington University with a Bachelor of Arts Degree

9   in Business Administration, majoring in Management Information Systems and from Washington

10 State University with an Executive MBA. I have experience through direct application and

11 management of Information Services over the course of my 34-year information technology career.

12 I joined Avista in June of 1996. I have been in the Information Services Department for

13 approximately 23 years in a variety of management roles directing and leading information

14 systems, infrastructure technology and security strategy, system delivery and operations, complex

15 communication networks, cyber security, applications development, outsourcing agreements,

16 contract negotiations, technical support, cost management, and data management. I was appointed

17 Vice-President and Chief Information Officer in January of 2007 and Chief Security Officer in

18 January of 2013.

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

20   A.   I will provide an overview of, and discuss costs associated with, the Company's

21 Information Service/Information Technology (IS/IT) programs, projects and security. These costs

22 are comprised of the capital investments for a range of IS/IT projects that support systems used by

23 the Company, as well as cyber and physical security projects and costs. I will explain why our

1   information technology and security investments are necessary in the time frames indicated and

2   why investments in technology are necessary.

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

4   **Table of Contents**

13

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

15   A.   Yes. I am sponsoring Exh. JMK-2 and Exh. JMK-3. Exh. JMK-2 is a listing of all

16 project or program investments in my area of responsibility for 2018 and 2019. Exh. JMK-3

17 contains the capital business cases related to the major 2018 and 2019 projects I discuss later in

18 my testimony, as well as the business cases related to the 2020 Pro Forma projects I support.

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20   **II.   IS/IT OVERVIEW**

21   **Q.   Why is technology important to Avista and its customers?**

22   A.   Avista provides critical support for virtually every aspect of modern society across

23 our service territory, and technology is the catalyst that enables the business capabilities to reach

24 our customers at scale, in near-real time, and across varying terrain and circumstance. It allows us

25 to quickly pivot to support work-from-home and work-from-anywhere business needs for many of

1   our customers. It allows for new work arrangements for our staff to meet physical distance

2   requirements for those in critical operations roles. It allows us to provide power and natural gas

3   for critical services like healthcare and government operations in the face of catastrophic events

4   like pandemics and natural disasters (wind and fire).

5   The COVID-19 pandemic has challenged utilities in their readiness for the future. It has

6   greatly emphasized digitalization as a necessity to enabling today's utility business, as well as

7   highlighted opportunities for how we might accelerate structural changes to our energy delivery

8   systems, the need for digital solutions, and the redesigning of underlying business processes. For

9   example:

10   • Work-from-home and work-from-anywhere requirements triggered by public health

11   and employee safety requirements have accelerated back- and front-office

12   digitalization and adoption of new employee collaboration technologies and digital

13   customer engagement platforms.

14   • Functions that are critical to the integrity and functional readiness of power systems —

15   like network control and power plant operation — face serious challenges from the

16   enhanced service continuity and workforce physical distancing requirements.

17   • Redesign work processes and reimagine business capabilities to sustain utility

18   operations in the new work environment, by including technology capabilities for

19   employee productivity, customer engagement, and operations processes.

20   **Q.   How do technology investments align with Avista's investment drivers to**

21   **sustain business processes and to deliver on strategic goals, which include customer, our**

22   **people, perform, and invent?**

1   A.   Avista's technology investments generally fall under the Performance and Capacity

2   investment drivers to meet defined performance criteria, such as transaction response time for

3   energy bill inquiry, and to manage the performance level of technology assets based on a

4   demonstrated need or financial analysis. Some of these needs include system availability of 99.8%

5   and system utilization capacity of 50% average, which in turn informs the level of investment in

6   business continuity and disaster recovery. These performance criteria vary from one technology

7   solution to another and can be driven by technology vendor roadmaps surfacing new requirements

8   and customer expectations. In some cases, one vendor-driven requirement can result in cascading

9   changes to establish new performance criteria for systems to perform effectively. An example of

10   this is when business application such as a Customer Relationship Management system requires

11   an upgrade to a web browser, like the new version of Microsoft in order to perform effectively

12   resulting in acceptable transaction response time and high system availability to meet customer

13   needs.

14   As the pace of technology continues to change rapidly, systems quickly are becoming more

15   complex requiring automation to manage them. This drives investments in system automation tools

16   such as Cloud Access Security Broker (CASB) security software. A cloud access security broker

17   is software that sits between cloud service users and cloud applications (e.g., Amazon). CASB

18   monitors all activity and enforces security policies helping to manage performance and capacity

19   of applications like Amazon Web Services. More importantly, customers must navigate these

20   complex technologies with the confidence that they can transact business with Avista and other

21   service providers in a secure manner. By focusing on maintaining the performance and capacity

22   of technology solutions, it aligns directly with our strategic goals, which focus on putting

1   customers at the center, empowering our people, optimizing our people and system performance,

2   and providing a secure platform for our customers to conduct business with Avista.
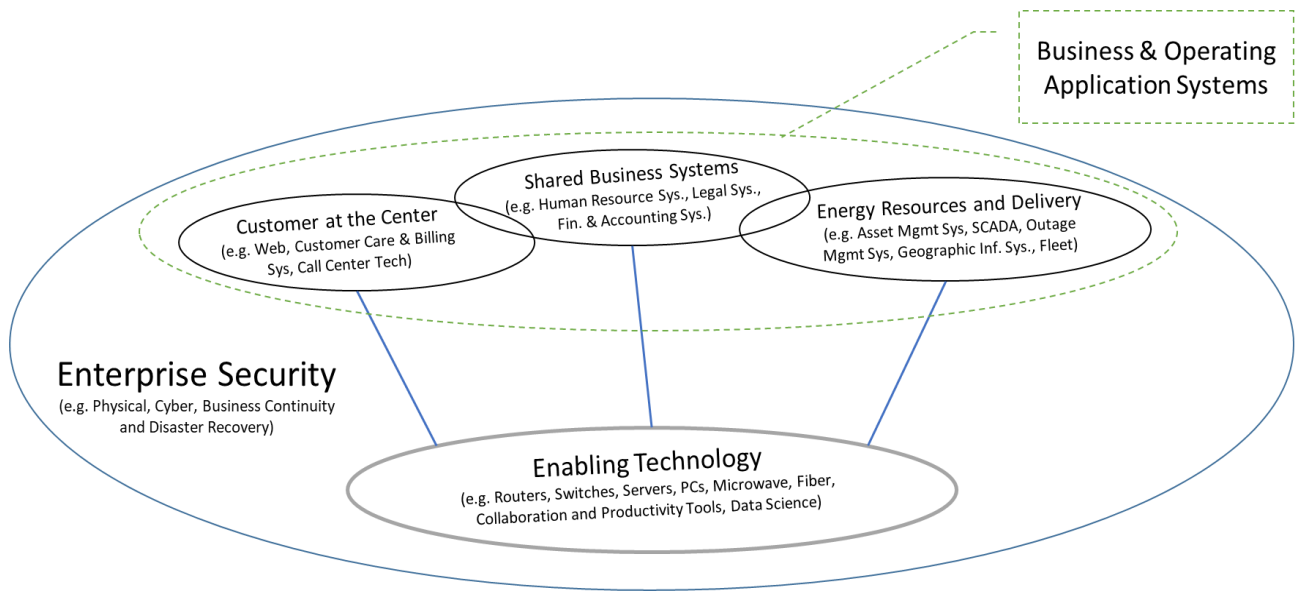
3   **Q.   How is Avista's technology investments structured to support business**

4   **processes?**

5   A.   Avista's technology investments fall into two major areas: enabling technology and

6   business and operating application systems. Additionally, we take an enterprise-wide approach to

7   security and disaster recovery (resiliency) that envelopes our technology investment efforts to

8   protect our people, our assets, and our facilities. Our business continuity/resiliency plan was tested

9   this year during our COVID-19 pandemic response, exacerbated by windstorms and wildfires that

10   resulted in wide-spread outages throughout our service territory. Our enabling technology (e.g.,

11   data/voice networks, customer and electric/gas asset management databases) along with the

12   business and operating applications such as our Website, SCADA applications, and Outage

13   Management System performed very well.

14   Specifically, enabling technology, consists of the technology infrastructure (such as data,

15   endpoint compute and storage that includes hardware such as Personal Computers (PC) Laptops,

16   Smartphones and Digital Storage. Enabling technology also includes operating systems, network

17   transport connectivity which include devices like routers and switches. Additionally, enabling

18   technology includes databases and data schemas, integrations, business intelligence tools,

19   communication and collaboration platforms, etc. necessary to enable business capabilities through

20   business application systems. It is the foundation on which we deliver energy safely and reliably,

21   meet business objectives, and create value for our customers.

1   Illustration No. 1 below shows the relationship between Enabling Technologies, Business

2   & Operating Application Systems and Enterprise Security and how those fit into the different

3   capital business cases discussed later in my testimony.

4   **<u>Illustration No. 1- Business Technology Structure:</u>**

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Business & Operating Application Systems

Shared Business Systems
(e.g. Human Resource Sys., Legal Sys., Fin. & Accounting Sys.)

