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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION	)	CASE NO. AVU-E-25-01
OF AVISTA CORPORATION FOR THE	)	CASE NO. AVU-G-25-01
AUTHORITY TO INCREASE ITS RATES	)	
AND CHARGES FOR ELECTRIC AND	)	DIRECT TESTIMONY
NATURAL GAS SERVICE TO ELECTRIC	)	OF
AND NATURAL GAS CUSTOMERS IN THE	)	WAYNE O. MANUEL
STATE OF IDAHO	)	
	)	

FOR AVISTA CORPORATION

(ELECTRIC & NATURAL GAS)

I. INTRODUCTION

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

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

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

A.   I am a graduate of the University of Alaska-Anchorage with a Bachelor of
Business Administration (BBA), majoring in Management Information Systems, and from the
University of Houston-Victoria with a Master of Business Administration, concentration in
Economic Development & Entrepreneurship. I joined Avista on June 1, 2023. I have held the
role of Senior Vice President, Chief Strategy Officer and Chief Information officer at UW
Medicine | Valley Medical Center in Renton, Washington, the largest nonprofit healthcare
provider between Seattle and Tacoma. I have held various roles at The Cleveland Clinic,
Providence Health & Services and ConocoPhillips with experience through direct application
and management of Information Services over the course of my 30-year information
technology career.

During my time at Valley Medical Center, I designed and implemented near real-time
COVID-19 Operational Dashboards and facilitated and instituted a plan to handle major
surges in patient volumes. In addition, I directed the implementation and operationalization
of the hospital's advance cybersecurity team and framework. Beyond Information
Technology, my responsibilities have also included Human Resources, Marketing,

1   Communications, Clinical Operations, Process Improvement, Project Management, and

2   Change Management.

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

4   A.   I will provide an overview of and discuss capital additions and expenses

5   associated with the Company's Information Service/Information Technology (IS/IT)

6   programs, projects and security included in the Company's filed case over its proposed Two-

7   Year Rate Plan. These costs are comprised of the capital investments for a range of IS/IT

8   projects that support systems used by the Company, as well as cyber and physical security

9   projects and costs. I will explain why our information technology and security investments

10   are necessary in the time frames indicated. While I discuss this plan in detail within my

11   testimony and exhibits, Company witnesses Ms. Schultz and Ms. Benjamin incorporate the

12   capital additions, and incremental expenses associated with the Company's IS/IT costs

13   included in the Company's request for rate relief over the Two-Year Rate Plan effective

14   September 1, 2025, and ending August 31, 2027.

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

16   **Table of Contents**

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

24   A.   Yes. I am sponsoring Exhibit No. 12, Schedule 1, which includes Information

25   Technology Capital Project Business Cases.

26

|	
1	<u>**II. IS/IT OVERVIEW**</u>
2	**Q. How are Avista's technology investments linked to supporting business**
3	**processes?**
4	A. Avista's technology investments fall into two major areas: (1) enabling
5	technology and (2) business and operating application systems. Avista also takes an
6	enterprise-wide approach to security and disaster recovery (resiliency) that links our
7	technology investments with protecting our people, our assets, and our facilities. Specifically,
8	"enabling technology" consists of the technology infrastructure such as data storage, and
9	endpoint computing hardware, (e.g., Personal Computers (PC's), Laptops, Smartphones, and
10	Wireless Network Access Devices). Enabling technology also includes operating systems,
11	network transport connectivity (e.g., microwave radios, routers and switches). Additionally,
12	enabling technology includes databases and data schemas, integration software, business
13	intelligence tools, communication and collaboration platforms, etc., necessary to enable
14	business capabilities through business application systems. It is the foundation on which we
15	deliver energy safely and reliably, meet business objectives, and deliver value for our
16	customers through business and operating application systems.
17	"Business and operating application systems" are dependent on a reliable
18	infrastructure that delivers the technology foundation for meeting customer needs. Some of
19	the business capabilities within these areas include electric and natural gas service design in
20	the field response to customer requests for prompt installation of new electric or natural gas
21	service. Business application systems help business capabilities by automating business
22	processes to optimize efficiencies and add functionality.
23	Illustration No. 1 below shows the relationship between the areas of Enabling

1 Technologies, Business & Operating Application Systems, and Enterprise Security and how

2 those fit into the different capital business cases discussed later in my testimony. Enabling

3 technology is there to support our critical business operations along with the business

4 applications technology, and just as importantly, neither of the two can co-exist without proper

5 security to protect the information that is used to make business decisions and deliver energy

6 to our customers.

7 **Illustration No. 1- Business Technology Structure:**

8

17
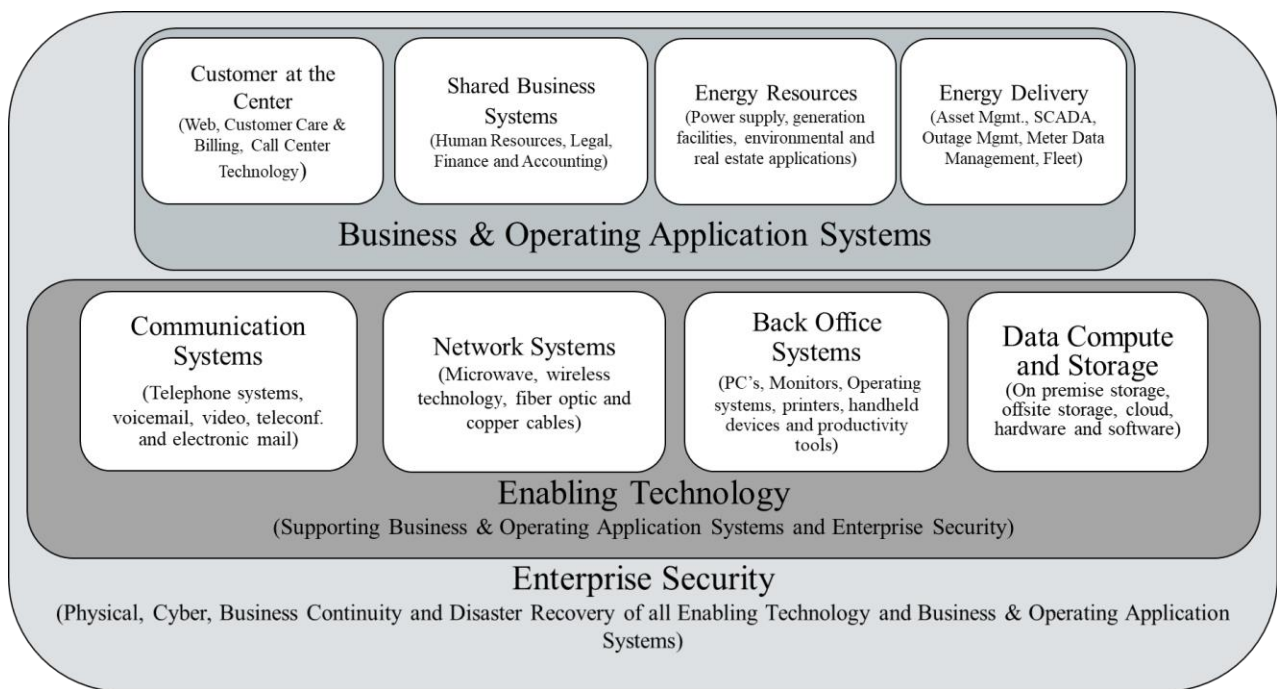
18 **Q.   How is Avista's technology investment landscape changing in the future?**

19   A.   Many of Avista's on-premise systems are nearing the end of their useful life,

20 posing risks such as data breaches, system failures, data loss, and decreased resiliency during

21 outages. To address the risks associated with multiple outdated systems, Avista is in an RFP

22 (Request for Proposal) process for an Enterprise Resource Planning (ERP) system, common

23 to many organizations. In addition, the Company is developing new strategies that include

1   application rationalization and a shift from on-premise to cloud-based (SaaS) technology.

2   Implementing a cloud-based ERP system will enhance efficiency, streamline

3   processes, and foster data-driven decision-making. These comprehensive systems integrate

4   various business functions such as finance, human resources, supply chain, and project

5   management into a unified platform, ensuring real-time data visibility and reducing

6   operational silos. By automating routine tasks and providing accurate insights, ERP systems

7   enable companies to optimize resource allocation, improve workflow, and enhance overall

8   productivity. As many of the Company's software assets will need to move to the cloud in the

9   future, Avista is evaluating the cost and benefits of these assets to determine the best long-

10   term, cost-effective strategy. Ultimately, these changes will impact the Company's technology

11   landscape and may influence overall investment planning[1].

12   **Q.   As discussed above, the software industry and the Company is shifting**

13   **delivery of application technology solutions from a "buy or build" model to SaaS. Please**

14   **explain how Avista is handling this transition, and what impact this has on capital and**

15   **operations & maintenance (O&M) costs.**

16   A.   Onsite solutions presently run in Avista's onsite data center. They require

17   capital investments in licensing and infrastructure, and on-premise personnel and support

18   agreements to operate and maintain them at required levels. Vendor-managed cloud solutions

19   range widely in what they deliver. They can range from delivering data and information only,

20   or running applications and storing data, to fully replicating all the infrastructure, computing

21   power and storage necessary to the point that only an internet connection is needed to make it

22   useful. In general terms, as solutions move across the spectrum of fully on premise to fully

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[1] The Company will update this case with capital investments associated with an ERP system, if applicable, as they become known and measurable.

1   vendor-managed cloud-based, the cost to implement and run those solutions shifts along the

2   spectrum from capital investment to expense. This is a result of the accounting treatment of

3   cloud-based SaaS solutions moving the Company from <u>capital</u> investments in licensing,

4   infrastructure, and implementation to outsourcing those components as services, and the

5   <u>expenses</u> entailed. This change will require the Company to account for this methodology

6   change surrounding how and when we capitalize and expense these types of solutions.

7   **Q.   Does this mean that Avista will be making fewer capital investments as**

8   **technology solutions shift to the cloud?**

9   A.   No. The need for technology investment will continue to increase as

10 traditionally mechanical and manual functions within different business areas of the Company

11 move more towards digitalization. A great example of this effort is our Outage Management

12 System & Advanced Distribution Management System (OMS/ADMS) Business Case

13 discussed in further detail, later in my testimony. The replacement of Avista's legacy Outage

14 Management tool (OMT) and Distribution Management System (DMS) is aimed at improved

15 field and office worker productivity, providing more accurate data and improvement of outage

16 management and restoration times.

17   In addition, it is likely not all our vendors are moving to the cloud, meaning we need

18 to continue to invest in and support on-premise solutions, as well as network infrastructure

19 (which is part of IS/IT investment) throughout our service territory. As mentioned above,

20 Avista will continue to evaluate SaaS on a case-by-case basis to determine how the benefits

21 might outweigh the costs and/or other risks.

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

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

3   **systems Business Cases prioritized within IS/IT?**

4   A.   The IS/IT departments leadership team continuously evaluates prioritization of

5   technology investments and those are recommended to the Technology Planning Group (TPG

6   – comprised of Directors from each business area) for the best path forward for technology

7   investments. As shown below in Illustration No. 2, this group resides within executive

8   leadership and business case governance.

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

10   A.   Technology evolves in short cycles, as new and sometimes more improved

11   technologies can perform more efficiently than older ones. Through our technology programs,

12   Avista evaluates and plans the direction of its information technology portfolio. A team of

13   IS/IT professionals guide technology programs by analyzing the benefits and costs of

14   investing in new technology verses maintaining existing technology. The team considers

15   whether the current technology environment is stable and secure (e.g., run-the-business), so

16   that it is in Avista's and its customers' best interests to maintain it, and if so, for how long. If

17   not, other options that may better suit the technology needs of Avista and its customers are

18   considered. The technology programs also evaluate the risks of not making an immediate

19   technology change or delaying a change to a later date.

20   **Q.   What are the governance and cost controls for all business cases with**

21   **technology investments?**

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

23   cases. Executive, Director, and Business Case, as detailed below in Illustration No. 2.

1   **<u>Illustration No. 2 – Technology Governance Structure</u>**

2
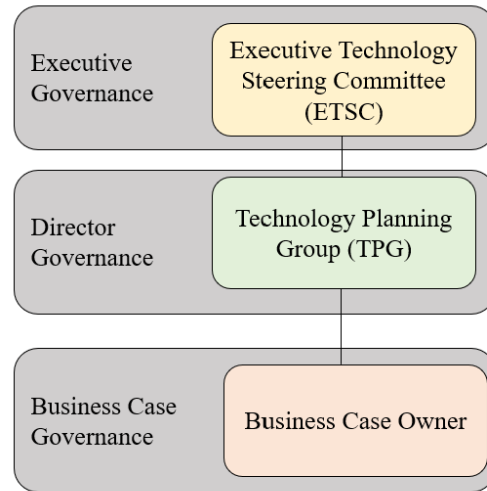
10   Under each Business Case there are two more levels of governance depending on if it

11   is a program or project through <u>Program</u> Steering Committees and <u>Project</u> Steering

12   Committees. Both have cost control responsibilities to manage and therefore meet regularly

13   to report on scope, schedule, and budget. Governance committee responsibilities are described

14   further below.