Customer at the Center
(e.g. Web, Customer Care & Billing Sys, Call Center Tech)

Energy Resources and Delivery
(e.g. Asset Mgmt Sys, SCADA, Outage Mgmt Sys, Geographic Inf. Sys., Fleet)

Enterprise Security
(e.g. Physical, Cyber, Business Continuity and Disaster Recovery)

Enabling Technology
(e.g. Routers, Switches, Servers, PCs, Microwave, Fiber, Collaboration and Productivity Tools, Data Science)

14   Business and operating application systems are represented above as customer at the center

15   (as discussed by Company witnesses Mr. Vermillion and Mr. Magalsky), shared business systems

16   and energy resources enable business capabilities. Some of the capabilities within these areas

17   include: providing customers with near real-time information on outages and estimated restoration

18   times or automated bill-pay options, electric and natural gas service design in the field for prompt

19   installation of new electric or natural gas service, storm damage assessment for quicker restoration

20   efforts, fleet vehicle use and driving data to plan vehicle maintenance and increase driver safety,

21   real-time vibration monitoring for large generators to optimize performance and avoid

22   maintenance outages, track training courses for employees to meet compliance requirements, and

23   many more. Business application systems enable business capabilities by automating business

1   processes to optimize efficiencies and add functionality that cannot be duplicated manually at

2   scale. Some examples of this include a three-dimensional imaging of system planning, geographic

3   spatial positioning of assets in the field, near real-time information on system performance, or

4   storage of volumes of compliance data to meet annual requirements from various agencies.

5   Together, both platforms (enabling technology and business and operating application

6   systems) work symbiotically to enable business capabilities. Enabling technology does not exist

7   just to exist, just as business application and operating systems cannot exist without enabling

8   technology. And just as importantly, neither of the two can co-exist without proper security to

9   protect the information that is used to make business decisions and deliver energy to our customers.

10

11   **III.   IS/IT PRIORITIZATION, DELIVERY AND GOVERNANCE PROCESS**

12   **Q.   How are the enabling technologies and business and operating application**

13   **systems business cases and projects mentioned above prioritized within IS/IT?**

14   A.   The IS/IT department uses a decision tree designed by Gartner[1] for both enabling

15   technologies and business and operating application systems to help organize capital projects into

16   three categories: Run, Grow and Transform. The definition of those categories are as follows:

17   • Run – This includes technology projects aimed at running the day-to-day business.

18   (e.g., Outage Management, Web, IVR, SCADA, Financial)

19   • Grow – These projects are focused on developing and enhancing systems to enable

20   business growth including new customers.

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[1] Gartner - https://www.gartner.com/smarterwithgartner/align-it-functions-with-business-strategy-using-the-run-grow-transform-model/

1   • Transform- These projects aid the Company in, addressing new customer and

2   employee needs that more recently have included remote work and mobile

3   transactions. It also includes new operating models such as outage restoration and

4   wildfire resiliency.

5   **Q.   Please   describe   any   material   changes   that   impacted   Avista's**

6   **technology programs since your last rate filing.**

7   A.   Historically, a majority of Avista's technology investment business cases have been

8   classified under the asset condition investment drivers, this was due to the stride of technological

9   change outpacing the life of the asset. However, over the last few years, the lives of technology

10   assets are not adequate to support the enabling technologies and business and operating

11   applications and therefore, have been reclassified under the performance and capacity investment

12   driver. This investment driver more closely aligns with the need to upgrade technology systems

13   due to the capacity and performance expectations of the Company and our customers.

14   Another material change that has impacted the IS/IT area is the Company's response to

15   COVID-19 pandemic as discussed earlier in my testimony. The Company needed to quickly deploy

16   additional devices such as laptops and monitors, increase network capacity in both hardware and

17   bandwidth in order to create an efficient working environment for employees and maintain

18   acceptable customer support levels. The Company responded by quickly deploying over 1,000

19   employees to work remotely in a matter of a few weeks. This would not have been possible if the

20   Company wasn't already in the process of creating and implementing strong enabling technologies

21   and business and operating technology applications (e.g., Skype, field automation).

22   **Q.   Did Avista consider alternatives to technology investments?**

1   A.   Alternatives are considered to determine if opportunities are available using

2   existing technology and/or changes to business processes as well as new technology options. For

3   example, a growing alternative to the traditional "buy or build" approach has been Software as a

4   Service (SaaS), whereby the software asset that once was in Avista's data center on premise, is

5   now in the technology vendor's data center (cloud environment). SaaS assessments are performed

6   by the Company on a case-by-case to determine how the benefits might outweigh the costs and/or

7   other risks.

8   **Q.   Describe the alternatives evaluated and how the solutions were chosen.**

9   A.   Technology evolves in short cycles, as new and sometime more improved

10   technologies can perform more efficiently than older ones. Therefore, Avista's technology

11   leadership teams continuously re-evaluate alternatives in technology investments, recommending

12   to the Technology Planning Group (TPG – comprised of Directors from each business area) the

13   best sets of technology investments to set priority across the technology investment portfolio,

14   balancing business value and customer benefits.

15   Through our technology programs, Avista evaluates and plans the direction of its

16   information technology portfolio. A team of IS/IT professionals, managers, and directors guide

17   technology programs by analyzing the benefits and costs of investing in new technology and

18   maintaining existing technology. The team considers whether the current technology environment

19   is stable and secure (e.g., run-the-business), so that it is in Avista's and its customers' best interests

20   to maintain it, and if so, for how long. If not, other options that may better suit the technology

21   needs of Avista and its customers are discussed. The technology programs also evaluate the risks

22   of not making an immediate technology change or delaying a change to a later date.

1   Technology business cases are governed under the Technology Planning Group and

2   Executive Technology Steering Committee (ETSC). The TPG sets priority across the technology

3   investment portfolio, balancing business value and customer benefits, and based on the ETSC's

4   guidance. An additional filter is applied following this vetting by the TPG and respective business

5   case owners considering resource capacity, risk assessment criteria, and alternatives. Alternative

6   criteria can include cost to implement, operate, and maintain; complexity of system or technology;

7   economies of scale and scope to leverage previous technology investments; available skillsets, and

8   long-term technology roadmaps that enable safe and reliable energy to our customers.

9   **Q.   Describe Avista's project management process that was used to**

10   **manage technology projects.**

11   A.   Avista manages its technology projects by following Avista's Project Delivery

12   Process (APDP) Framework. The APDP framework is in alignment with industry best practice

13   that is outlined by the Project Management Institute® (PMI).[2] The APDP framework was

14   developed to establish a standardized practice in project management at Avista across all areas of

15   capital investment. Avista's technology department has a Project Management Office (PMO),

16   congruent with the APDP Framework, which acts as a center of excellence to maintain project

17   management standards for project delivery. Each technology investment is overseen by a project

18   manager to monitor scope, schedule, and budget. Each project is also governed by a steering

19   committee for proper oversight. Additionally, Avista's technology department uses a Project and

20   Portfolio Management tool (CA Technologies) to manage portfolios, programs, and hundreds of

21   parallel inflight projects. Our technology teams also perform their work assignments using

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[2] https://www.pmi.org/

1   'waterfall' and 'agile' methodologies. In addition to governance and tracking of each project, the

2   IS/IT department also has a layer of governance at the business case level consisting of

3   management and other IS/IT stakeholders of the overarching business case.

4

5   IV.   **MAJOR INVESTMENTS IN TECHNOLOGY PROGRAMS AND**
6   **ENTERPRISE SECURITY IN 2018 AND 2019**
7

8   **Q.   Are there any specific 2018 or 2019 IS/IT investments you would like to**

9   **elaborate on?**

10   A.   Yes. As discussed by Company witness Ms. Schultz, for projects included since

11   our last general rate case and through the 2019 test year, Avista's capital witnesses, including

12   myself, describe certain major projects completed in 2018 and 2019. For these major projects, my

13   testimony and exhibits provide an overview of the need for the investments made and detail how

14   those projects benefit our customers. The selection of major projects was based on any project, on

15   a Washington-allocated basis, that was greater than $5 million for electric operations and greater

16   than $2 million for natural gas operations. We believe this designation is consistent with the

17   information provided in the Company's prior general rate cases. In addition, provided as Exh.

18   JMK-2 is a listing, including project/program name, description and amount transferred to plant,

19   for every project or program completed in 2018 and 2019 that I sponsor. Additionally, several of

20   the pro forma 2020 projects discussed later in my testimony are similar to projects or programs

21   which occurred in 2018 and 2019 (and which are discussed in Exh. JMK-2). The information that

22   supports those 2020 pro forma projects and programs also help to support several projects and

23   programs that transferred in 2018 and 2019.

1   **Q.**   **Please list the major projects and dollars transferred to plant in 2018 and**

2   **2019?**

3   A.   The table below shows the one major technology project in 2018 and 2019 that met

4   the designation of major for historical 2018 and 2019 projects. The description of the endpoint

5   compute program is listed below under the enabling technologies as Project #1.

6   **Table No. 1: 2018 and 2019 Major Projects**

Project #	Business Case		2018 TTP (System)	2019 TTP (System)	Exh. JMK-3 Page #
Enterprise Technology					
1	Enabling Technology	Endpoint Compute and Productivity Systems	$ 1,033,833	$ 10,919,526	2
Total Enterprise Technology			$ 1,033,833	$ 10,919,526	
Exh. JMK-1T Total Major Investments for 2018 & 2019			$ 1,033,833	$ 10,919,526	

10   **Project #1 - Endpoint Compute and Productivity Systems**

11   **Q.**   **Please describe the Company's Endpoint Compute and Productivity Systems**

12   **program.**

13   A.   This program addresses technology obsolescence by delivering technology

14   solutions required to support day-to-day, automate and enable business processes. Technology

15   solutions under this program include, but are not limited to, Personal Computer (PC) hardware and

16   operating systems, various handheld devices, printers, configuration and management systems as

17   well as productivity toolsets like Microsoft's Office365. Each technology under this program

18   undergoes regular review of utilization and performance levels to determine if expected

19   performance standards are being met and to review the capacity requirements to maintain system

20   reliability under the established budget constraints. These reviews can result in the periodic need

21   for additional investments to address technology that is falling behind determined lifecycles

22   performance standards. Instances where performance is waning or not meeting standards can pose

23   risk to computing system reliability that may only be resolved with the reinstatement of manual

1   processes replacing automation with workforce, thereby increase labor costs, human error, and

2   overall processing delays.