15   • **<u>Program Steering Committee</u>** - The Program Steering Committee consists of
16   members in management positions that are identified and responsible for prioritizing
17   the projects within each respective program. The Program Steering Committee is
18   accountable for the financial performance of the program and hold regular meetings
19   to review the progress of the program and make decisions on the following topics:
20
21   •   Project prioritization and risk
22   •   Approving program funding requests
23   •   New project initiation and sequencing
24
25   The program is facilitated and administrated by an assigned Program Manager within
26   the IS/IT Project Management Office (PMO). The project queue is reviewed
27   periodically and consists of projects needed to meet program goals for technology
28   solutions under each respective program.
29
30   • **<u>Project Steering Committee</u>** - Project Steering Committees act as the governing body
31   over each individual project within a program and consist of key members in
32   management positions that are identified as responsible for the successful completion
33   of the scope of work identified in the Charter document for each respective project.

1	The Project Steering Committee is responsible to provide guidance and make
2	decisions on key issues that affect the following topics:
3	• Scope
4	• Schedule
5	• Budget
6	• Project Risks
7	• Project Issues
8	

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

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

11 Project Steering Committees may or may not be necessary depending on the size of the

12 project. In addition, Project Steering Committees may not meet on a monthly or regular basis

13 if the project is on track with all the above deliverables.

14

15 **IV. IS/IT TECHNOLOGY CAPITAL BUSINESS CASES**

16 **Q. Please describe the Enterprise Technology capital Business Cases with**

17 **projects that are planned to be transferred to plant in service during 2024 - 2027.**

18 A. The Enterprise Technology capital Business Cases with projects that are

19 planned to be transferred to plant in service during 2024 - 2027 are shown in Table No. 1

20 below. An explanation of each of the Business Cases follows the table.

1 **Table No. 1 – Enterprise Technology Capital Additions:**

Line #	Business Case Name	Investment Driver	July 2024 - August 2025	Rate Year 1 Sept 2025 - Aug 2026	Rate Year 2 Sept 2026 - Aug 2027
	Enterprise Technology Capital Projects (System) In $(000's)				
	Business & Op Technology				
1	Customer Experience Platform Program	Customer Service Quality & Reliability	$ 2,699	$ 740	$ -
2	Customer Facing Technology Program	Customer Service Quality & Reliability	4,825	5,455	5,419
3	Customer Transactional Systems	Customer Service Quality & Reliability	4,535	4,750	5,450
4	Energy Delivery Modernization & Operational Efficiency	Performance & Capacity	7,105	6,147	10,648
5	Energy Market Modernization & Operational Efficiency	Performance & Capacity	260	-	-
6	Energy Resources Modernization & Operational Efficiency	Performance & Capacity	4,533	2,881	2,842
7	Energy Trade & Risk Management Implementation	Performance & Capacity	-	-	10,900
8	Financial & Accounting Technology	Performance & Capacity	3,383	2,344	4,555
9	Human Resources Technology	Performance & Capacity	250	486	340
10	Legal & Compliance Technology	Performance & Capacity	656	117	450
11	Outage Management System & Advanced Distribution Management System (OMS & ADMS)	Asset Condition	18,656	6,731	6,511
	Enabling Technology				
12	Basic Workplace Technology Delivery	Performance & Capacity	$ 1,944	$ 810	$ 795
13	Control and Safety Network Infrastructure	Performance & Capacity	2,443	457	2,108
14	Data Center Compute and Storage Systems	Performance & Capacity	3,098	1,367	4,415
15	Digital Grid Network	Performance & Capacity	4,130	2,692	2,674
16	Dynamic Infrastructure Platform Enhancements	Performance & Capacity	881	262	1,002
17	Endpoint Compute and Productivity Systems	Performance & Capacity	4,197	5,436	6,646
18	Enterprise Communication Systems	Performance & Capacity	1,672	2,109	1,822
19	Enterprise Network Infrastructure	Performance & Capacity	5,376	2,725	1,905
20	Environmental Control & Monitoring Systems	Performance & Capacity	1,563	872	782
21	ET Modernization & Operational Efficiency - Technology	Performance & Capacity	7,008	1,338	3,123
22	Fiber Network Lease Service Replacement	Performance & Capacity	1,157	2,339	1,314
23	Land Mobile Radio & Real Time Communication Systems	Performance & Capacity	3,674	2,180	1,052
24	Network Backbone	Performance & Capacity	5,322	1,585	2,901
25	NexGen Control System Networks	Performance & Capacity	6,649	7,305	1,760
26	Technology Failed Assets	Failed Plant & Operations	1,041	1,019	1,023
	Enterprise Security				
27	Disaster Resiliency	Customer Service Quality & Reliability	$ 142	$ 9	$ 198
28	Enterprise Security	Customer Service Quality & Reliability	3,660	1,986	980
29	Facilities and Storage Location Security	Customer Service Quality & Reliability	2,003	362	179
30	Generation, Substation & Gas Location Security	Customer Service Quality & Reliability	6,305	1,334	1,045
31	Identity and Access Governance	Mandatory & Compliance	558	451	201
32	Security Compliance	Mandatory & Compliance	47	53	100
	Total Planned Enterprise Technology Capital Projects		**$ 109,774**	**$ 66,340**	**$ 83,140**
33	Misc. accrual reversals, corrections or additional TTP	Performance & Capacity	$ 2	$ -	$ -
	Total Misc. accrual reversals, corrections or additional TTP		**$ 2**	**$ -**	**$ -**

Q.   Please provide an overview of the technology programs for the period of July 1, 2024 to August 31, 2027.

A.   Table No. 1 lists the IS/IT Business Cases for the period from July 1, 2024, to August 31, 2027. These Business Cases are categorized by project type, as previously

1   discussed in my testimony on Business and Operating Application Systems, Enabling

2   Technology, and Enterprise Security. Additionally, they are organized according to

3   investment drivers: Mandatory and Compliance, Failed Plant and Operations, Asset

4   Condition, Performance and Capacity, and Customer Service Quality and Reliability.

5   Detailed narratives for each Business Case in Table No. 1 can be found in Exhibit No. 12,

6   Schedule 1.

7   **Q.   Generally, what alternatives were considered for the above Business &**

8   **Operating Application Systems, Enabling Technologies, and Enterprise Security**

9   **programs?**

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

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

12   the option to do the work differently, such as leasing or hiring a service. In addition, running

13   the technology asset longer by purchasing extended warranties, or running the technology to

14   failure for technology assets with an available sparing model are also alternatives. Additional

15   alternatives considered under each program include balancing the performance and capacity

16   requirements for each respective technology investment impacted by vendor driven

17   technology obsolescence lifecycles. For example, how long can an upgrade be deferred before

18   business risks become greater than the necessary upgrade? This can lead to security risks by

19   the vendors no longer offering system patches or system reliability risks as systems can

20   become incompatible with one another.

21   **Q.   Do Enabling Technologies, Business and Operating Application**

22   **Technology, and Enterprise Security programs have completion timelines?**

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

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

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

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

5 Quarterly forecasts capture changes in transfers-to-plant schedules and costs determined by

6 project status.

7
8 ***Information Related to "Business and Operating Application Technology" Projects Listed***
9 ***in Table No. 1 (See Exhibit No. 12, Schedule 1, pages 2 – 145)***
10
11   **Q.   Please describe investments in <u>Business and Operating Application</u>**

12 **<u>Technology</u> in 2024 through August 31, 2027.**

13   A.   Business and Operating Application Systems are the engines that produce,

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

15 manual processes.

16 **Customer Experience Platform Program (July 2024-August 2025: $2,699,000, RY1:**
17 **$740,000, RY2: $0)**
18 The Customer Experience Platform (CXP) Business Case is to implement the technology
19 necessary to support the emphasis on Customer Experience at Avista. The CXP strives to
20 deliver functionality that empowers all departments to work as one in support of customers.
21 The work executed under this program supporting delivering the personalized experiences
22 customers expect and build lasting, trusted partnerships. CXP has created a single interface to
23 provide a consistent and comprehensive view of each customer, their preferences, past
24 interactions with the Company, communications, and history. This reduces confusion across
25 departments, allows our employees to handle an entire situation and answer customer
26 questions without having to transfer a call or tell the customer we will need to get back to
27 them. We are developing and enhancing this platform based on our strategy of putting the
28 customer at the center and to improve overall customer interaction and experience; if we do
29 not improve the customer experience by providing the proper tools to our employees to serve
30 our customers, then we put meeting current customer expectations at risk.
31
32 **Customer Facing Technology Program (July 2024-August 2025: $4,825,000, RY1:**
33 **$5,455,000, RY2: $5,419,000)**
34 The Customer Facing Technology Business Case focuses on delivering value, ease and
35 transparency to all customers (ID, WA, and OR) through our various digital channels

1   including but not limited to MyAvista.com, text/SMS, inbound and outbound voice phone
2   systems, and our mobile app. Customer expectations are clear: companies are expected to
3   deliver fast, easy, personalized, and intuitive self-service options 24 hours per day and on
4   many channels of customer choice such as desktop computer, mobile device, tablets, and
5   phone. Customers want a consistent experience from their first interaction to the resolution
6   of their issue or the completion of their self-service transaction. If the digital channels become
7   stagnant and are not enhanced to accommodate adjusted consumer behavior, then customer
8   satisfaction will decline, resulting in increased calls to the call center and increases in costs to
9   serve our entire customer base.
10
11   **Customer Transactional Systems (July 2024-August 2025: $4,535,000, RY1: $4,750,000,**
12   **RY2: $5,450,000)**
13   Customer transactional systems are used to support the day-to-day business critical
14   operational needs of all our customers, internal users, third party partners and our regulators.
15   These systems include functionality such as: collection and storage of meter reads and meter
16   data, storage and access for all customer premise and service agreements, customer bills and
17   billing history, energy and assistance agency program reporting, rate design and rate
18   implementation tools. To keep these systems up to date and operational, the company must
19   perform regular upgrades and invest in enhancements that will benefit our customers, internal
20   users, third party partners and regulators. Not investing in this technology would greatly
21   reduce the ability to keep our major systems current and fully operational. We would put
22   significant risk on the ability to meet customer, third party partner and regulatory expectations.
23
24   **Energy Delivery Modernization & Operational Efficiency (July 2024-August 2025:**
25   **$7,105,000, RY1: $6,147,000, RY2: $10,648,000)**
26   This Business Case supports both existing and new technologies leveraged by the Energy
27   Delivery business areas including Gas Engineering & Operations, Electric Engineering &
28   Operations, Asset Management & Supply Chain, Facilities, Fleet Operations, and Metering.
29   These technologies are used to automate and augment business solutions bringing efficiencies
30   and capabilities to support the delivery of energy to customers. This support includes the
31   following: 1) improving the performance and capacity of business resources by implementing
32   new functionality in existing technologies, 2) improving the performance and capacity of
33   business resources by implementing overall new technologies, and 3) modernizing existing
34   technologies in accordance with product lifecycles and technical roadmaps, typically through
35   product or system upgrades. Major applications supported in this Business Case include
36   Enterprise Asset Management system (Maximo), mobile workforce management, crew
37   planning and schedules, system operations support, and metering support, among other things.
38
39   **Energy Market Modernization & Operational Efficiency (July 2024-August 2025:**
40   **$260,000, RY1: $0, RY2: $0)**
41   Avista's Energy Supply business processes and complexities have expanded significantly
42   with western organized market expansion, reductions in bi-lateral trading partners, the need
43   to understand credit positions and requirements, and the tightening of emission and renewable
44   regulations. To meet these existing and additional market complexities soon, the Company
45   requires a vendor-supported Energy Trade and Risk Management (ETRM) system to meet
46   current, and future electric and natural gas wholesale operational needs. Avista has relied on

1 Nucleus since 2001 – an in-house application supporting core functions across Energy Supply,
2 System Operations, Transmission Services, Risk/Credit, Resource Accounting, and
3 Compliance. The Company has added additional functionality well beyond its original intent,
4 resulting in a complex and highly integrated data system. Additional development of the
5 system is not advantageous for the Company, as Nucleus has reached the end of its useful life.
6
7 **Energy Resources Modernization & Operational Efficiency (July 2024-August 2025:**
8 **$4,533,000, RY1: $2,881,000, RY2: $2,842,000)**
9 This program supports the application-related technology initiatives for all areas within
10 Energy Resources, which includes Power Supply, Gas Supply, Generation Production
11 Substation Support (GPSS), and Environmental and Real Estate. Application refresh projects
12 are necessary to maintain updates, upgrades and/or replacements to existing Energy Resource
13 applications, to respond to changing business needs and/or technical obsolescence. These
14 refreshes or upgrades are essential to remain current, maintain compatibility, reliability and
15 address security vulnerabilities. The Energy Resources programs supported in this Business
16 Case include support for Avista's energy risk management and energy trading operations,
17 including Avista's Decision Support System (ADSS), Nucleus (Avista's energy transaction
18 book of record), and Energy Risk Management system, among other items.
19
20 **Energy Trade & Risk Management Implementation (July 2024-August 2025: $0, RY1:**
21 **$0, RY2: $10,900,000)**
22 Avista's Energy Supply business processes and complexities have expanded significantly
23 with western organized market expansion, reductions in bi-lateral trading partners, the need
24 to understand credit positions and requirements, and the tightening of emission and renewable
25 regulations. To meet these existing and additional market complexities in the near future, the
26 Company requires a vendor-supported Energy Trade and Risk Management (ETRM) system
27 to meet current, and future electric and natural gas wholesale operational needs. Avista has
28 relied on Nucleus since 2001 – an in-house application supporting core functions across
29 Energy Supply, System Operations, Transmission Services, Risk/Credit, Resource
30 Accounting, and Compliance. The Company has added additional functionality well beyond
31 its original intent, resulting in a complex and highly integrated data system. Additional
32 development of the system is not advantageous for the Company, as Nucleus has reached the
33 end of its useful life.
34
35 **Financial & Accounting Technology (July 2024-August 2025: $3,383,000, RY1:**
36 **$2,344,000, RY2: $4,555,000)**
37 This program supports financial applications critical to maintaining the financial health and
38 compliance of regulatory requirements through the completion of reoccurring business
39 processes. The business processes change on a frequent basis, driven by several factors and is
40 dictated by the lifecycles of the applications governed in the Business Case, further requiring
41 resources and adaptive technology solutions. Investment in this program supports Company
42 applications including Oracle e-Business Suite, PowerPlan (for fixed assets and tax),
43 depreciation forecasting, supply chain support, and FERC reporting, among other things.
44
45 **Human Resources Technology (July 2024-August 2025: $250,000, RY1: $486,000, RY2:**
46 **$340,000)**

1	The Human Resources Technology Business Case supports the technology-related application
2	projects required for both expansion and refresh activities required within the Human
3	Resources business area. This program is required to support the application related
4	technology initiatives for all areas of Human Resources including Human Resources Labor
5	and Employee Relations, Leadership and Organizational Development, Human Resources
6	Shared Services, Craft Training, Safety, and Internal Communications. This Business Case
7	results in direct offsets to O&M related to reducing costs of printing, copier maintenance and
8	filing of paper documents. The annual system estimated value of these Direct Offsets is
9	expected at $16,300 annually beginning in 2024. Idaho's share of these offsets have been
10	included in the Company's electric and natural gas revenue requirements as a reduction in
11	expense within pro forma Adjustment 3.10.
12	

Legal & Compliance Technology (July 2024-August 2025: $656,000, RY1: $117,000, RY2: $450,000)

15	The various business entities within Avista rely on the legal and compliance systems to ensure
16	business operations are done in the most efficient and cost-effective manner. The legal and
17	compliance technology systems vary from the simple to complex and require continuous
18	management of the enhancements needed to meet the internal and external business
19	requirements. Direct annual offsetting system benefits associated with this project is expected
20	at $856,250, of which $642,180 will be reflected in 2025, and the remainder in 2026. Idaho's
21	share of these direct savings has been prorated over the Two-Year Rate Plan and included in
22	the Company's electric and natural gas revenue requirements as a reduction in expense within
23	pro forma Adjustments 3.10 (Rate Year 1) and 26.05 (Rate Year 2).
24	

Outage Management System & Advanced Distribution Management System (OMS & ADMS) (July 2024-August 2025: $18,656,000, RY1: $6,731,000, RY2: $6,511,000)

27	Avista's Outage Management Tool (OMT) is an in-house developed custom application that
28	supports outage analysis, management, and restoration. OMT provides the functionality to
29	help manage the overall cycle of electric outage and restoration processes for the Idaho and
30	Washington service territories. It works in synchronization with Avista's Distribution
31	Management System (DMS), feeding it current operating state data of its electric assets to
32	monitor and control Avista's electric distribution network efficiently and reliably. The DMS
33	is a commercial application used to monitor and control the distribution grid. It relies on GIS
34	data to determine the current operating state. The OMT and DMS applications and electric
35	and gas data model have been used for nearly two decades and have reached technology
36	obsolescence.
37	
38	Replacing Avista's OMT and DMS with a modern commercial Outage Management System
39	(OMS) and Advanced Distribution Management System (ADMS) will improve field and
40	office worker productivity, provide more accurate data, and provide the ability to reengineer
41	work processes and methods to support the continuous improvement of Avista's outage
42	management and restoration program. An OMS/ADMS solution also provides Avista with the
43	ability to respond to more stringent and detailed regulatory compliance reporting
44	requirements, enables effective operation of an increasingly complex and dynamic
45	distribution grid, and delivers more accurate estimated restoration time (ERT) information to
46	electric customers during outages. The improved ERT accuracy and restoration status for

1   customers will improve customer confidence in the information, which will reduce the number
2   of calls received by our customer service representatives, as well as call durations. There will
3   be incremental additions to O&M due to support staff employees that will need to be hired to
4   maintain the ADMS solution past the Go-Live and into the 15-year project depreciation
5   lifespan.[2] These increases after the Go-Live date are anticipated to be $251,000 in 2025,
6   $235,000 in 2026 and $247,000 in 2027.
7
8   ***Information Related to "Enabling Technology" Projects Listed in Table No. 1 (See Exhibit***
9   ***No. 12, Schedule 1, pages 146 – 289)***
10
11   **Q.   Please describe the investments in <u>Enabling Technology</u> from July 1, 2024**

12 **to August 31, 2027 included in Table No. 1.**

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

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

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

16 roof, the conduit, and drywall that transform materials into a house that people make into a

17 home. Below are the <u>Enabling Technologies</u> that are Mandatory and Compliance, Failed Plant

18 and Operations, Asset Condition, and Performance and Capacity as defined by Company

19 witness Mr. Christie.

20 **Basic Workplace Technology (July 2024-August 2025: $1,944,000, RY1: $810,000, RY2:**
21 **$795,000)**
22 This Business Case represents hardware and software that end users need to perform day-to-
23 day job functions. This may generally include personal computers, tablets, print/copy/scan
24 systems, television displays, monitors, mobile phones etc., and the basic software productivity
25 tools. Without Basic Workplace Technology Delivery hardware and software, productivity is
26 significantly impacted and can become a blocking factor, as some job functions are extremely
27 difficult to perform without digital productivity tools. Additionally, Basic Workplace
28 Technology Delivery deployments that fall under this Business Case are often in short notice,
29 and minimum inventory quantities are maintained to meet business value time frames. The
30 Business Case is structured in such a way to handle both planned and unplanned short-cycle
31 business demand to deliver basic technology items to all job functions and office areas.
32
33 **Control and Safety Network Infrastructure (July 2024-August 2025: $2,443,000, RY1:**
34 **$457,000, RY2: $2,108,000)**

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[2] Per Order 36236, in Case No. AVU-E-24-04, the Commission authorized a 15-year depreciable life for certain
OMS/ADMS software assets transferring in 2025, and a 12-year remaining life of the overall project, for software
assets transferring in 2028.

1   The Control and Safety Network Infrastructure Business Case invests in network assets that
2   deliver reliable network communication solutions that allow Avista to manage and operate
3   our electric grid assets, gas network assets and safety communication systems. The Control
4   and Safety Network Infrastructure enables the ability to remotely monitor, control, and operate
5   critical business and safety systems. These systems include those that connect users in
6   emergency or safety situations, control generation assets, maintain and expand network
7   transport systems that enable push-to-talk radio connectivity for field crews and other
8   personnel, deliver communication networks for protective relays, and supervisory control
9   by providing data from transmission and distribution assets in the field. 2024-2027
10   programmatic projects include investments in replacing end of life assets that mitigate cyber
11   and network security risks on the very networks that allow Avista to operate and control our
12   generation assets and refreshing legacy end-of-life network equipment that meets compliance
13   requirements for field worker communications.
14
15   **Data Center Compute and Storage Systems (July 2024-August 2025: $3,098,000, RY1:**
16   **$1,367,000, RY2: $4,415,00)**
17   This Business Case represents projects that are driven by performance and capacity. This
18   includes investment in server technology required to process and store massive amounts of
19   data to automate and enable business processes that support natural gas and electric customers
20   across service territories. The technology solutions to meet performance standards and
21   reliability requirements vary from hardware and software upgrades in an on-premise data
22   center, offsite storage, or service provider (cloud) facility, or in operating technology to
23   optimize compute and storage capacity. Avista's office, call center, and field staff require on-
24   demand information to meet customer needs, when providing natural gas and electric service
25   to customers across our service territory. The information can be critical to prevent, reduce,
26   or optimize an outcome that benefits our customers. Data center processing and storage
27   investment benefits all Avista customers, as it optimizes cost and productivity by not reverting
28   to manual business processing, which would result in increased labor costs, human error, and
29   overall processing delays. Direct annual offsetting benefits associated with this project is
30   expected at $152,000 for 2024 and 2025, and $350,000 for 2026 and 2027 on a system basis.
31   Idaho's share of these direct savings has been prorated over the Two-Year Rate Plan and
32   included in the Company's electric and natural gas revenue requirements as a reduction in
33   expense within pro forma Adjustments 3.10 (Rate Year 1) and 26.05 (Rate Year 2).
34
35   **Digital Grid Network Expansion (July 2024-August 2025: $4,130,000, RY1: $2,692,000,**
36   **RY2: $2,674,000)**
37   This program provides network solutions that optimize technology communication and
38   operations for field crews, inspectors, employees, contractors, and customers, and is critical
39   to maintain the ability of providing safe and reliable electric and natural gas service.
40   Technology investments under the Digital Grid Network program are necessary for expanding
41   and maintaining network assets for system reliability and business productivity throughout
42   our service territory. Not investing in this Business Case may result in reduced quality and
43   performance of our network system to transmit information, data and communication for
44   back-office transactions, operation systems, and customer service centers, across our service
45   territory. The Digital Grid business investments expand and maintain network assets in

support of system reliability and business productivity, ensuring our ability to appropriately and timely respond to the needs of our customers.

Dynamic Infrastructure Platform Enhancements (July 2024-August 2025: $881,000, RY1: $262,000, RY2: $1,002,000)

The Dynamic Infrastructure Platform Enhancements Business Case is a program to invest in and maintain the necessary products and skills to facilitate the discipline of infrastructure automation within the Infrastructure Technology organization. This investment will allow the technology department to manage and support the growing technology infrastructure footprint and their complexity without a rapid growth of our staff. This solution will benefit our customers across all jurisdictions as it will drive an increase in system performance and reliability.

Endpoint Compute and Productivity Systems (July 2024-August 2025: $4,197,000, RY1: $5,436,000, RY2: $6,646,000)

This program addresses technology obsolescence by delivering technology solutions required to support day-to-day operations. Technology solutions under this program include, but are not limited to, Personal Computer (PC) hardware and operating systems, various handheld devices, printers, configuration and management systems as well as productivity toolsets like Microsoft Office365. Each technology under this program undergoes regular review of utilization and performance levels to determine if expected performance standards are being met and to review the capacity requirements to maintain system reliability under the established budget constraints. These reviews can result in the periodic need for additional investments to address technology that is falling behind determined lifecycles performance standards. Additionally, and as part of keeping up with vendor-driven technology obsolescence, Avista's technology team manages technology lifecycle plans to maintain system reliability.

Enterprise Communication Systems (July 2024-August 2025: $1,672,000, RY1: $2,109,000, RY2: $1,822,000)

All Avista business functions are affected by this program, as it enables all day-to-day work activities and automated business processes around communications. From service center to call center to field work, every worker requires communications systems technology to perform their business function and deliver natural gas and electric service to our customers. These investments include video- and tele-conferencing platforms, electronic mail, instant messaging, and calendar systems to support a hybrid digital workforce. The Enterprise Communication Systems Business Case benefits Avista's customers by enabling the communication between employees to be able to provide safe, reliable service and by enabling communication to our customers.