3   **Q.   How does this program/project benefit Avista's customers?**

4   A.   Avista's customers benefit from technology investment in end-user hardware and

5   software assets that ensure access to and interface with systems of record to support a safe and

6   reliable infrastructure and meet compliance requirements. Additionally, and as part of keeping up

7   with vendor-driven technology obsolescence, Avista's technology team manages technology

8   lifecycle plans to maintain system reliability. These technology lifecycle plans provide

9   recommendation on technology replacement schedules. For example, Avista is undergoing a

10   Microsoft Windows 7 replacement project, which upgrades PC operating systems to Windows 10

11   and packages all compatible software applications for re-deployment to new devices. To optimize

12   deployment cost and schedule, the project team is planning to include the deployment of the

13   Microsoft Office Suite that is also due for replacement. Microsoft will no longer provide extended

14   support to Windows 7 in 2020, and therefore devices still operating in Windows 7 will be at risk

15   to no security patching or bug fixes. These operating system upgrades span across all safety,

16   control, customer and back office systems, and hundreds of applications required to safely and

17   securely deliver energy to our customers. It is vital that the Avista workforce is supported through

18   the use and regular maintenance of this program's technology solutions in order to perform day-

19   to-day job functions to deliver natural gas and electric service to customers.

20   **Q.   Where can more information be found related to the program?**

21   A.   The supporting business case for the program can be found in Exh. JMK-3, p. 2.

22   **Q.   What capital transfers to plant for this program did Avista make in 2018 and**

23   **2019?**

1   A.   The total capital investment was \$1,033,833 and \$10,919,526 in 2018 and 2019,

2 respectively, on a system basis.

3   **Q.   Please describe the large variance in transfers-to-plant between 2018 and 2019**

4 **in this program of more than \$9 million.**

5   A.   The transfers that occurred in 2018 were from May through December as this

6 business case was originally a part of the Technology Refresh and Technology Expansion business

7 cases that were sunset in May of 2018. In addition, in 2019 the Company completed the Windows

8 10 refresh project under this business case that cost approximately \$7.5 million of the 2019

9 transfers-to-plant.

10

11   **V.   MAJOR INVESTMENTS IN TECHNOLOGY PROGRAMS**
12   **AND ENTERPRISE SECURITY IN 2020**
13
14   **Q.   Are you supporting pro forma 2020 capital additions as a part of your**

15 **testimony in this case?**

16   A.   Yes. Table No. 2 below provides a listing of the 2020 pro forma capital additions

17 by major category in my areas of responsibility.

1 **Table No. 2: Pro Forma 2020 Capital Additions**

WA GRC Plant Group	Project #	Project Type	Business Case	2020 TTP (System)	Exh. JMK-3 Page #
Large Distinct Projects	2	Enabling Technology	Land Mobile Radio & Real Time Communication Systems	$ 2,462,357	14
	3	Enabling Technology	Digital Grid Network	2,210,328	24
Total Large Distinct Projects				**$ 4,672,685**	
Programs	4	Enabling Technology	Enterprise & Control Network Infrastructure	$ 6,904,551	34
	5	Enabling Technology	Fiber Network Lease Service Replacement	1,053,966	43
	6	Enabling Technology	Technology Failed Assets	1,016,944	52
	7	Enabling Technology	Environmental Control & Monitoring Systems	964,720	61
Total Programs				**$ 9,940,181**	
Short-Lived Assets	1	Enabling Technology	Endpoint Compute and Productivity Systems	$ 5,033,637	2
	8	Enabling Technology	Enterprise Communication Systems	3,096,066	71
	9	Enabling Technology	ET Modernization & Operational Efficiency - Technology	2,233,462	81
	10	Enabling Technology	Data Center Compute and Storage Systems	2,105,191	92
	11	Enabling Technology	Enterprise Data Science	1,435,540	102
	12	Bus. & Op Application Tech.	Energy Delivery Modernization and Operational Efficiency	3,222,532	110
	13	Bus. & Op Application Tech.	Atlas	2,797,090	121
	14	Bus. & Op Application Tech.	Energy Resources Modernization and Operational Efficiency	1,714,386	130
	15	Bus. & Op Application Tech.	Financial & Accounting Technology	1,357,761	140
	16	Security	Enterprise Security	3,664,727	148
Total Short-Lived Assets				**$ 26,660,392**	
Exh. JMK-1T Total 2020 Pro Forma Capital Additions				**$ 41,273,258**	

10 **Q. Please provide an overview of the significant technology programs made by**

11 **Avista in 2020.**

12 A. Table No. 2 above provides the listing of significant ET business cases in 2020.

13 These business cases are summarized into three groups Large Distinct Projects, Programs, and

14 Short-Lived Assets as further explained by Ms. Schultz. These are also organized by project type

15 as discussed earlier in my testimony of <u>Enabling Technology, Business and Operating Application</u>

16 <u>Technology, and Enterprise Security</u>. Business cases for each project shown in Table No. 2 are

17 provided in Exh. JMK-3, starting at page 13.

18 **Q. Would you please explain how the capital additions for 2020 were decided on?**

19 A. Yes. As discussed by Company witness Ms. Andrews, the Company typically has

20 approximately 120 plus projects (business cases) completed on an annual basis which represent

21 the approximate $405 million of capital spending for any given year. In order to minimize the

22 projects pro formed in this case for calendar 2020, the Company used the Commission's recent

1   Used and Useful Policy Statement[3], as well as the recent PSE Order 08 in Dockets UE-190529 and

2   UG-190530 ("PSE Order")[4], for guidance in selecting projects for inclusion in this proceeding as

3   follows:

4   • First, the Company looked for a balance between the burden on parties to review and the
5   Company's need to recover 2020 capital additions that were already largely in-service
6   serving customers at the time of filing the Company's case (or would, within two months
7   of filing, be in-service through December 31, 2020), ensuring these projects meet the
8   Commission's requirement that each project is "used and useful," and "known and
9   measurable."
10
11   • Second, the Company grouped its projects to fit into the Commission defined categories:
12   1) specific, identifiable and distinct[5]; 2) programmatic (on-going programs or scheduled
13   investments), and 3) short-lived assets. The Company created a 4th category – reflecting
14   projects that are mainly "programmatic," and required to meet regulatory and other
15   mandatory obligations, titled: 4) Mandatory and Compliance. The Company excluded all
16   non-material projects generally less than $500,000 electric and $200,000 natural gas.
17
18   **Q.   Before discussing each project, generally were there any offsetting O&M Costs**

19   **for Enabling Technologies, Business & Operating Application Technology, and Enterprise**

20   **Security programs?**

21   A.   Yes. The Company calculated retirements on a total company basis and included

22   these as an offsetting cost to future depreciation expense for the Large Distinct Projects, Programs

23   and Short-Lived Assets adjustments. These offsets are included by Ms. Schultz's as she sponsors

24   the electric and natural gas Pro Forma 2020 Capital Additions Adjustments (3.12), (3.13) and

25   (3.15) as discussed in Exh. KSS-1T.

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[3]In the Commissions' "Policy Statement on Property That Becomes Used and Useful After Rate Effective Date" ("Policy Statement"), Docket No. U-190531, at par. 11, p. 5, it defines three broad types of investments they would consider for inclusion in rates: 1) specific - clearly defined, identifiable or discrete; 2) programmatic - made according to a schedule, plan or method; and 3) projected: i.e., the use of a k-factor, an attrition adjustment, or a growth analysis.
[4] PSE Order 08, par. 558, p. 163, the Commission explained its plan to address on a case-by-case basis the impact of short-lived assets on regulatory lag.
[5] The Company's pro forma 2020 additions "Customer at the Center" fits into category 1) specific, identifiable and distinct.

1   **Q.   Again, generally, what alternatives were considered for the above Enabling**

2   **Technologies, Business & Operating Application Technology, and Enterprise Security**

3   **programs?**

4   A.   Alternatives considered for each program can vary and may include the type of

5   technology solutions available in the market, the total cost of ownership for the technology, the

6   option to do the work differently, such as leasing or hiring a service, running the technology asset

7   longer by purchasing extended warranties, or running the technology to failure for technology

8   assets with an available sparing model. Additional alternatives considered under each program

9   include balancing the performance and capacity requirements for each respective technology

10   investment impacted by vendor-driven technology obsolescence lifecycles. For example, how long

11   can an upgrade be deferred before business risks become greater than the necessary upgrade. This

12   can lead to security risks by the vendors no longer offering system patches or system reliability

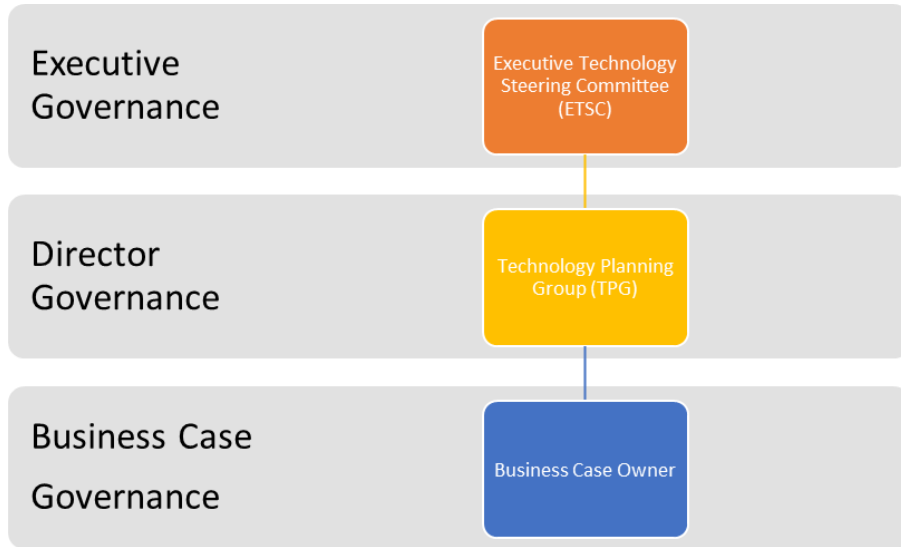13   risks as systems can become incompatible with one another.

14   **Q.   Do Enabling Technologies, Business & Operating Application Technology,**

15   **and Enterprise Security programs have completion timelines?**

16   A.   Technology investments can fall into programs with both ongoing and defined

17   timelines, as well as projects with defined timelines. All projects transfer to plant the total cost of

18   each project at the completion of every project timeline, which at times can straddle calendar years.

19   This includes projects that fall within a program, as well as those that are standalone projects.

20   Quarterly forecasts capture changes in transfers to plant schedules and costs determined by project

21   status.

22   **Q.   What is the governance or cost controls for all business cases with technology**

23   **investments?**

1   A.   There are three levels of governance that occur within technology business cases.

2   Executive, Director, and Business Case Governance detailed below in Illustration No. 2.

3   **Illustration No. 2 – Technology Governance Structure**

4

5   Executive Governance   Executive Technology Steering Committee (ETSC)

6

7   Director Governance   Technology Planning Group (TPG)

8

9   Business Case Governance   Business Case Owner

10

11

12   Under each business case there are two more levels of governance depending if it is a

13   program or project through Program Steering Committees and Project Steering Committees. Both

14   have cost control responsibilities to manage and therefore meet regularly to stay on track.

15   Governance committee responsibilities are described further below.

16   **Program Steering Committee -** The Program Steering Committee consists of members

17   in management positions that are identified and responsible for prioritizing the projects

18   within each respective program. The Program Steering Committee is accountable for the

19   financial performance of the program and hold regular meetings to review the progress of

20   the program and make decisions on the following topics:

21   •   Project prioritization and risk
22   •   Approving program funding requests
23   •   New project initiation and sequencing
24

1   The program is facilitated and administrated by an assigned Program Manager within the

2   IS/IT PMO. The project queue is reviewed periodically and consists of projects needed to

3   meet program goals for technology solutions under each respective program.

4   **Project Steering Committee -** Project Steering Committees act as the governing body

5   over each individual project within a program and consist of key members in management

6   positions that are identified as responsible for the successful completion of the scope of

7   work identified in the Charter document for each respective project. The Project Steering

8   Committee is responsible to provide guidance and make decisions on key issues that affect

9   the following topics:

10   • Scope
11   • Schedule
12   • Budget
13   • Project Issues
14   • Project Risks
15

16   Project Steering Committees meet at defined intervals documented in the Charter of the

17   project and are facilitated by an assigned Project Manager from within the IS/IT PMO.

18   **Q.   Turning back to Table No. 2, it appears that the Endpoint Compute and**

19   **Productivity Systems program listed is the same project described in the previous section of**

20   **your testimony. Is that the case?**

21   A.   Yes, the above listed Endpoint Compute and Productivity Systems program is an

22   ongoing program that had substantial investments in 2018 and/or 2019, and which will continue

23   to occur in 2020.

24   **Q.   Is all of the support for these projects and programs in 2020 the same as you**

25   **described previously for 2018 and 2019?**

1   A.   Yes, the support is the same, and therefore I will not repeat that same information

2   for these programs in this section of testimony.

3

4   **Information Related to "Enabling Technology" Projects Listed in Table No. 2**

5   **Q.   Please describe the investments in Enabling Technology in 2020 included in**

6   **Table No. 2.**

7   A.   As previously mentioned, enabling technology consists of the infrastructure

8   technology required to enable business and operating application systems that in turn enable

9   business capabilities. For comparison purposes, it is the concrete footings, the framing, the roof,

10   the conduit and drywall that transform materials into a house that people make into a home. Below

11   are the Enabling Technologies that are Large Distinct Projects, Programs, and Short-Lived Assets

12   as defined by Ms. Schultz.

13   **Q.   Projects 1 through 11 are defined as "Enabling Technology". How do the**

14   **Enabling Technology projects benefit Avista Customers?**

15   A.   Enabling technology benefits our customers by providing the underlying

16   technology infrastructure required to connect with our customers over the phone, web, text, or the

17   ability to process billing, meter reads, or communicate outages and restoration times during an

18   unplanned outage. It also enables our field workers to safely connect over the radio across rugged

19   remote locations or during storm restoration efforts that require significant field coordination to

20   maintain employee safety. As the foundation to delivering natural gas and electric service safely

21   to our customers, investing in enabling technology is a benefit to Avista's customers that is no

22   different than investing in roads, bridges, and other necessary infrastructure that benefits drivers

23   by allowing them to get to and from work or play.

1 **Project #2 - Land Mobile Radio (*Large Distinct Projects – Enabling Technology*)**

2 **Q.   Please describe the Company's Land Mobile Radio program.**

3 A.   This program addresses the essential safety requirement of delivering mobile radio

4 coverage for field staff working throughout the service territory. The investments under this

5 program provide the communication technology that enables real time 24 x 7 x 365 real-time

6 communication with natural gas and electric field staff in ever changing conditions. Due to the

7 remoteness and topology of the service territory, the technology investments span a wide range

8 across field radio sites where traditional commercial cellular or telecommunication services are

9 not available. The Land Mobile Radio & Real Time Communications Systems facilitates critical

10 communication between field personnel, dispatch, system operations, and other end users. This

11 radio system is used for normal day to day operation work, coordinating responses to outage

12 events, switching and tagging procedures, communication with external agencies including Public

13 Safety entities, and several other uses. It is a business-critical system used to maintain day to day

14 operations and respond to emergency situations. As a company that maintains critical

15 infrastructure for natural gas and electric systems, the requirement to perform work safely and

16 reliably using real time communication technology, ensures the delivery of essential services to

17 customers.

18 **Q.   Where can more information be found related to this program?**

19 A.   The supporting business case for this program can be found in Exh. JMK-3,

20 beginning on p. 14. The information included in this business case includes more information on

21 the problem and major drivers being addressed with this project, why the work is needed now (and

22 risks if the project is deferred), business impacts, alternatives that were considered and any tangible

23 risks/mitigation strategies for each alternative, timelines, and governance, among other things.

1   **Q.**   **What capital transfers to plant for this program did Avista make in 2020?**

2   A.   The total capital investment is expected to be $2,462,357 in 2020.

3

4   **Project #3 - Digital Grid (*Large Distinct Projects – Enabling Technology*)**

5   **Q.**   **Please describe the Company's Digital Grid program.**

6   A.   This program provides network solutions that optimize technology communication

7 and operations for field crews, inspectors, employees, contractors and customers, and is critical to

8 maintain the ability of providing safe and reliable electric and natural gas service. Technology

9 investments under the Digital Grid Network program are necessary for expanding and maintaining

10 network assets for system reliability and business productivity throughout our service territory.

11   **Q.**   **Where can more information be found related to the program?**

12   A.   The supporting business case for the program can be found in Exh. JMK-3,

13 beginning on p. 24. The information included in this business case includes more information on

14 the problem and major drivers being addressed with this project, why the work is needed now (and

15 risks if the project is deferred), business impacts, alternatives that were considered and any tangible

16 risks/mitigation strategies for each alternative, timelines, and governance, among other things.

17   **Q.**   **What capital transfers to plant for this program did Avista make in 2020?**

18   A.   The total capital investment is expected to be $2,210,328 in 2020.

19

20   **Project #4 - Enterprise and Control Network Infrastructure (*Programs – Enabling*
21   *Technology)***
22

23   **Q.**   **Please describe the Company's Enterprise and Control Network**

24   **Infrastructure.**

1   A.   This program provides technology network solutions that support a variety of site

2   locations and systems within each facility environment. This technology includes, but is not

3   limited to, emergency and safety systems, control systems, customer systems and enterprise back

4   office productivity systems. The technology within this program undergoes regular review to

5   balance the asset management strategy within predetermined budget allocations while mitigating

6   risks of unplanned failures.

7   Q.   How does this program/project benefit Avista's customers?

8   A.   Avista customers benefit from investment under this business case as it enables

9   business process to field offices and facilities that provide a safe, secure, and reliable infrastructure.

10   Without continuous investment in the Enterprise and Control Network Infrastructure business

11   case, Avista's telecommunication backbone would become unreliable. This in turn would have

12   significant consequences on every other business process that uses various network transportation

13   paths to move data, information or communication. These interconnections or links are not only

14   necessary but cannot be looked at independently. Instead, they are a system, a sum of many parts

15   and components that allows transmission of communication, information and data throughout our

16   service territory to deliver energy to our customers. The infrastructure is a core capability to utility

17   operations and requires reliable networks in conjunction with commercial carrier and private

18   network solutions to maintain system reliability for Avista customers.