Enterprise Network Infrastructure (July 2024-August 2025: $5,376,000, RY1: $2,725,000, RY2: $1,905,000)

The Enterprise Network Infrastructure Business Case invests in network assets that deliver network capacity and reliability for day-to-day enterprise business productivity and back office system traffic. These investments deliver the enterprise network infrastructure that serve access to data from one endpoint, system and/or user to another. 2024-2027

programmatic projects include investment in a new network impact analysis solution that allows us to optimize and baseline our network load and capacity, as well as investments that remove cyber risks from our network by replacing end of life assets that carry and serve enterprise network traffic at remote office sites, substations, district offices and generation plants; investments that replace end of life enterprise network traffic load balancing solutions.

Environmental Control & Monitoring Systems (July 2024-August 2025: $1,563,000, RY1: $872,000, RY2: $782,000)

The Environmental Control and Monitoring systems ensure reliable operation of Telecom facilities by managing the performance and capacity of assets that support safety, control, customer facing and back office automated business processes. Assets require specific operating environments to prevent physical damage, such as temperature, humidity, and power supply voltages. Environmental Control and Monitoring systems monitor and control these environmental parameters and alert operational personnel when they fall outside of optimal conditions. The alarms allow operational personnel to respond to issues that may cause damage to other assets well in advance of any failure resulting in loss of business automation processes.

ET Modernization & Operational Efficiency - Technology (July 2024-August 2025: $7,008,000, RY1: $1,338,000, RY2: $3,123,000)

This program was designed to keep up with supporting the growth of business application technology and complexity. The program invests in the digital systems and tools to address the needs of the IS/IT department to support business applications. These technology systems and tools provide functional enhancements that address ongoing changes in the workplace, provide increased employee efficiency through the reduction of steps required to complete a task, and make better use of Avista resources. The technology tools and systems under this program benefit all Avista customers, as they support business application systems throughout the Company.

Fiber Network Lease Service Replacement (July 2024-August 2025: $1,157,000, RY1: $2,339,000, RY2: $1,314,000)

This project is a multi-year effort to transition, by 2027, Avista's use of leased fiber optic cable, which transports emergency and control network data, to a private network infrastructure. This transition aligns to the Company's network strategy, reduces operating costs, and gains control over the 54 fiber segments for critical communication paths. The technology investments under this Business Case benefit customers by investing in the privately-owned fiber optic cable segments thereby mitigating the potential of increased O&M costs for leased fiber in the future and having full control over the fiber that transports emergency & control data. The underlying agreement expires in 2027 with an option to renew for (5) five years. To reduce leasing costs and maintain control of critical infrastructure, Avista will not renew the leased fiber agreement. Therefore, if this program stays on schedule and maintains the appropriate priority, it will sunset in 2027 or 2028.

Land Mobile Radio & Real Time Communication Systems (July 2024-August 2025: $3,674,000, RY1: $2,180,000, RY2: $1,052,000)

1　The investments under this program provide the communication technology that enables real
2　time communication with natural gas and electric field staff. Due to the remoteness and
3　topology of the service territory, the technology investments span a wide range across field
4　radio sites where traditional commercial cellular or telecommunication services are not
5　available. The Land Mobile Radio & Real Time Communications Systems facilitates critical
6　communication between field personnel, dispatch, system operations, and other end users.
7　This radio system is used for normal day to day operation work, coordinating responses to
8　outage events, switching and tagging procedures, communication with external agencies
9　including Public Safety entities, and several other uses. It is a business-critical system used to
10　maintain day to day operations and respond to emergency situations.
11
12　**Network Backbone Infrastructure (July 2024-August 2025: $5,322,000, RY1:**
13　**$1,585,000, RY2: $2,901,000)**
14　The Network Backbone Infrastructure Business Case invests in network assets that deliver
15　and expand data and communication transport networks in support of system reliability and
16　business productivity for Avista. This network backbone infrastructure is the transmission
17　system to our digital network. Across Avista, we move very large amounts of enterprise,
18　control, and safety traffic types all via our network backbone infrastructures. 2024-2027
19　programmatic projects include investment in legacy end of life microwave transport system
20　assets, private fiber infrastructure investments and access points, and assets that manage the
21　movement and prioritization of traffic over this infrastructure.
22
23　**NextGen Control System Networks (July 2024-August 2025: $6,649,000, RY1:**
24　**$7,305,000, RY2: $1,760,000)**
25　This NexGen Control System Networks (NCSN) Program Business Case will administer
26　projects specifically scoped to replace products and services on our control system
27　communication networks that have been designed and provisioned over time division
28　multiplexing (TDM) methodologies. TDM based products and services are end-of-life, end-
29　of-support and are at the end-of-manufacturing. As vendors continue ramping down on the
30　manufacturing and support of TDM based products and services, LECs and other
31　telecommunication service providers continue removing these services from their own
32　product portfolios, recognizing that these services are no longer viable products to maintain.
33　Direct offsetting benefits associated with this project are expected at $10,000 for 2024 and
34　$20,000 for 2025 through 2027 annually on a system basis. Idaho's share of these direct
35　offsets has been calculated and included in the Company's electric and natural gas revenue
36　requirements as a reduction within pro forma Adjustment 3.10.
37
38　**Technology Failed Assets (July 2024-August 2025: $1,041,000, RY1: $1,019,000, RY2:**
39　**$1,023,000)**
40　This program includes a range of solutions from computers to hand-held radios carried by
41　field staff to printers in remote offices to networking equipment. Sometimes technology assets
42　fail prior to being refreshed as part of a lifecycle management program. Any failed asset can
43　cause downtime for an employee or system resulting in significant disruption to daily
44　operations across the service territory depending on where and to what asset the failure
45　occurred. To support these types of unplanned failures, the Technology Failed Assets program
46　was established and consists of technology assets meant for rapid deployment as failures occur

1   and when repairs are not feasible. A technology inventory is maintained to quickly restore
2   business automation. This program provides benefits to customers by providing a technology
3   inventory to quickly restore business automation and reduce the downtime caused by the
4   failure. This Business Case is planning for laptop, mobile phone, printer, field area network,
5   audio visual devices, and monitor replacements when the assets fail, just to name a few.
6
7   **Q.   How do the Enabling Technology projects benefit Avista Customers?**

8   A.   Enabling technology benefits our customers by providing the foundational

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

10   or the ability to process billing, meter reads, or communicate outages and restoration times

11   during an unplanned outage. It also enables our field workers to safely connect over the radio

12   across rugged remote locations or during storm restoration efforts that require significant field

13   coordination to maintain employee safety. Enabling technology is the foundation to delivering

14   natural gas and electric service safely to our customers.

15   ***Information Related to "Security" Projects Listed in Table No. 1 (See Exhibit No. 12,***
16   ***Schedule 1, pages 290 - 350)***
17
18   **Q.   Please describe any major changes in "Security".**

19   A.   In the Spring of 2021, President Biden's Administration launched a 100-day

20   initiative to secure our nation's critical infrastructure. The initiative focused primarily on

21   improving cybersecurity of industrial control systems of electric utilities. The initiative

22   represents swift, aggressive actions to confront cyber threats from adversaries who seek to

23   compromise critical systems that are essential to U.S. national and economic security.

24   Secondarily, in July of 2021, the Biden Administration expanded the initiative to

25   include natural gas pipelines. The initiative established voluntary cybersecurity goals, as well

26   as mandatory requirements that clearly outline expectations for owners and operators of

27   critical infrastructure. The voluntary goals and mandatory requirements are based on

28   cybersecurity 'best practices'. Investments to meet the new mandatory obligations required a

1   reprioritization of 2021 planned investments in various areas of Enterprise Security, Business

2   Continuity, and Disaster Recovery. Furthermore, should requirements continue to change,

3   based on ever-changing cyberthreats, further reprioritization will continue in future years.

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

5   **Cyber Security, Business Continuity, and Disaster Recovery from July 1, 2024 through**

6   **August 31, 2027.**

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

8   essential to the economies in the areas that we serve and our customer's way of life and that

9   intruders can use a variety of cyber and physical attacks to try and disrupt the delivery of safe,

10   reliable, and secure energy. Cyber and physical attacks can not only have a reliability impact

11   but also can lead to data breaches, ransomware, or other costly system repairs and threaten

12   employee safety. Based on information from our government partners in the Information

13   Sharing and Analysis Centers (ISACs), FBI, DHS, TSA, and State Fusion Centers, we know

14   the attacks continue to grow in size and complexity and therefore it is prudent that Avista

15   continues to invest in its cyber, physical, business continuity, and compliance programs.

16   Investments in "Security" primarily fall into cyber and physical security, followed by

17   investments in business continuity and meeting new compliance requirements.

18   **Disaster Resiliency (July 2024-August 2025: $142,000, RY1: $9,000, RY2: $198,000)**
19   Recovery is a critical business capability for Avista, as we have witnessed after a major
20   weather event when time is of the essence to recover from a storm. Avista's Disaster
21   Resiliency program Business Case (formerly Enterprise Business Continuity) is similar,
22   whereby readiness is critical before, during, and after an incident. Although many of Avista's
23   technology systems have built-in redundancy or high availability requirements, there are some
24   gaps that necessitate further investment. To identify these gaps, Avista conducts an annual
25   disaster recovery exercise that evaluates the effectiveness of its program, which includes
26   people, process, and systems. The results of these exercises, along with peer collaboration
27   with utility industry partners, provide Avista with a strong baseline from which to measure its
28   recover capabilities and channel the appropriate level of investment to address any identified
29   issues or risks. If we do not invest in our Disaster Resiliency continuity program, it can lead

1   to our inability to recover from an incident affecting technology systems required to deliver
2   safe and reliable energy. So, while the date and time of an incident cannot be predicted,
3   prudency lies in the Company's ability to timely recover from an incident.
4

5   **Enterprise Security (July 2024-August 2025: $3,660,000, RY1: $1,986,000, RY2:**
6   **$980,000)**
7   Threat actors continue to evolve their tactics in response to our defenses and therefore
8   investments that were effective in the past, need to be enhanced with an upgrade or paired
9   with another solution to help mitigate new risk. Firewalls, anti-virus, and intrusion detection
10   systems all continue to evolve to ensure they are effective in preventing and detecting modern
11   attacks. Investing in physical and cyber security is a direct benefit to our customers, as it is
12   critical to the protection of the natural gas and electric infrastructure. It is also protecting the
13   Company's sensitive customer, employee, operating, and financial information. Unable to
14   predict when or where the next attack will occur requires a proactive security posture to
15   identify, protect, detect, respond, and recover from any incident type. This may include a
16   physical breach to a Company facility, such as a construction yard or substation targeted for
17   copper wire or precious metals that can be cashed in for recycling, or a data breach to capture
18   sensitive customer information or operational data critical to delivering electric and natural
19   gas service that can be used to perpetuate future attacks on the Company or its customers. In
20   either case, theft of a physical or cyber asset can result in unanticipated costs to remediate
21   damages, risk the safety and reliability of the energy system, or release sensitive data that the
22   Company stewards.
23

24   **Facilities and Storage Locations Security (July 2024-August 2025: $2,003,000, RY1:**
25   **$362,000, RY2: $179,000)**
26   This Business Case maintains security at our facilities and storage locations. Security remains
27   a concern at these locations. The locations contain people, equipment, and material that are
28   critical to support our day-to-day operations and, in turn, the delivery of safe and reliable gas
29   and electricity. A physical security incident at any of these locations may harm people,
30   damage equipment, or even restrict our ability to respond to customers. Investments under
31   this Business Case are prioritized based on risk to the people, equipment, and assets in each
32   of the Company's facilities and storage locations. Company vehicles, tools, equipment, and
33   spare parts often used to maintain our energy infrastructure and respond to emergencies may
34   be affected without continuous investment in physical security protections at our facilities and
35   storage locations.
36

37   **Generation, Substation & Gas Location Security (July 2024-August 2025: $6,305,000,**
38   **RY1: $1,334,000, RY2: $1,045,000)**
39   This Business Case covers physical security at the Company's generation, substation, and gas
40   locations. Many of these locations are remote, unmanned, and vulnerable, which makes them
41   difficult to protect. A physical security incident at any of these locations could deny, degrade,
42   or disrupt the delivery of energy. In addition, physical attacks can also give intruders access
43   to critical cyber equipment, which can lead to a cyber security event.
44

45   **Identity and Access Governance (July 2024-August 2025: $558,000, RY1: $451,000,**
46   **RY2: $201,000)**