19   Q.   Where can more information be found related to this program?

20   A.   The supporting business case for this program can be found in Exh. JMK-3,

21   beginning on p. 34. The information included in this business case includes more information on

22   the problem and major drivers being addressed with this project, why the work is needed now (and

1 risks if the project is deferred), business impacts, alternatives that were considered and any tangible

2 risks/mitigation strategies for each alternative, timelines, and governance, among other things.

3   **Q.   What capital transfers to plant for this program did Avista make in 2020?**

4   A.   The total capital investment is expected to be $6,904,551 in 2020.

5

6 **Project #5 - Fiber Network Leased Service Replacement (FNLSR) – (*Programs – Enabling***
7 ***Technology)***
8

9   **Q.   Please describe the Company's Fiber Network Leased Service Replacement**

10 **Program.**

11   A.   This project is a multi-year effort to transition Avista's use of leased fiber optic

12 cable, which transports primarily Emergency and Control network data, to private network

13 infrastructure by 2027. This transition aligns to the Company's network strategy, reduces

14 operating costs, and gains control over the 54 fiber segments for these critical communication

15 paths. An Indefensible Right to Use (IRU) agreement was established when Avista's

16 Communication subsidiary was sold with rates well below market. The IRU expires in 2027 with

17 an option to renew for (5) five years. To reduce leasing costs and maintain control of critical

18 infrastructure, Avista will not renew the leased fiber agreements.

19   **Q.   Where can more information be found related to this program?**

20   A.   The supporting business case for this program can be found in Exh. JMK-3,

21 beginning on p. 43. The information included in this business case includes more information on

22 the problem and major drivers being addressed with this project, why the work is needed now (and

23 risks if the project is deferred), business impacts, alternatives that were considered and any tangible

24 risks/mitigation strategies for each alternative, timelines, and governance, among other things.

1 **Q.   What capital transfers to plant for this program did Avista make in 2020?**

2 A.   The total capital investment is expected to be $1,053,966 in 2020.

3

4 **Project #6 - Technology Failed Assets (*Programs – Enabling Technology)*__**

5 **Q.   Please describe the Company's Technology Failed Assets Program.**

6 A.   This program includes a range of solutions from computers to hand-held radios

7 carried by field staff to printers in remote offices to networking equipment. Sometimes technology

8 assets fail prior to being refreshed as part of a lifecycle management program. Failures can be

9 caused by manufacture defects, human error, natural disasters, malicious actors, or age/runtime of

10 equipment. Any failed asset can cause downtime for an employee or system resulting in significant

11 disruption to daily operations across the service territory depending on where and to what asset

12 the failure occurred. To support these types of unplanned failures, the Technology Failed Assets

13 program was established and consists of in-portfolio technology assets for rapid replacement of

14 assets as failures occur and when repairs are not feasible. A technology inventory is maintained to

15 quickly restore business automation.

16 **Q.   Where can more information be found related to this program?**

17 A.   The supporting business case for the program can be found in Exh. JMK-3,

18 beginning on p. 52. The information included in this business case includes more information on

19 the problem and major drivers being addressed with this project, why the work is needed now (and

20 risks if the project is deferred), business impacts, alternatives that were considered and any tangible

21 risks/mitigation strategies for each alternative, timelines, and governance, among other things.

22 **Q.   What capital transfers to plant for this program did Avista make in 2020?**

23 A.   The total capital investment is expected to be $1,016,944 in 2020.

1 **Project #7 - Environmental Control and Monitoring Systems (*Programs – Enabling**
2 ***Technology)***
3

4   **Q.   Please describe the Company's Environmental Control and Monitoring**

5 **Systems Program.**

6   A.   This program addresses various technology requirements for distinct site locations

7 and supporting systems. Examples of technology solutions may include uninterrupted power

8 sources to allow systems to continue operating while waiting for an auxiliary power source to

9 come online, such as an emergency generator. For mountain top locations, heated and cooled

10 enclosures are critical to ensuring technology housed in that facility is maintained at the proper

11 temperature despite changes in outside weather.

12   **Q.   Where can more information be found related to this program?**

13   A.   The supporting business case for this program can be found in Exh. JMK-3,

14 beginning on p. 61. The information included in this business case includes more information on

15 the problem and major drivers being addressed with this project, why the work is needed now (and

16 risks if the project is deferred), business impacts, alternatives that were considered and any tangible

17 risks/mitigation strategies for each alternative, timelines, and governance, among other things.

18   **Q.   What capital transfers to plant for this program did Avista make in 2020?**

19   A.   The total capital investment is expected to be $964,720 in 2020.

20

21 **Project #8 - Enterprise Communication Systems (*Short-Lived Assets – Enabling Technology)***

22   **Q.   Please describe the Company's Enterprise Communication Systems program.**

23   A.   This program invests in communication technology beyond people exchanging

24 information, but across systems that communicate with one another to exchange data in near-real

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1   time. It addresses technology obsolescence based on vendor roadmaps to support Avista's

2   workforce in performing their day-to-day job functions. All Avista business functions are affected

3   by this program, as it enables all day-to-day work activities and automated business processes

4   around communications. From service center to call center to field work, every worker requires

5   communications systems technology to perform their business function and deliver natural gas and

6   electric service to our customers. Every customer service call is enabled by this technology, which

7   includes telephone systems, voicemail, faxes, and the interactive voice response (IVR), which has

8   been extremely helpful during peak call volumes. Communications technology has also been

9   critical in keeping our workforce connected, while many of our staff are required to work remotely

10   to minimize risk to those in roles of critical operations. These investments include video- and tele-

11   conferencing platforms, electronic mail, instant messaging and calendar systems to support a

12   digital workforce that during the COVID-19 pandemic are proving to be very effective in

13   supporting remote work during 'stay at home' orders issued by state governments throughout our

14   service territory.

15   **Q.   Where can more information be found related to this program?**

16   A.   The supporting business case for this program can be found in Exh. JMK-3,

17   beginning on p. 71. The information included in this business case includes more information on

18   the problem and major drivers being addressed with this project, why the work is needed now (and

19   risks if the project is deferred), business impacts, alternatives that were considered and any tangible

20   risks/mitigation strategies for each alternative, timelines, and governance, among other things.

21   **Q.   What capital transfers to plant for this program did Avista make in 2020?**

22   A.   The total capital investment is expected to be $3,096,066 in 2020.

23

1 **Project #9 - Enterprise Technology Modernization & Operational Efficiency (*Short-Lived**
2 ***Assets – Enabling Technology*)**
3

4 **Q.   Please describe the Company's Enterprise Technology Modernization &**

5 **Operational Efficiency program.**

6 A.   This program was designed to keep up with the growth of business application

7 technology and complexity. The program invests in the platforms and tools to address the needs

8 of the IS/IT department to support business applications. These technology platforms and tools

9 provide functional enhancements that address ongoing changes in the workplace, provide

10 increased employee efficiency through the reduction of steps required to complete a task, and make

11 better use of Avista resources. They shift efforts from inefficient processes to more value-driven

12 activities by leveraging the technology to meet both planned and unplanned business needs. The

13 technology tools and systems under this program benefit all Avista customers, as they support

14 business application systems throughout the Company.

15 **Q.   Where can more information be found related to this program?**

16 A.   The supporting business case for this program can be found in Exh. JMK-3,

17 beginning on p. 81. The information included in this business case includes more information on

18 the problem and major drivers being addressed with this project, why the work is needed now (and

19 risks if the project is deferred), business impacts, alternatives that were considered and any tangible

20 risks/mitigation strategies for each alternative, timelines, and governance, among other things.

21 **Q.   What capital transfers to plant for this program did Avista make in 2020?**

22 A.   The total capital investment is expected to be $2,233,462 in 2020.

1 **Project #10 - Data Center Compute and Storage (*Short-Lived Assets – Enabling Technology)*__**

2   **Q.   Please describe the Company's Data Center Compute and Storage program.**

3   A.   This is a program of investments in server technology required to process and store

4 massive amounts of data to automate and enable business processes that support natural gas and

5 electric customers across service territories. The technology solutions to meet performance

6 standards and reliability requirements can vary from hardware and software upgrades in an on-

7 premise data center, offsite storage, or service provider (cloud) facility, or in operating technology

8 to optimize compute and storage capacity. Avista's office, call center, and field staff require on-

9 demand information to meet customer needs when providing natural gas and electric service to

10 customers across our service territory. The information can be critical to prevent, reduce, affect,

11 or optimize an outcome that benefits our customers. Enabling technology, data center processing

12 and storage investment benefits all Avista customers, as it optimizes cost and productivity by not

13 reverting to manual business processing, which would result in increased labor costs, human error,

14 and overall processing delays.

15   **Q.   Where can more information be found related to this program?**

16   A.   The supporting business case for this program can be found in Exh. JMK-3,

17 beginning on p. 92. The information included in this business case includes more information on

18 the problem and major drivers being addressed with this project, why the work is needed now (and

19 risks if the project is deferred), business impacts, alternatives that were considered and any tangible

20 risks/mitigation strategies for each alternative, timelines, and governance, among other things.

21   **Q.   What capital transfers to plant for this program did Avista make in 2020?**

22   A.   The total capital investment is expected to be $2,105,191 in 2020.

1   **Project #11 - Enterprise Data Science** *(Short-Lived Assets – Enabling Technology)*

2   **Q.   Please describe the Company's Enterprise Data Science program.**

3   A.   This program addresses the need to democratize data and analytics, across the

4   enterprise to empower our employees to use expertise, ingenuity, and innovation to better serve

5   our customers and the communities across our service territory. The program acts as a Center of

6   Excellence to help migrate further towards managing data and is intended to unlock additional

7   value contained in Avista's enterprise data assets, using analytic tools that enhance enterprise

8   capabilities. Value is delivered through the development of use-cases as jointly scoped and

9   prioritized with each of the requesting business units. Aside from the business insights derived

10   through use-cases developed, this program also supports change management of new analytics

11   tools and skills development within the enterprise to promote self-service. Through the

12   implementation of this program, users can access enterprise information more easily, better

13   understand what the data means including how it may be related to other disparate data sets and

14   use analytic tools that help support the development of meaningful insights. The program has

15   extracted key insights that benefit the customer and other stakeholders, which may be challenging

16   to implement on an enterprise level in the absence of this program. Some examples of customer

17   benefits delivered under the program from prior use-cases include:

18   • Reduced operating costs (i.e., customers mostly likely to switch to paperless

19   billing).

20   • Products that matter to customers (i.e., customers most likely to adopt new products

21   such as community solar, roof-top solar, natural gas, etc.)

1   • Low-income analysis (i.e., analysis supporting need to increase low-income

2   funding for energy efficiency programs, LIRAP analysis that shows at risk

3   customers that may qualify for energy program assistance).

4   **Q.   Where can more information be found related to this program?**

5   A.   The supporting business case for this program can be found in Exh. JMK-3,

6   beginning on p. 102. The information included in this business case includes more information on

7   the problem and major drivers being addressed with this project, why the work is needed now (and

8   risks if the project is deferred), business impacts, alternatives that were considered and any tangible

9   risks/mitigation strategies for each alternative, timelines, and governance, among other things.

10   **Q.   What capital transfers to plant for this program did Avista make in 2020?**

11   A.   The total capital investment is expected to be $1,435,540 in 2020.

12

13   **Information Related to "Business and Operating Application Technology" Projects Listed**
14   **in Table No. 2**
15

16   **Q.   Please describe major investments in Business and Operating Application**

17   **Technology in 2020.**

18   A.   Business and Operating Application Systems are the engines that allow companies

19   like Avista to deliver value at scale to our customers across our entire service territory. They

20   produce, store, and compute information that allow decision-making and automate what once were

21   manual processes. This is more than digitizing a document that was once printed on a piece of

22   paper. Today, business application systems integrate information to produce opportunities for fine

23   tuning to remove waste and unnecessary steps or handoffs, which all result in optimization of time

24   and cost. These efficiencies are continuously pursued in the benefit of our customers, as it results

1   in the delivery of energy more efficiently. All the <u>Business and Operating Applications</u>

2   <u>Technology</u> projects included in the Company's case, fall under the Short-Lived Assets

3   Classification, as shown in Table No. 2, projects 12 through 15.

4

5   **Project #12 - Energy Delivery Modernization and Operational Efficiency (EDMOE)**

6   **Q.   Please describe the Company's Energy Delivery Modernization and**

7   **Operational Efficiency program.**

8   A.   This business case supports both existing and new technologies leveraged by the

9   Energy Delivery business areas including Gas Engineering & Operations, Electric Engineering &

10   Operations, Asset Management & Supply Chain, Facilities, and Fleet Operations & Metering.

11   These technologies are used to automate and augment business solutions bringing efficiencies and

12   capabilities to support the delivery of energy to customers. This support includes the following: 1)

13   improving the performance and capacity of business resources by implementing new functionality

14   in existing technologies, 2) improving the performance and capacity of business resources by

15   implementing overall new technologies, and 3) modernizing existing technologies in accordance

16   with product lifecycles and technical roadmaps, typically through product or system upgrades.

17   **Q.   How does this program/project benefit Avista's customers?**

18   A.   The technologies in this business case enable the workers in various teams to

19   respond to customer requests faster, provide accurate, timely and complete information to

20   customers, and improves customer satisfaction when interacting with Avista. Other benefits for

21   the utility and customers include cost savings, safety, regulatory compliance and innovative,

22   customer focused products and services.

23   **Q.   Where can more information be found related to this program?**

1 A. The supporting business case for this program can be found in Exh. JMK-3,

2 beginning on p. 110. The information included in this business case includes more information on

3 the problem and major drivers being addressed with this project, why the work is needed now (and

4 risks if the project is deferred), business impacts, alternatives that were considered and any tangible

5 risks/mitigation strategies for each alternative, timelines, and governance, among other things.

6 **Q. What capital transfers to plant for this program did Avista make in 2020?**

7 A. The total capital investment is expected to be $3,222,532 in 2020.

8

9 **Project #13 - Atlas**

10 **Q. Please describe the Company's Atlas program.**

11 A. This is a multi-year year program to strategically replace the suite of custom

12 Geographic Information System (GIS) applications known as Avista Facility Management (AFM).

13 AFM is the system of record for spatial electric facilities in Washington and Idaho and natural gas

14 facility data in Washington, Idaho and Oregon and provides the connectivity model to support GIS

15 engineering and analysis applications. The AFM is a cornerstone to Avista's ability to provide

16 responsive service across its territory. Replacing AFM will enable Avista to take advantage of

17 commercial GIS applications that provide improved mobile and desktop functionality, increased

18 collaboration capabilities and increased reliability.

19 **Q. How does this program/project benefit Avista's customers?**

20 A. Improvement of customer experience is at the core of Atlas Program. The proposed

21 next generation applications will enable Avista workers, office and field, to respond to customer

22 requests faster; provide information to customers that is more accurate, timely and complete; and

23 improve customer experience when interacting with Avista. By investing in new commercial

1   solutions, Avista gains the ability to more fully integrate with natural gas and electric planning and

2   analysis tools. This leads to a better understanding of infrastructure weaknesses that may exist

3   and be able to proactively reinforce those areas improving reliability for the customers.

4   **Q.   Where can more information be found related to this program?**

5   A.   The supporting business case for this program can be found in Exh. JMK-3,

6   beginning on p. 121. The information included in this business case includes more information on

7   the problem and major drivers being addressed with this project, why the work is needed now (and

8   risks if the project is deferred), business impacts, alternatives that were considered and any tangible

9   risks/mitigation strategies for each alternative, timelines, and governance, among other things.

10 **Q.   What capital transfers to plant for this program did Avista make in 2020?**

11 A.   The total capital investment is expected to be $2,797,090 in 2020.

12

13 **Project #14 - Energy Resources Modernization and Operational Efficiency**

14 **Q.   Please describe the Company's Energy Resources Modernization and**

15 **Operational Efficiency program.**

16 A.   This program supports the application-related technology initiatives for all areas

17 within Energy Resources, which includes Power Supply, Gas Supply, Generation Production

18 Substation Support (GPSS), and Environmental and Real Estate. Application refresh projects are

19 necessary to maintain updates, upgrades and/or replacements to existing Energy Resource

20 applications, to respond to changing business needs and/or technical obsolescence. These refreshes

21 or upgrades are essential to remain current, maintain compatibility, reliability and address security

22 vulnerabilities.

23 **Q.   How does this program/project benefit Avista's customers?**

1   A.   Many of the applications and respective projects in this Business Case provide

2 direct support to Avista customers, while the remaining provide many indirect benefits. Some

3 benefits to upgrades and enhancements to these systems include: promoting risk management,

4 utilizing technology for informed decision-making, monitoring generation facilities, sharing

5 generation resources to provide efficient use of renewable energy at the lowest available cost,

6 advancing the 'Innovation and Performance' focus, increasing productivity and efficiency and

7 maintaining compliance with all FERC, NERC and FCC rules.

8   Q.   **Where can more information be found related to this program?**

9   A.   The supporting business case for this program can be found in Exh. JMK-3,

10 beginning on p. 130. The information included in this business case includes more information on

11 the problem and major drivers being addressed with this project, why the work is needed now (and

12 risks if the project is deferred), business impacts, alternatives that were considered and any tangible

13 risks/mitigation strategies for each alternative, timelines, and governance, among other things.

14   Q.   **What capital transfers to plant for this program did Avista make in 2020?**

15   A.   The total capital investment is expected to be $1,714,386 in 2020.

16

17 **Project #15 - Finance & Accounting Technology**

18   Q.   **Please describe the Company's Finance & Accounting program.**

19   A.   This program supports financial applications critical to maintaining the financial

20 health and compliance of regulatory requirements through the completion of reoccurring business

21 processes. The business processes change on a frequent basis, driven by several factors and is

22 dictated by the lifecycles of the applications governed in the business case, further requiring

23 resources and adaptive technology solutions. Investment in this program provides the resources to

1   keep the systems and automation processes in line with the changes in business process, as well as

2   ensuring the systems are current in their lifecycle to maintain supportability, compatibility,

3   security, and reliability. These applications serve all customers and operations throughout all

4   service territories.

5   **Q.   How does this program/project benefit Avista's customers?**

6   A.   The primary driver of this business case is performance and capacity and serves to

7   maintain systems to support business process allowing the business area to operate in an efficient

8   manner. Without properly managed business processes or lifecycles of business applications,

9   customers would potentially see difficulty in Avista's ability to report Company financials,

10   jeopardizing the trust, integrity, and the services provided.

11   **Q.   Where can more information be found related to this program?**

12   A.   The supporting business case for this program can be found in Exh. JMK-3,

13   beginning on p. 140. The information included in this business case includes more information on

14   the problem and major drivers being addressed with this project, why the work is needed now (and

15   risks if the project is deferred), business impacts, alternatives that were considered and any tangible

16   risks/mitigation strategies for each alternative, timelines, and governance, among other things.