Avista's current Identity and Access Governance (IAG) program is a framework of business processes, policies and technologies that facilitates the management of electronic or digital identities. With an IAG framework in place, management can control user access to critical information. The IAG program will create role-based system access profiles, define system privileges, automate access management, and facilitate regular user access review and validation. This solution will benefit Avista and its customers by adhering to the security principle of 'least privilege', whereby individuals are limited access only to information and resources necessary to perform their current and intended job functions. It also reduces the risk associated with individuals having broad access, to systems or to facilities, their roles no longer require.
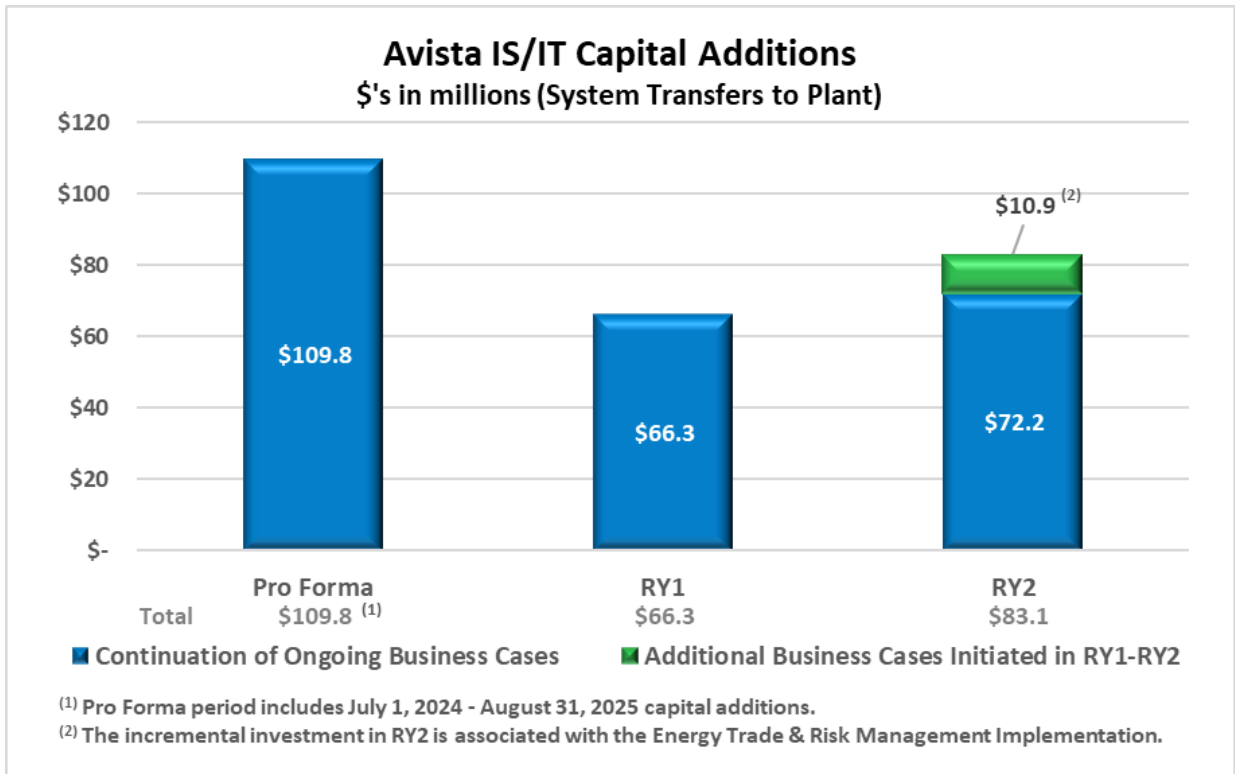
Security Compliance (July 2024-August 2025: $47,000, RY1: $53,000, RY2: $100,000)
This Business Case was originally titled NERC CIP Compliance in previous years. It was focused on the cyber and physical security investments needed to meet new NERC CIP standards. In response to various compliance agencies requiring updates or improvements to Avista's cyber and physical security, the Company determined that a broader scope was necessary to achieve and maintain NERC CIP, Western Electricity Coordinating Council (WECC), Transportation Security Administration (TSA), Payment Card Industry (PCI), Federal Energy Regulatory Commission (FERC), and other emerging security compliance-driven requirements. Not being compliant is not a viable alternative, as it puts Avista's cyber and physical security posture at risk.

Q.   Referring to the individual Table No. 1 above, what is the overall level of system capital additions for which you sponsor, and how does this capital investment compare between the Pro Forma and RY1 and RY2 periods?

A.   Illustration No. 3 below shows overall <u>system</u> capital additions (transfers to plant) for IS/IT capital investment for the Pro Forma, RY1 and RY2 periods, of $109.8 million, $66.3 million and $83.1 million, respectively. As also noted in the illustration, the "Pro Forma" period represents 14 months (or July 1, 2024 – August 31, 2025). Finally, this illustration distinguishes between what are ongoing projects or programs from the Pro Forma period ending August 2025, versus incremental projects that are estimated to transfer-to-plant from September 2025 through August 2027 for RY1 and RY2.

1 **Illustration No. 3 – IS/IT Plant Investment (System Transfers to Plant)**

2

Avista IS/IT Capital Additions
$'s in millions (System Transfers to Plant)

Pro Forma: $109.8 [1]
RY1: $66.3
RY2: $72.2, $10.9 [2]

Total — Pro Forma $109.8 [1], RY1 $66.3, RY2 $83.1

■ Continuation of Ongoing Business Cases   ■ Additional Business Cases Initiated in RY1-RY2

[1] Pro Forma period includes July 1, 2024 - August 31, 2025 capital additions.
[2] The incremental investment in RY2 is associated with the Energy Trade & Risk Management Implementation.

13 Notably, as can be seen from this illustration, most of the capital investment (100% in RY1

14 and 87% in RY2) relates to ongoing, multi-year efforts that continue over time, at various

15 funding levels. The rationale and justification for these ongoing projects, however, does not

16 change over time, only the funding levels. The additional Business Case listed in RY2 relates

17 to the Energy Trade & Risk Management Implementation ($10.9 million system) that is

18 discussed earlier in my testimony.

1   **V. IS/IT AND SECURITY OPERATING AND MAINTENANCE EXPENSES**

2   **Q.   Please describe the general make-up of IS/IT and Security Operating &**

3   **Maintenance (O&M) costs.**

4   A.   IS/IT and Security O&M consists of centralized expense for labor and non-

5   labor security, information services and technology expenses primarily driven by increasing

6   trends of software vendors changing how they license and deliver software solutions, and by

7   capital investment across all areas of the Company, including Energy Delivery, Energy

8   Resources, Customer, HR, Finance, IS/IT, Security, etc. In general, for any investment the

9   Company makes that is enabled, supported, or secured by technology and requires ongoing

10   licensing, maintenance and support, those expenses will be centralized in IS/IT and Security

11   O&M. The expense impact of annual and multi-year operating agreements surrounding capital

12   investment reflects most of the overall incremental increase and are primarily driven by the

13   digital transformation of the utility.

14   Keeping pace with emerging technologies and taking advantage of the opportunities

15   digital technologies provide, drive the need for the Company to convert analog information

16   into digital form and to incorporate digital technologies into business processes and

17   interactions with our customers and within the utility itself. Some examples of investment

18   that support the Company's digital transformation include, Outage Management System

19   (ADMS), Customer Experience Platform, and Enterprise Security, to name a few.

20   Illustration No. 4 below, displays all IS/IT and Security O&M expense from 2021 through

21   2024.

1   **Illustration No. 4: Average Annual Growth Rate of Contracts, Labor & Periodic Non-**
2   **Labor (System):**
3
4
5
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14

15
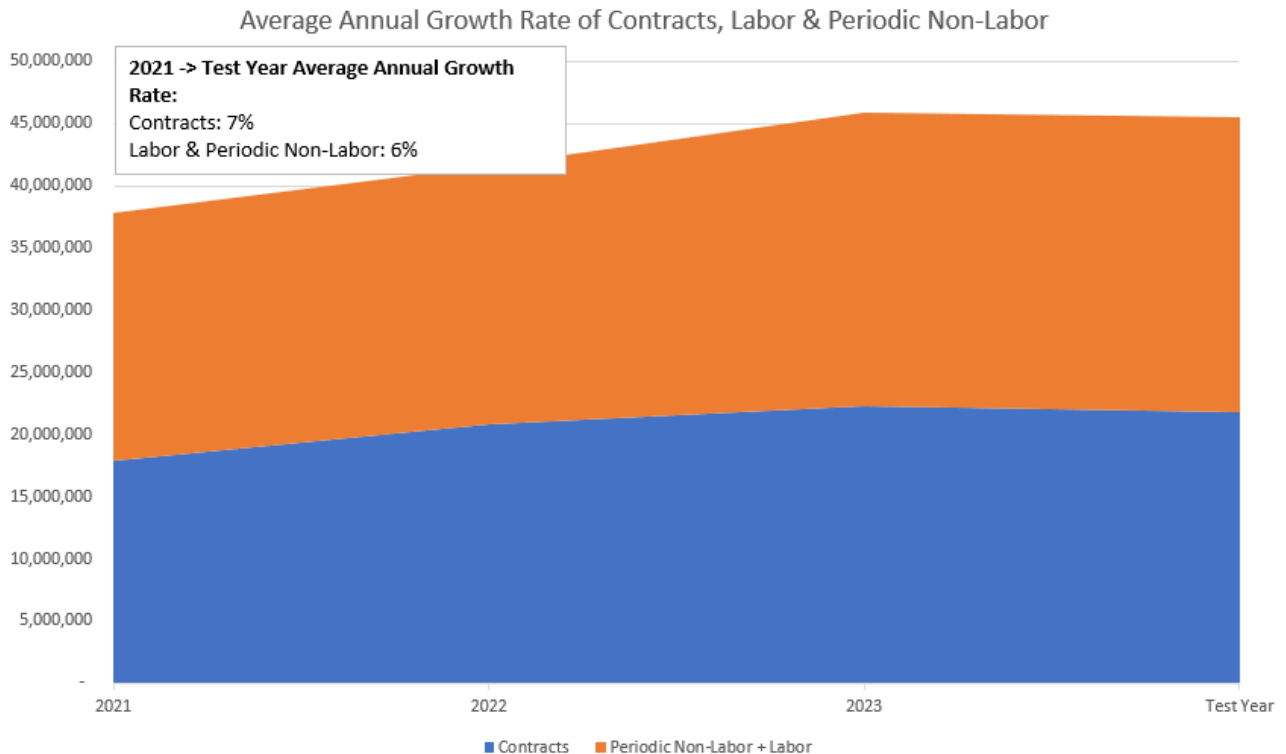
16   As shown above in Illustration No. 4, IS/IT and Security system labor and periodic

17   (typically usage-based monthly, not quarterly/annual) non-labor expenses remain relatively

18   flat from 2021 through the test year, increasing at an annual average growth rate (AAGR) of

19   6%. During this same period, known and measurable contracts increased at an AAGR of 7%.[3]

20   The resulting change is driven largely by the need to support IS/IT and Security and non-IS/IT

21   and Security investments, changes to the licensing and delivery models of software vendors,

22   inflation and changing market conditions. An example of a contract with built in escalation is

23   with Oracle, which is the publisher of several of the Company's enterprise software systems

24   including Customer Care and Billing (CC&B), Meter Data Management (MDM) and Oracle

---

[3] Known and measurable contracts refer to contracts currently entered into by the Company and other parties.

1   Financials. Historically these contracts increased roughly 4% annually, but Oracle increased

2   its prices by up to 8% annually beginning in 2023. Annual increases for IBM software

3   maintenance and support were consistent at 3%, though IBM upped their annual increase to

4   10% beginning in 2022.

5   **Q.   Please summarize the <u>incremental</u> IS/IT O&M expenses beyond the**

6   **Company's test period, included in this case.**

7   A.   In Ms. Schultz' Electric and Natural Gas Pro Forma Studies, she has pro

8   formed security, information services, and technology expenses. IS/IT and Security increases

9   in expense have been pro formed first, using a narrowed scope of incremental expenses to

10   known and measurable items that will be in place over the Two-Year Rate Plan beginning in

11   September 2025, reflecting an increase of approximately $1.03 million system. These

12   increased expenses represent non-labor impacts of annual and multiyear agreements for

13   products and services, licensing, and maintenance fees for a range of centralized information

14   services. These incremental expenditures are necessary to support the Company's cyber and

15   general security, emergency operations readiness, electric and natural gas facilities and

16   operations support, and customer services. This increase in IS/IT expense represents an overall

17   4.9% increase in known and measurable IS/IT expenses in Rate Year 1 above the historical

18   test period twelve months-ended 06.30.2024 (12ME 06.30.2024) levels.

19   Next the Company included incremental expected increases in IS/IT expenses, mainly

20   associated with general business systems as described below, totaling approximately

21    $399,000 in Rate Year 1 (RY1) and an additional increase of $435,000 in Rate Year 2 (RY2)

22   on a system basis. This incremental increase reflects an expected increase in IS/IT expense

23   above test year levels of approximately 1.9% annually over the Two-Year Rate Plan. Idaho's

1 share of the <u>total pro formed IS/IT expenses</u> reflects an increase in expense of approximately

2 $254,000 for Idaho electric and $55,000 for Idaho natural gas in RY1, and $91,000 for Idaho

3 electric and $26,000 for Idaho natural gas in RY2.

4   **Q.**   **Will you please provide a summary table showing the O&M expenses pro**

5 **formed by the Company in this case?**

6   A.   Yes. Please see Table No. 2 below. This table includes the non-labor expenses

7 pro formed in the case over the Two-Year Rate Plan, above test period levels for RY1 and

8 RY2.

9 <u>**Table No. 2 – Total Pro Formed Expenses –RY1 and RY2 Incremental (Non-Labor)**</u>

Total Pro Formed Expenses	Rate Year 1 Incremental	Rate Year 2 Incremental
Non-Labor O&M System	$ 1,434,531	$ 434,598
ID Electric Share	$ 254,000	$ 91,000
ID Natural Gas Share	$ 55,000	$ 26,000

14   **Q.**   **What is driving the increase in system non-labor O&M expense of**

15 **$1,434,531 in RY1 1 and $434,598 in RY2 as shown in Table No. 2 above?**

16   A.   The main driver in system non-labor O&M expense is capital investment in

17 Enabling Technology, Business & Operating Application Systems, and Enterprise Security

18 from areas across the Company as described earlier in my testimony. As digitalization drives

19 technology further and further into areas of the utility that traditionally were not as technology

20 dependent, nearly all capital investment - regardless of what functional area it supports -

21 include technology components that result in incremental increases to licensing, support and

22 maintenance expense for those systems.

23   Another significant driver is the increasing trend of software vendors changing how

1   they license and deliver software solutions; examples include a shift from a perpetual license

2   to a subscription license, or from an on-premise solution to a cloud-based solution. In addition,

3   software vendors regularly increase the cost of ongoing maintenance and support to keep up

4   with the cost of enhancing, fixing and supporting their products, and to align with market

5   driven forces such as annual consumer price index increases and inflation.

6   As digital transformation increases the number and complexity of systems dependent

7   on information technology, the Company prudently negotiates annual and multi-year

8   agreements to normalize, control and manage IS/IT and Security expense to the benefit of our

9   customers. The majority of the adjustment in RY1 is the result of known and measurable

10   expense from those annual and multi-year agreements currently in place or continuation of

11   agreements expected, that have increased beyond the test period. A breakdown of the

12   incremental increase beyond the test period for RY1 expense of $1,434,531 and RY2 expenses

13   of $434,598 by technology type is include in Table No. 3 below:

14   **Table No. 3: System Non-Labor O&M Expense (By Technology Type)**

15

General Tech Type	Test Year	RY1 Incremental	RY1	RY2 Incremental	RY2
Enabling Technology	$ 4,957,710	$ 361,994	$ 5,319,704	$ 166,522	$ 5,486,225
Business & Operating Application Systems	13,781,244	1,085,366	14,866,610	312,339	15,178,949
Enterprise Security	2,519,534	(12,829)	2,506,705	(44,262)	2,462,443
Grand Total	$ 21,258,488	$ 1,434,531	$ 22,693,019	$ 434,598	$ 23,127,617

19   **Q.   Table No. 3 includes increases of $1,434,531 and $434,598 in RY1 and**

20   **RY2, respectively, most of which is related to the Business & Operating Application**

21   **Systems. Please describe the reasons for the increase in the Business & Operating**

22   **Application Systems area.**

23   A.   The primary increases to the Business & Operating Application Systems

24   originate from non-IS/IT and Security items moving out of the construction phase of

1   development. Once out of this initial phase, the Company recognizes the ongoing operating

2   and maintenance costs related to these projects. Some examples of the projects that are driving

3   the incremental increase are Sirion Labs CLM (Contract Lifecycle Management), ITSM (IT

4   Service Management), Salesforce's Marketing Cloud, and ADMS (Advanced Distribution

5   Management Systems). These projects are all slated to move from being under construction

6   to in service between the test year and RY1.

7   Further, the Company's Business and operating Application Systems have seen

8   contractual escalation related to Oracle, as noted above, which is the publisher of several of

9   the Company's enterprise software systems, including Customer Care and Billing (CC&B),

10   Meter Data Management (MDM), and Oracle Financials.

11   **Q.   What are the primary types of incremental IS/IT and Security non-labor**

12   **O&M expense?**

13   A.   The primary types of incremental non-labor O&M expenses include Hardware

14   and Software License support and maintenance, and Software Services and Subscriptions.

15   Hardware and Software License support and maintenance are costs associated with a

16   traditional licensing model where a capital asset license is purchased along with the required

17   license support and maintenance costs. Support and maintenance costs are the ongoing

18   expense portion associated with vendor provided security patches, bug fixes, incremental

19   upgrades, and expert technical support with pre-determined service level agreements.

20   Software Services and Subscriptions are costs associated with a less traditional but

21   increasingly more common licensing model where all or most of the license cost is considered

22   ongoing expense, rather than a capital asset. Examples include items like Software as a Service

23   (SaaS), data feeds, or site license subscriptions. Costs in this category range from solutions

1   that enable or supplement on premise systems, to complete end-to-end solutions

2   (infrastructure, networks, computing, storage, hosting, etc.) with little to no on-premise

3   footprint. The incremental expenses included in this case and displayed above in Table No.

4   3, on a system basis, are re-categorized and shown by <u>general cost types</u> in Table No. 4:

5   **<u>Table No. 4: System Non-Labor O&M Expense (By Cost Category)</u>**

6

Row Labels	Test Year	RY 1 Incremental	Sum of RY1	RY 2 Incremental	Sum of RY2
Dedicated Voice and Data Circuits	$ 103,357	$ 10,686	$ 114,042	$ -	$ 114,042
Hardware License Support	1,000,948	555,969	1,556,918	28,641	1,585,558
Lease Expense - Equipment	100,779	24,776	125,555	-	125,555
Network Maintenance	17,940	-	17,940	-	17,940
Professional Services	605,583	6,978	612,562	(23,418)	589,144
Radio Tower Site Leases	286,736	37,553	324,288	827	325,115
Rental Expense - Equipment	125,080	4,087	129,166	-	129,166
Software License Support	10,058,104	635,554	10,693,657	294,740	10,988,397
Software Services & Subscriptions	8,950,681	149,872	9,100,553	133,808	9,234,361
Training		5,963	5,963	-	5,963
Wireless WAN	9,280	3,093	12,374	-	12,374
Grand Total	**$ 21,258,488**	**$ 1,434,531**	**$ 22,693,019**	**$ 434,598**	**$ 23,127,617**

13

14   **Q.   Please describe what is being represented in Table No. 4.**

15   A.   As demonstrated, Table No. 4 represents an alternative view of the incremental

16   adjustment from Test Year to RY1 and RY2, focusing on the general cost types of items that

17   make up the categories displayed in Table No. 3. As shown in Table No. 4, the largest single

18   driver of increased non-labor O&M costs is increases in software License Support, of which

19   the largest portion is a result of contractual escalation related to Oracle, which is the publisher

20   of several of the Company's enterprise software systems including Customer Care and Billing

21   (CC&B), Meter Data Management (MDM) and Oracle Financials.

22   **Q.   Are IS/IT capital projects the only driver of incremental IS/IT O&M**

23   **expense?**

24   A.   No. As described earlier in my testimony, information technology is prevalent

1 throughout the utility and underpins most of the modern business and operating systems as a

2 result of the digital transformation of the utility.

3 **Q.   Provide an example of a non-IS/IT driven capital investment that is**

4 **driving incremental IS/IT O&M expense.**

5 A.   The Customer at the Center Platform is an initiative that consists of three

6 program investment areas: Customer Experience Platform (CXP), Customer Facing

7 Technology, and Customer Transactional Systems. While these projects are information

8 system based, they are being sponsored outside of my area, yet causing centralized costs in

9 my area of responsibility. While components of Customer Facing Technology have been in

10 service for several years and drive incremental IS/IT expense, more recently CXP and

11 Customer Transactional Systems investments have gone into service in phases starting from

12 2018 through today and will continue. These non-IS/IT capital investments have driven

13 increases in current and pro-formed IS/IT expense.

14 Illustration No. 5, below, displays the percentage of IT, Security and Non-IT sourced

15 IS/IT non-labor O&M from the test year through RY1 and RY2. As is clearly demonstrated,

16 a significant portion of IS/IT non-labor O&M is driven by Security and Non-IS/IT areas of

17 the business.

1 **Illustration No. 5: IS/IT Non-Labor O&M Driven by Non-IS/IT**

2
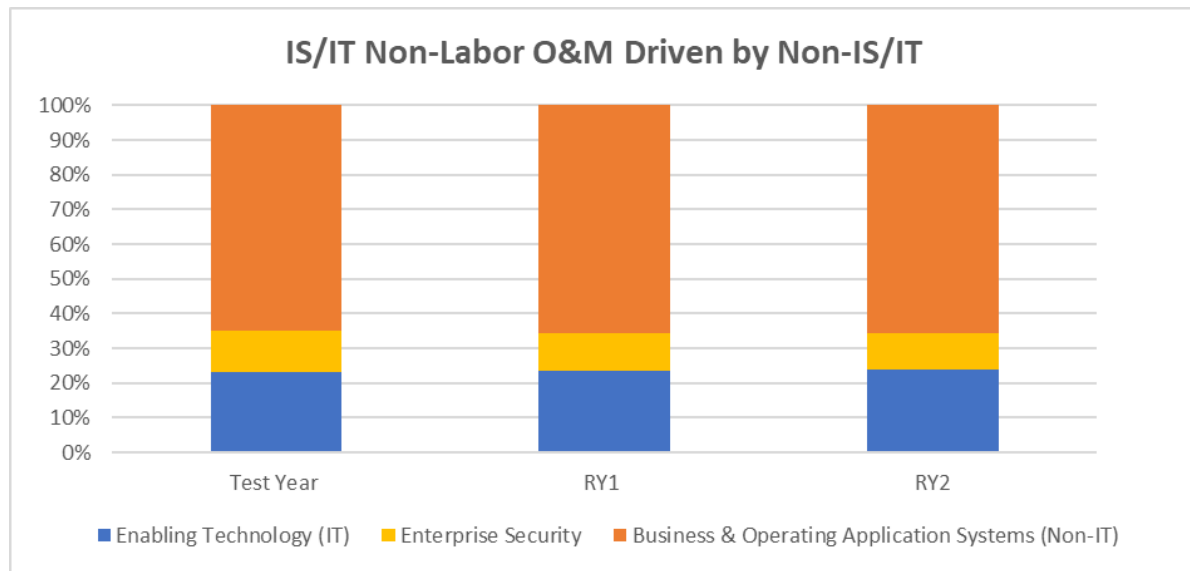
10 **Q.   Describe how technology system support and maintenance service**

11 **contracts provide value and benefit customers.**

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

13 transactions become more integrated and automated. These technology systems require

14 regular maintenance activities to stay current on security vulnerability patching, software

15 defect patching, and various software functionality changes. Due to the increase in complexity

16 of these systems, vendor support is needed to assist with root cause analysis when

17 troubleshooting failures in the system. Without support and maintenance services for these

18 technology systems the Company and our customers would experience longer system

19 downtimes due to complexities of root cause analysis. In addition, the Company would be at

20 an increased risk of malicious activities in our technology systems if we did not have access

21 to software vulnerability patches, and our ability to optimize and maintain the business value

22 of the technology system would be degraded.

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

Manuel, Di   34
Avista Corporation

1   **benefit of its customers?**

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

3   to manage and control IS/IT costs. One approach is through software application license

4   acquisition, renewal, and recovery. A software analyst works in conjunction with our technical

5   and business subject matter experts to negotiate right-sized licensing, and to review and

6   validate the value and use of software applications to identify opportunities to reduce and

7   remove unused license and maintenance costs prior to any renewal of software agreements.

8   An example of this practice from the current year occurred when ahead of the license

9   renewal for our data analytics platform we analyzed license assignments and usage. Our team

10   examined reporting from the platform to identify users that may not be fully leveraging the

11   service or do not justify the assigned license cost. Additionally, we surveyed users to

12   determine how the service was being used, and whether there was a lower cost/no cost

13   alternative that would meet their needs.