17   **Q.   What capital transfers to plant for this program did Avista make in 2020?**

18   A.   The total capital investment is expected to be $1,357,761 in 2020.

19

20   **Information Related to "Security" Projects Listed in Table No. 2**

21   **Q.   Please describe major investments in <u>Enterprise Security</u> – Physical and**

22   **Cyber Security, Business Continuity, and Disaster Recovery in 2020.**

1   A.   Avista understands that a safe, reliable, and secure energy infrastructure is essential

2   to the economies in the areas that we serve and our customer's way of life and that intruders can

3   use a variety of cyber and physical attacks to try and disrupt the delivery of safe, reliable, and

4   secure energy. Cyber and physical attacks can not only have a reliability impact but also can lead

5   to data breaches, ransomware, or other costly system repairs and threaten employee safety. Based

6   on information from our government partners in the Information Sharing and Analysis Centers

7   (ISACs), FBI, DHS, and State Fusion Centers, we know the attacks continue to grow in size and

8   complexity and therefore it is prudent that Avista continues to invest in its cyber, physical and

9   business continuity programs. Major investments in Enterprise Security fall into two areas:

10   physical security and cybersecurity. The Enterprise Security project included in the Company's

11   case fall under the Short-Lived Assets Classification as shown in Table No. 2, project 16.

12

13   **Project #16 - Enterprise Security**

14   **Q.   Please describe the Company's Enterprise Security program.**

15   A.   Physical security investments are vital to protecting our people, assets, and

16   information and are the first line of defense to deter an intruder from harming our employees or

17   gaining access to critical resources. Fencing, lighting, access control, and cameras all play a role

18   in deterring, detecting, delaying, and responding to intrusions. Physical security technology is also

19   transforming. Legacy systems are analog while newer systems are digital. These modern systems

20   run on traditional IT networks rather than being stand-alone systems and have advanced

21   capabilities. For example, legacy cameras only show a fixed view and are not capable of using

22   Artificial Intelligence (AI) to identify objects or activity within their field of view. Instead, they

23   must rely upon humans for detection which can be costly and prone to mistakes. The newer

1   systems use AI and can alert based on someone entering a restricted area, identify if they left

2   anything behind, and record traits of the individual like the color of clothing and even perform

3   facial recognition. Adopting this newer technology allows for quicker detection and response to

4   events that may impact our people, assets, and information.

5   Not only are physical security systems advancing, but so are cybersecurity systems. Threat

6   actors continue to evolve their tactics in response to our defenses and therefore investments that

7   were effective in the past, need to be enhanced with an upgrade or paired with another solution to

8   help mitigate new risk. Firewalls, anti-virus, and intrusion detection systems all continue to evolve

9   and release enhancements to ensure they are effective in preventing and detecting modern attacks.

10 An example of this is the shift from using signatures to detect security events to using attack

11 patterns. Signature-based detection relies upon the piece of malware being known so a vendor can

12 write a detection signature. Pattern-based detection does not rely upon signatures. Instead,

13 algorithms are used, and they monitor behavior and system activity to spot patterns that match

14 malicious behavior. The advantage of this approach is new malware can be detected in real-time

15 rather than having to wait for a signature to be released by the vendor. This increases the speed at

16 which Avista can detect and respond to cybersecurity events which decrease the likelihood of a

17 cyber intruder being successful.

18 **Q.   How does this program/project benefit Avista's customers?**

19 A.   Investing in physical and cyber security is a direct benefit to our customers, as it is

20 critical to the protection of the natural gas and electric infrastructure. It is also protecting the

21 Company's sensitive customer, employee, operating, and financial information. Unable to predict

22 when or where the next attack will occur requires a proactive security posture to identify, protect,

23 detect, respond, and recover from any incident type. This may include a physical breach to a

1   Company facility, such as a construction yard or substation targeted for copper wire or precious

2   metals that can be cashed in for recycling, or a data breach to capture sensitive customer

3   information or operational data critical to delivering electric and natural gas service that can be

4   used to perpetuate future attacks on the Company or its customers. In either case, theft of a

5   physical or cyber asset can result in unanticipated costs to remediate damages, risk the safety and

6   reliability of the energy system, or release sensitive data that the Company stewards.

7   **Q.   Where can more information be found related to this program?**

8   A.   The supporting business case for this program can be found in Exh. JMK-3,

9   beginning on p. 148. The information included in this business case includes more information on

10   the problem and major drivers being addressed with this project, why the work is needed now (and

11   risks if the project is deferred), business impacts, alternatives that were considered and any tangible

12   risks/mitigation strategies for each alternative, timelines, and governance, among other things.

13   **Q.   What capital transfers to plant for this program did Avista make in 2020?**

14   A.   The total capital investment is expected to be $3,664,727 in 2020.

15

16   **VI.   IS/IT OPERATING AND MAINTENANCE EXPENSES**

17   **Q.   Please summarize the incremental IS/IT O&M expenses beyond the**

18   **Company's 2019 historical test period, included in this case.**

19   A.   In Company witness Ms. Andrews' Electric and Natural Gas Pro Forma Study, she

20   has pro formed security, information services, and technology expenses, including non-labor costs

21   associated with products and services, licensing and maintenance fees, and other costs for a range

22   of information services programs that will be in place during the rate period beginning on October

23   1, 2021. These incremental expenditures are necessary to support Company cyber and general

1   security, emergency operations readiness, electric and natural gas facilities and operations support,

2   and customer services. In this case, IS/IT has narrowed the scope of incremental expenses to

3   known and measurable non-labor items. These incremental expenses are based on having a

4   contractual agreement in place, are pre-paid costs, or are the continuation of costs for products and

5   services that have increased beyond the 2019 historical test period. Further detail supporting these

6   IS/IT incremental expenses have been included with Ms. Andrews' workpapers and provided with

7   the Company's filed case.

8   **Q.   What is driving the increase in these non-labor O&M expense categories?**

9   A.   The main driver of the increase in these non-labor expenses is IS/IT capital

10   investments in Enabling Technology, Business & Operating Application Systems, and Enterprise

11   Security as described above in the IS/IT overview. Capital investments in technology result in

12   increases to product support and maintenance expenses for each of the systems. Another

13   significant driver of increased non-labor expense is the continuing trend of software vendors

14   changing how they license and deliver software solutions; examples include a shift from a

15   perpetual license to a subscription license, or from an on-premises solution to a cloud-based

16   solution. In addition, software vendors regularly increase the cost of ongoing maintenance and

17   support to keep up with the cost of enhancing, fixing and supporting their products, and to align

18   with market driven forces such as annual consumer price index increases.

19   Table No. 3 below categorizes the non-labor incremental system expense increases

20   included in this case into the types of capital investment and underlying general functional areas

21   that can drive incremental increases.

1   **Table No. 3 - Non-Labor Incremental System Expense (System):**

	2019	2020 incremental	2021 incremental
Enabling Technology	3,322,807	604,054	276,398
Business & Operating Application Systems	8,526,707	1,145,251	1,549,728
Enterprise Security	1,113,209	213,699	86,701
Grand Total	**12,962,722**	**1,963,005**	**1,912,827**

6   **Q.   What are the primary <u>incremental</u> IS/IT non-labor O&M expenses?**

7   A.   The primary incremental non-labor O&M expenses include Hardware and Software

8   License support and maintenance, and Software Services and Subscriptions. Hardware and

9   Software License support and maintenance are costs associated with a traditional licensing model

10   where a capital asset license is purchased along with the required license support and maintenance

11   costs. Support and maintenance costs are the ongoing expense portion associated with vendor

12   provided security patches, bug fixes, incremental upgrades, and expert technical support with pre-

13   determined service level agreements. Software Services and Subscriptions are costs associated

14   with a less traditional but increasingly more common licensing model where all or most of the

15   license cost is considered ongoing expense, rather than a capital asset license. Examples can

16   include items like Software as a Service, data feeds, or site license subscriptions. Costs in this

17   category range from solutions that enable or supplement on premise systems, to complete end-to-

18   end solutions (infrastructure, networks, computing, storage, hosting, etc.) with little to no on

19   premise footprint. The incremental expenses included in this case, on a system basis, are

20   categorized by general cost types below in Table No. 4:

1 **Table No. 4 Non-Labor O&M (System)**

2

General Cost Types	2019	2020 incremental	2021 incremental
Dedicated Voice and Data Circuits	79,734	5,203	0
Hardware License Support	1,453,479	19,301	203,125
Professional Services	359,070	100,986	7,350
Radio Tower Site Leases	252,410	6,866	2
Software License Support	7,558,935	719,234	150,167
Software Services and Subscriptions	3,259,095	1,111,416	1,552,183
Grand Total	**12,962,722**	**1,963,005**	**1,912,827**

8   As shown in Table Nos. 3 and 4 above, the total incremental IS/IT non-labor O&M

9 expenses included in this general rate case above 2019 levels is approximately $3.88 million

10 (system), or $2.01 million allocated to Washington electric operations and $0.62 million allocated

11 to Washington natural gas operations, as discussed by Ms. Andrews in Exh. EMA-1T.