14   Avista regularly evaluates all available purchasing options from our software vendors.

15   In the process of renewing Enverus Load Forecast SaaS subscription the vendor initially

16   provided a proposal that represented an 8% rate increase over the previous term. By engaging

17   with the vendor we were able to negotiate a 3 year agreement that eliminated any price

18   increase for the first two years, with a controlled 5% increase for the third year. Additionally,

19   we were able to get language included to limit any future price increases to 5%. This provides

20   Avista with price protection and allows for accurate budget forecasting.

21   Another approach Avista takes to manage and control IS/IT costs is to identify

22   opportunities to consider annual and multi-year agreements with software and service vendors

23   when business needs align with the duration of the agreement. These agreements allow Avista

1   to lock in pricing at or below current or expected market pricing, providing protection from

2   adverse market conditions, which benefits both Avista and our customers. An additional way

3   IS/IT looks to reduce expense over time is to seek further discounts from vendors in exchange

4   for pre-payment of annual and multi-year agreements. Avista prudently approaches pre-

5   payment of software agreements which are considered and agreed to when the benefits of

6   prepayment outweigh the cost, or where the vendor requires it as part of the agreement.

7   **Q.   What are other methods Avista uses to manage its overall IS/IT expenses**

8   **for the benefit of its customers?**

9   A.   Another method which has been discussed above is the use of digitalization,

10   an industry-wide strategy that requires additional investment in IT's support capabilities. As

11   existing and new services are digitalized, IT departments are experiencing a significant

12   increase in workloads. Although these increasing workloads are expected, we actively work

13   to decelerate the associated cost increases using automation technology and changes to our IT

14   operating models.

15   Other examples of practices to manage and control IS/IT expense include training

16   employees to use mobile devices to scan documents and temper investment in

17   printing/scanning technology, and working with our Supply Chain department to negotiate

18   volume rebates ($764,004 in discounts from 2022 across capital and expense projects), and

19   early pay discounts ($116,312 in discounts from 2022, and $43,908 in 2023 through October,

20   across capital and expense projects) for technology products and services procured each year.

21   Those savings, among others, have been captured in proposed rates.

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

23   A.   Yes.

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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION	)	CASE NO. AVU-E-25-01
OF AVISTA CORPORATION FOR THE	)	CASE NO. AVU-G-25-01
AUTHORITY TO INCREASE ITS RATES	)	
AND CHARGES FOR ELECTRIC AND	)	
NATURAL GAS SERVICE TO ELECTRIC	)	EXHIBIT NO. 12
AND NATURAL GAS CUSTOMERS IN THE	)	OF
STATE OF IDAHO	)	WAYNE O. MANUEL

FOR AVISTA CORPORATION

(ELECTRIC AND NATURAL GAS)

Customer Experience Platform Program

EXECUTIVE SUMMARY

The purpose of the Customer Experience Platform (CXP) Business Case is to implement the technology necessary to support the emphasis on Customer Experience at Avista. The CXP strives to deliver functionality that empowers all departments to work as one in support of customers. The work executed under this program supporting delivering the personalized experiences customers love and build lasting, trusted partnerships. CXP has created a single interface to provide a consistent and comprehensive view of each customer, their preferences, past interactions with the Company, communications, and history. This reduces confusion across departments, allows our employees to handle an entire situation and answer customer questions without having to transfer a call or tell the customer we will need to get back to them. This also allows our customers to no longer have to repeat information with various employees of Avista about a single situation because all interactions are being logged and made available to customer facing employees. This platform brings our employees and our customers together by providing a single lens into each individual customer and their interactions with us.

The CXP program continues to create new features in an iterative agile fashion for various departments across our company and for our customers with a specific focus to the overall customer and employee experience. These features may include (but are not limited to) the following: Customer Account Management, Lead Management, Segmentation, Approvals & Workflows, Communication Campaign management tracking, Start/Stop Service, High Bill Analysis, Payment Processing, Field service request & tracking, Rebate programs, New construction, and ability for CSRs to see location of field personnel. Through the implementation of CXP, some systems will be replaced as their functionality is integrated into CXP. For example, centralizing communication platforms, moving functionality from InforCRM to the CXP.

Not investing in the customer experience platform would put overall customer satisfaction at risk. Lower customer satisfaction would result in higher costs in serving dissatisfied customers, increased customer complaints to Avista and to our commissions, and a lack of trust with our company. We are developing and enhancing this platform based on our strategy of putting the customer at the center and to improve overall customer interaction and experience; if we do not improve the customer experience by providing the proper tools to our employees to serve our customers, then we put meeting current customer expectations at risk.

This program is intended to set the foundational technology and organizational structure in place to enable the support of the experiences required of the utility of the future. This program's capital costs are forecast to transfer to the "Customer Transactional Systems" and the "Customer Facing Technology Program" business cases over the next 3 years.

Customer Experience Platform Program

VERSION HISTORY

Version	Author	Description	Date
1.0	*Stephanie Myers*	*Initially approved*	*06/15/2020*
2.0	*Stephanie Myers*	*Updated Executive Summary*	*06/26/2020*
2.1	*Stephanie Myers*	*Additional content in narrative*	*07/21/2020*
2.2	*Stephanie Myers*	*Additional detail added for cost avoidance*	*07/28/2020*
3.0	*Kim Henscheid*	*Updated requested spend amounts*	*07/09/2021*
4.0	*Matt Halloran*	*Annual Update*	*09/02/2022*
5.0	*Matt Halloran*	*Annual Update, moved to new template*	
BCRT	*Christine Tasche*	*Has been reviewed by BCRT and meets necessary requirements*	*04/28/2023*
6.0	*Matt Halloran*	*Annual Update*	*5/02/2024*
BCRT	*Joe Wright*	*Has been reviewed by BCRT and meets necessary requirements*	*5/02/2024*

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$4,000,000	$4,000,000
2026	$3,000,000	$3,000,000
2027	$1,800,000	$1,800,000
2028	$1,000,000	$1,000,000
2029	$0	$0

Project Life Span	*5 years*
Requesting Organization/Department	Customer Solutions
Business Case Owner | Sponsor	Matt Halloran | Nicole Hydzik
Sponsor Organization/Department	Customer Solutions
Phase	Execution
Category	Program
Driver	Customer Service Quality & Reliability

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

Investment Drivers

1. BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

The purpose of the Customer Experience Platform (CXP) Business Case is to implement the technology supporting the emphasis on Customer Experience at Avista.

Our systems and how our employees transact with those systems are somewhat siloed in nature. A specific department uses systems that are completely separate and specialized to the job that department is performing. For example, customer service's primary role is to help the customer and answer questions to the best of their ability. They can help a customer with their bill, process a payment, create a payment arrangement, analyze their usage, and create an activity for a field person to perform. The customer service representative (CSR) does not have knowledge of where individual field personnel are located, or how much availability our field personnel may have to meet with a customer. In essence, this will provide a more holistic or 360 degree view of the customer.

This program enables the customer at the center strategy by creating transformative tools for our employees that tie together multiple disparate systems to create a single lens to better understand customer history and interactions across all workstreams and depts. The

Business Case Justification Narrative   Template Version: February 2023

Page **3** of **11**
Exhibit No. 12
Case Nos. AVU-E-25-01/AVU-G-25-01
W. Manuel, Avista
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Customer Experience Platform Program

CX platform will be enhanced over time and will eventually be used by all employees that work directly with or support our customers (both electric and gas customers in all service territories). These employees include but are not limited to customer service representatives, field workers, account executives, construction workers, various management roles.

This program has delivered an interface that can provide consistent information and a single source of truth about our customers and their historical interactions with Avista. Having this type of holistic interface reduces confusion across departments, allows our employees to handle an entire situation and answer customer questions without having to transfer a call or tell the customer we will need to get back to them. This also allows our customers to no longer have to repeat information with various employees of Avista about a single situation because all interactions will be logged and made available to employees. This platform brings our employees and our customers together by providing a single lens into all customer interactions.

From a strategic perspective, we are putting technology in place that will allow our employees to create the experience that customers are increasingly expecting. Companies that focus on great customer experience have higher customer satisfaction and loyalty which will be increasingly important as the utility industry evolves and more customer choice options are available.

1.2 Discuss the major drivers of the business case.

The major driver of this business case is Customer Service Quality & Reliability combined with a focus on our corporate customer at the center strategy. The CXP program is a key building block that empowers all our departments to work as one. It will enable us to deliver the personalized experiences customers love and build lasting, trusted relationships. With the Customer Experience Platform, customers will experience shorter lead times, less time between follow-up activities because our system will escalate cases when the customer has been waiting.

Customers will experience streamlined processes and the introduction of electronic signatures. They will have the ability to chat with us virtually without having to pick up the phone. The customer will be able to get communication through the channel they choose (email, phone, print, text, etc.). Our customers will get communication that is specific and personalized and therefore more relevant to them. If they need help paying their bill, our communication will be targeted and focused on features that will help that customer, like agency locations or new incentives. We will be able to log every interaction our employees have with our customers, which should allow customers to avoid having to call multiple different people within the company to address an issue. A single employee could help answer multiple customer questions because the information will be logged and made available to employees in order to streamline that customer experience.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Customer Experience Platform Program

Avista's strategy is increasingly focused on putting our customer at the center of everything we do. Part of this strategy is preparing for a future where customers will have more choice for energy service and adjacent products and services. We want them to choose us because of the exemplary experiences they have had with our company. It takes many years to build the capabilities and associated improved customer satisfaction and if we defer this work, we risk being far behind the curve and not meeting expectations that our customers have around a desired experience.

This investment will also create internal efficiencies for our employees that interact directly with our customers and those who are behind the scenes accomplishing tasks and work on behalf of our customers. The transactions we will be providing in the customer experience platform will be streamlined and take less time to complete. The CXP will also require less training time for new employees and for new features.

If this work is not approved, all existing systems and business processes would remain in their existing state with no new functionality added. This alternative would put overall customer satisfaction at risk. Lower customer satisfaction would result in higher costs in serving dissatisfied customers, increased customer complaints to Avista and to our commissions, and a lack of trust in our company. We currently enjoy high customer satisfaction scores, but if we do nothing, we are at risk of this going down.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

Our corporate Mission Statement says simply: "We improve our customers' lives through innovative energy solutions" and continues to say that "We put those we serve at the center of everything we do." The foundation of the CXP work is rooted in that commitment and is our key technology initiative aimed at delivering upon that strategy. As the program matures it will continue to deliver value in many areas of the business and across multiple customer journeys that will result in enhanced customer experiences.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

The detailed report that was created jointly by Salesforce and Avista that outlined avoided costs can be found on the CXP Project Web Site: https://sp2016.corp.com/sites/sp/CXP/.

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Customer Experience Platform Program

2. PROPOSAL AND RECOMMENDED SOLUTION **-** *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The proposed solution is to continue to deliver organizational benefit via a companywide "Customer Relationship Management" (CRM) system. The company has specifically chosen to implement the Salesforce CRM, which comes with a multitude of benefits for reliability, completeness of available feature set and supportability.

The CXP program will continue to create new features in an on-going agile fashion for various departments across our company. These features include (but are not limited to) the following:

- Quoting & Order Entry: Ability to develop quotes, cost estimates and assemble orders related to an opportunity (construction work, etc.) based on products or services that a customer is interested in (estimate upfront and ongoing costs for a natural gas conversion based on expected usage, estimate the cost of connecting a new home to electric and gas)
- Account Management: Ability to add, change, delete various attributes on an account (contact information, billing preferences, and communication preferences). Account management is also responsible for allowing all activities and related information to be displayed on an account to assist communications teams in communicating the correct information to the correct type of customer groups.
- Contract management: Create, update, negotiate, renew, and execute service contracts with customers or potential new customers.
- Lead Management: Identification, qualification, tracking, and management of potential new customers or interest from existing customers in adding a product or service, such as: natural gas conversion, electrification, energy efficiency programs, etc.
- Segmentation: Ability to divide a customer base into groups of individuals that are similar in specific ways relevant to communication such as propensity to participate in an energy efficiency program or convert fuel use, or interest in electric vehicle charger, etc.
- Content management: process of organizing and consolidating pieces of content and tagging schemes in an efficient way and storing them in a repository for use in customer communications.
- Approvals & Workflows: Ability to design, implement and automate business processes.
- Campaign management tracking: Planning, execution, tracking and analysis of a communication plan (campaign); Campaigns involve programs or initiatives that the utility needs to communicate to its customers (energy efficiency, e-billing, auto-pay, energy assistance, etc.).
- Trouble Management: Ability to report, dispatch, resolve, and communicate updates on outages or other emergencies (e.g. downed wires, gas odor, etc.) related to customer's electric or natural gas service.