12   Table No. 5 below provides six examples of incremental expenses that have contractual

13 agreements in place, are pre-paid costs, or are the continuation of costs for products and services

14 that have increased beyond the 2019 historical test period:

1 **Table No. 5: Examples of IS/IT Incremental Expenses (System)**

Source of Increase	Functional Area	General Cost Type	Primary Driver of Increase	Incremental Expense
Incident Response Services	Enterprise Security	Professional Services	Investment in Incident Response Services for Guaranteed Response Time	$ 53,008
Security events are becoming more sophisticated which is driving the need to have specialized response resources available to assist in the event of a security incident. Avista has increased its incident response retainer, which allows Avista to have defined service levels to respond to security events in Operational Technology areas such as at a Substation, Generation Plant or Control Center.				
Firewall Refresh	Enterprise Security	Software Service and Subscription	Investment in advanced capabilities and avoidance of technology obsolescence	$ 110,072
Firewalls protect against unauthorized cyber access to the Company's systems. Software subscriptions are required for advanced features to be fully functional.				
Secure Mobile Productivity Management	Enabling Technology	Software Service and Subscription	Investment in Mobility and Security	$ 353,000
Avista invests in mobile technology which enables our workforce to connect and communicate rapidly and efficiently with each other and our customers. The solution provides substation ally greater mobile technology protections for identity and access management, endpoint management, information protection and identity-driven security. Additional benefits include multifactor authentication and Cloud Access Security Broker (CASB) which enables Avista to enforce its security policies on cloud services.				
API Management Platform	Business & Operating Apps	Software Service and Subscription	Investment in System Integrations and Security	$ 133,836
An Application Programming Interface (API) is a set of functions and procedures allowing the creation of applications that support the accessing of system features and/or data between systems. Avista's customers will benefit as end users of higher-functioning applications across multiple device types (computers, cell phones, tablets, etc.). Avista's ability to more easily integrate disparate information amongst its internal and external systems means better visibility into customer touchpoints (service calls, outages, etc.), faster reaction times to market changes, and improved coordination of Avista assets.				
Call Center Solution	Business & Operating Apps	Software Service and Subscription	Investment in Customer Experience	$ 363,446
This Call Center Enterprise Analytics solutions will deliver value to our customers from the AMI deployment, help our customers understand what loads/appliances are impacting their energy usage and what steps the customer can take to reduce their monthly usage and subsequently reduce their bill. Additionally, this functionality will allow Avista to better execute targeted Energy Efficiency campaigns, understand loads and identify non-wire alternatives for system planning.				
Customer Experience Platform (CXP)	Business & Operating Apps	Software Service and Subscription	Investment in Customer Experience	$ 1,339,980
These costs are in support of the Company's Customer Experience Platform (CXP). More information to describe investments in CXP is provided in testimony from Company witness Kelly Magalsky. In summary, the CXP is foundational to Avista's customer at the center strategy. These investments will provide our employees with visibility and access to valuable information across channels and systems, thus enabling personalized and cross-channel customer experiences.				

19 **Q.** **Who speaks to the Customer Experience Platform O&M Expenses listed in**

20 **the table above?**

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1   A.   This expense will be discussed further in Mr. Magalsky's testimony as it is related

2   to the Customer at the Center program.[6]

3   **Q.   Describe how technology system support and maintenance service contracts**

4   **provide value and benefit customers.**

5   A.   Technology systems are becoming more integrated and complex as business

6   transactions become more integrated and automated. These technology systems require regular

7   maintenance activities to stay current on security vulnerability patching, software defect patching,

8   and various software functionality changes. Due to the increase in complexity of these systems,

9   vendor support is needed to assist with root cause analysis when troubleshooting failures in the

10   system. Without support and maintenance services for these technology systems the Company and

11   our customers would experience longer system downtimes due to complexities of root cause

12   analysis, we would be at increased risk of malicious activities in our technology systems if we did

13   not have access to software vulnerability patches, and our ability to optimize and maintain the

14   business value of the technology system would be degraded if we did not have access to software

15   defect fixes or software functionality changes. Support and maintenance services provided by the

16   technology system vendors indirectly benefit customers, for if we were not able to optimize and

17   maintain the business value of our technology systems, we would see a loss of business automation

18   functionality and an in turn an increase in operational labor that would be necessary to maintain

19   service levels across our information technology systems.

20   **Q.   How has Avista focused on managing its overall IS/IT expenses for the benefit**

21   **of its customers?**

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[6] The Customer at the Center Platform consists of three program investment areas: Customer Experience Platform (CXP), Customer Facing Technology, and Customer Transactional Systems. These programs are described in further detail by Mr. Magalsky.

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1   A.   Avista employs several approaches to regularly assess, review and take action to

2   manage and control IS/IT costs. One example is through our approach to software application

3   license acquisition, renewal and tracking. A software analyst works in conjunction with our

4   technical and business subject matter experts to negotiate right-sized licensing, and to review and

5   validate the value and use of software applications to identify opportunities to reduce and remove

6   unused license and maintenance cost prior to renewal of software agreements. An example of this

7   practice from the current year occurred when IS/IT engaged with our Internal Audit Department

8   to discuss the upcoming renewal of the Company's audit, risk and compliance software. It was

9   determined that the Company could switch vendors while maintaining the needed functionality

10   and, in the process, create a net reduction in pre-paid technology expense of $81,219 in 2020. The

11   impact of the 2020 reduction and the year-over-year avoided cost is included in the current

12   adjustment.

13   Avista also regularly looks for other solutions to its growing application needs. For

14   example, in 2019, the Company began evaluating options for implementing a Cloud Access

15   Security Broker (CASB) solution, in response to the growing use of cloud service applications.

16   The Company reviewed (3) three different options and decided to go with the option that delivered

17   a cost advantage by licensing multiple technologies under one enterprise suite. Another approach

18   Avista takes to manage and control IS/IT costs is to identify opportunities to enter into multi-year

19   agreements with software vendors whereby pricing is set over the duration of the agreement. These

20   agreements allow Avista to lock in pricing at or below current or expected market pricing,

21   providing protection from adverse market conditions and normalizing costs over time, which

22   benefits both Avista and our customers. An additional way IS/IT looks to reduce expense over

23   time is to seek further discounts from vendors in exchange for pre-payment of multi-year

1   agreements. Pre-payment of software agreements reduces the administrative overhead of the

2   invoice validation, approval and payment process in addition to the reduction in operating expense

3   over the duration of the agreement.

4   **Q.   What are other methods Avista uses to manage its overall IS/IT expenses for**

5   **the benefit of its customers?**

6   A.   Another method is use of digitalization, an industry-wide strategy that requires

7   additional investment in IT's support capabilities. As existing services and new services are

8   digitalized, IT departments are experiencing significant increase in workloads. Although these

9   increasing workloads are expected, we actively work to decelerate the associated cost increases

10   using automation technology and changes to our IT operating models. For example, in 2017 the

11   Company implemented a performance monitoring tool that automates a portion of the labor

12   performed by our Information Systems teams. The automation helped to reduce the labor

13   requirement of performance monitoring tasks and our time to resolution when service outages

14   occur. The value these automation tools provide not only brings value to the year they were

15   implemented but sustained value year over year. IS/IT was then able to redeploy that skilled

16   operations labor onto more complex and pro-active task like incident prevention, system

17   optimization and load testing. These tasks directly contribute to a more favorable customer

18   experience via increased platform reliability and service availability. An example of an

19   operational model change is our effort to redirect a portion of our existing operations labor force

20   to seek out and resolve system level issues in pre-production environments. Identifying defects

21   early in the software development life cycle avoids the more costly impact of finding defects after

22   release.

1   The COVID-19 pandemic continues to cause tremendous and unprecedented change across

2   all industries, businesses, employers and workers; Avista is no exception. Through the process of

3   enabling nearly our entire workforce to work remotely, Avista sought to manage and control cost

4   where possible. For example, the Company's "lemonade stand" set up in the lobby of our Mission

5   headquarters where our workforce could come "check out" technology such as monitors and

6   keyboards. This successful approach to a difficult situation quickly and significantly enhanced our

7   workforce's productivity and allowed us to avoid costly shipping or delivery charges as an

8   alternative approach. IS/IT also reviewed queued work and work in progress to delay or stop

9   projects that would no longer provide the expected value in the wake of the pandemic and work

10   from home situation that has no known expected end date. An example is the decision to halt all

11   desk additions, moves, and changes, since most of Avista's workforce was beginning to work

12   remotely, which helped avoid costs that had little value considering the undetermined time to

13   return to the office for most of Avista's workforce. Only a few business continuity requests for

14   critical operations were processed, which included standing up alternate facilities for system

15   operations and hydro-electric dam operations.

16   In 2019, IS/IT launched a multi-year effort to change the way our voice communications

17   are deployed to our Electric and Gas Service Centers throughout our service territory. The Session

18   Initiation Protocol (SIP) project is replacing local phone service with Voice over Internet Protocol

19   (VoIP) service. One result of the project is cancelling the business phone service of multiple

20   copper-based land lines (TDM circuits) in favor of delivering that phone call traffic to our service

21   centers via our data circuits. This has resulted in cost savings from canceling the TDM circuits

22   once the VoIP services are in place. In 2019 the project generated $57,997 in reduced expense,

23   and $74,711 YTD in 2020. The project has converted 24 Service Center sites to SIP and facilitated

1   canceling TDM circuits at 18 sites throughout our service territory. Now that these calls are

2   delivered through a centralized service and then via data circuits to these Service Centers, we have

3   realized improved caller ID presentation, call quality improvements, and more reliable voice mail

4   delivery.

5   Other examples of practices to manage and control IS/IT expense include training

6   employees to use mobile devices to scan documents and temper investment in printing/scanning

7   technology, and working with our Supply Chain department to negotiate volume rebates ($232,852

8   in discounts from 2019 across capital and expense projects), and early pay discounts ($222,998 in

9   discounts from 2019 across capital and expense projects) for technology products and services

10   procured each year.

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

12   A.   Yes.