- Credit & Collections: A set of processes and events to encourage payment of a customer's delinquent balance. It involves notifying customers of past due balances, providing alternatives to paying on time including payment arrangements, severance of their electric or gas service and subsequent re-activation.
- Field service request & tracking: Ability to initiate and track all field activities happening at a customer's service point. The work can be originated in either CC&B or Maximo.
- Ability for CSRs to see location of field personnel
- Ability for all employees to see every interaction our customers have with us
- Ability for all written customer communication to be seen by all employees
- Ability to route customer inquiries to various departments and to see the history of the routing, includes escalation as necessary
- Ability to send ad-hoc emails to customers through the platform
- Ability to post customer education to all social media platforms through one single interface
- Ability to track conversations and tasks completed by employees with all types of customers (residential, commercial, small/medium business) in all service territories
- Ability for an employee to be guided through an interaction with a customer
- Ability to chat with a customer through a single interface on myavista.com or the Avista Mobile App
- Ability for field personnel to pull up a customer account through an app on their mobile device
- Ability to track customer claims

CXP prudency should be evaluated based upon three criteria. First, cost avoidance as discussed in section 1.5 above. Second, cost avoidance of technology systems that will be reduced or eliminated as systems are combined into CXP. Third, improved customer satisfaction and engagement as we improve business processes and make interactions more proactive and personalized. Although the benefits in the third category are more intangible and difficult to measure and assign a financial value to, they are an inherent expectation from customers.   Collectively, we are confident that those three benefits combined make CXP a prudent investment.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

We are in a time when customers' expectations of their product and service providers have never been higher, and their needs and desires are changing rapidly. In order to respond to and stay ahead of the needs of our customers in this changing landscape, it is imperative that we shift from a reactive, customer service system to a more proactive, customer-led

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Customer Experience Platform Program

framework where we intentionally design customer experiences, products, and services that can meet their changing needs and preferences. We want to make sure every touch point with our customer is easy and effective for them to do business with us, with a desire to improve the overall sentiment. By putting our customers at the center of our corporate strategy, we are investing in building a Customer Experience (CX) system to meet the needs of our current and future customers.

CX is how customers perceive their interactions with an organization. A customer's perception starts the moment they become aware of our Company and is ultimately the sum of all interactions they have with us. There are three dimensions to CX that are components of an experience that increases customer satisfaction and ultimately creates customer loyalty. These dimensions are as follows:

> Effective: Effective interactions meet the needs of the customer. The product or service must deliver value to customers or the experience will fail fundamentally. Effectiveness is critical even though it is less likely to drive customer loyalty than emotion.

> Ease: Easy interactions let customers achieve their goals with minimal effort. When alternative paths to value are harder, ease of doing business creates competitive advantage.

> Emotion: The best interactions evoke positive customer emotions and avoid provoking negative emotions. Positive customer emotions can lead to customer retention, enrichment, advocacy, and loyalty.

A positive CX creates customer loyalty and loyal customers mean more than retention. Loyal customers become advocates, they are more likely to seek our advice as energy advisors and follow safety messages. Loyal customers are more likely to be aware of and participate in the variety of products and services we offer such as Comfort Level Billing, energy efficiency programs, or distributed energy programs, to name a few. We also believe that loyal customers are beneficial for the utility in the long-term, as competitive forces take hold in our industry.

2.3 Summarize in the table, and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

The business case will contain multiple projects within each calendar year. Each project will be estimated, planned, and a benefit summary will be documented and provided as a part of the chartering process. The total benefit achieved will be directly impacted by the specific projects prioritized within a calendar year.

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

2.4 Summarize in the table, and describe below the INDIRECT offsets4 (Capital and O&M) that result by undertaking this investment.

A summary of this cost avoidance can be seen below; a total of $1,007,949 in cost avoidance is estimated on an annual basis as the result of the work in this business case. The split of expense vs capital for that estimated cost avoidance will be determined by the split of projects/features delivered within the program.

Cost Avoidance Measurement	Estimated Cost Avoidance
Case Deflection	$610,609
Case Resolution Time	$116,133
CSR Productivity (Back Office only)	$163,125
Faster Onboarding	$118,082
Total Estimated Cost Avoidance	$1,007,949

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:

Implementing at a reduced capital cost, reduces the amount of features we are able to deploy to our employees, resulting in a longer amount of time until the avoided costs are experienced. Additionally, we'd delay realizing customer and employee benefit of bringing together disparate systems, thus leading to continued inefficiencies and decreases in customer experience and satisfaction.

Alternative 2:

Not funding would result in a stagnation of investments already made to date and not realizing customer and employee benefit of bring together disparate systems, thus leading to continued inefficiencies and decreases in customer experience and satisfaction.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

We identified measurements to determine whether this investment would successfully deliver on the objectives. We worked with Salesforce.com, the software vendor that is the platform behind the CXP. Salesforce has hundreds of thousands of customers across

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4 Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

many different industries. They track efficiencies through the implementation of their software; and thus the avoided future costs due to their software. We will be using these data points to determine success:

- **Case Deflection:**
  - The CXP could deflect the number of calls placed into our call centers
  - Salesforce's research: 17% case deflection
  - Avista's conservative estimate: 10% case deflection
- **Case Resolution Time:**
  - The CXP can reduce the amount of time it takes to resolve a case
  - Salesforce's research: 24% improvement in resolution time
  - Avista's conservative estimate: 10% improvement
- **Employee Productivity:**
  - Due to streamlined tasks in the system, the CXP could save employees time throughout their day, freeing them up to take more calls or complete more tasks in a single day
  - Salesforce's research for call center representatives: 12 hrs. saved per week
  - Avista's conservative estimate for call center representatives: 3 hrs. saved per week
  - Avista's conservative estimate for other employees: 1 hr. saved per week
- **Faster Onboarding:**
  - due to the ease of use in the system, training a user to use the CXP will take less time and be more straightforward, thus allowing our employees to spend less time training
  - Salesforce's research: 26% reduction in the time to onboard/train
  - Avista's conservative estimate: 20% reduction in the time to onboard/train
- **Overall Customer Satisfaction:**
  - Customer satisfaction will go up as a result of this investment

2.7 Please provide the timeline of when this work is scheduled to commence and complete, if known.

This business case is a program and will be executed over the next 5 years in an agile fashion. Multiple projects will exist per year and functionality will be released in an on-going fashion. Transfers to plant will occur 3 or more times per year.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

This business case will be governed by the Customer Facing Technology Program (CFTP), Customer Experience Platform (CXP) & Customer Transactional Systems (CTS) Governance group. This group prioritizes and governs the projects under the Customer Experience Platform throughout the entire project lifecycle. They then surface these to the IS/IT PMO for execution.

The CFTP Governance Group meets on a monthly basis.

<u>Members include:</u>
Latisha Hill – VP, Community & Chief Customer Officer
Jennifer Esch – Director, Customer Service
Nikdel Hossein – Director, Applications and System Planning
Alexis Alexander – Director, IT Infrastructure
Dana Anderson – Director, Corporate Communications
David Howell – Director, Generation, Production, and Substation Support
Vern Malensky – Director, Electric Engineering
Nicole Hydzik – Director, Energy Efficiency
Matt Halloran – Manager, Customer Technology Solutions
Graham Smith – Manager Applications Delivery and Application Support

<u>Facilitators include:</u>
Kim Henscheid – Program Manager, Customer Experience Platform
Ethan Jelinek – Sr. Program Manager, IS/IT

Decision making and general prioritization decisions for the business case and programs will be documented and monitored through monthly meeting notes. Project specific decisions will be documented within the PMO's current process through project change orders.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the *Customer Experience Platform Program* and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Matt Halloran* 2453B362CFD34F9...	Date: May-02-2024 | 2:04 PM PDT
Print Name:	Matt Halloran	
Title:	Manager, Customer Technology Solutions	
Role:	Business Case Owner	
Signature:	*Nicole Hydzik* 89C843A39FB7478...	Date: May-02-2024 | 2:17 PM PDT
Print Name:	Nicole Hydzik	
Title:	Director, Energy Efficiency	
Role:	Business Case Sponsor	

Customer Facing Technology

EXECUTIVE SUMMARY

The Customer Facing Technology business case focuses on delivering value, ease and transparency to all customers (ID, WA, and OR) through our various digital channels including but not limited to MyAvista.com, text/SMS, inbound and outbound voice phone systems, and our mobile app. Customer expectations are clear: companies are expected to deliver fast, easy, personalized, and intuitive self-service options 24 hours per day and on many channels of customer choice such as desktop computer, mobile device, tablets, and phone. Customers want a consistent experience from their first interaction to the resolution of their issue or the completion of their self-service transaction. They are not comparing Avista to other utilities, rather they compare us to all the brands with which they interact including companies such as large tech companies that are providing world class digital experiences. Those types of digital experiences are becoming the norm and customers are expecting that level of service from all companies they do business with, including Avista.

In addition to existing customers desiring to work with Avista in digital ways, new customers reach adulthood every year and the expectations for self-service and digital engagement will continue to increase as these new generations become our customers (Kulbytė, 2021). Funding the Customer Facing Technology business case ensures that Avista can meet the customer where they are and continue delivering value, ease and transparency to our customers.

Features in this business case include ways for our customers to interact with and transact with Avista, including, but not limited to:

- Viewing bill and associated info (desktop web, mobile web, mobile app, automated phone)
- Paying bill (desktop web, mobile web, mobile app, automated phone, payment kiosk)
- Viewing personalized usage info (desktop web, mobile web)
- Reporting outage (desktop web, mobile web, mobile app, automated phone, text/SMS)
- Viewing outage information (desktop web, mobile web, mobile app, automated phone, text/SMS)
- Alerts and Notifications (Automated for Billing, Outage and Budget Alerts via email or SMS)
- Stop, Start, Transfer Service (desktop web, mobile web, automated phone)
- Apply for Energy Efficiency Rebates (desktop web, mobile web)

In addition to these features for customers, this business case also includes the foundational and technical work to run the digital channels. The underlying technology must be kept up to date in order to be available for our customers. Upgrades and service packs are required to keep the channels performing and secure. More functionality is included in this business case and is referenced in Section 2.4.

Avista's digital channels continue to experience increasing usage year over year. If the digital channels become stagnant and are not enhanced to accommodate adjusted consumer behavior, then customer satisfaction will decline, resulting in increased calls to the call center and increases in costs to serve our entire customer base.

Customer Facing Technology

VERSION HISTORY

Version	Author	Description	Date
1.0	*Stephanie Myers*	*Initial approved*	*04/20/2020*
2.0	*Stephanie Myers*	*Updated Executive Summary*	*06/26/2020*
2.1	*Stephanie Myers*	*Additional content added*	*07/20/2020*
2.2	*Stephanie Myers*	*Finalization of document*	*07/28/2020*
3.0	*Matt Halloran*	*Annual Update*	*09/02/2022*
4.0	*Matt Halloran*	*Annual Update and New Template*	*04/28/2023*
BCRT	*Christine Tasche*	*Has been reviewed by BCRT and meets necessary requirements*	*04/28/2023*
5.0	*Matt Halloran*	*Annual Update*	*05/02/2024*
BCRT	*Joe Wright*	*Has been reviewed by BCRT and meets necessary requirements*	*05/02/2024*

Customer Facing Technology

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$5,000,000	$5,000,000
2026	$5,500,000	$5,500,000
2027	$6,200,000	$6,200,000
2028	$6,500,000	$6,500,000
2029	$7,000,000	$7,000,000

Project Life Span	*Ongoing Program*
Requesting Organization/Department	Customer Solutions
**Business Case Owner	Sponsor**	Matt Halloran	Nicole Hydzik
Sponsor Organization/Department	Customer Solutions
Phase	Execution
Category	Program
Driver	Customer Service Quality & Reliability

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

With every passing year, customer expectations for self-service ease, value and transparency continue to evolve. Our customers expect Avista to be easy to work with, demand more value for their energy dollars and have an increasing expectation of transparency and availability of information. Gone are the days when only mailing and having a drive up drop box for payments was acceptable.

The Company's customers have interest in a variety of offerings that can simplify their interactions with Avista and give them more information about, and control over, their energy use. This, combined with the expansive growth of technology, creates a customer expectation that information is easy to find, payments are easy to make, communications are proactive, timely, personalized, and available through a variety of channels.

The Customer Facing Technology Program delivers on ease, by providing efficient digital self-service options to our customers. The Program delivers on value, as a self-service transaction cost less over time than an equivalent live contact, and lastly, the Program delivers on information availability, as self-service automations enable more information transparency for the customer than at any point in our 135 year history.

1.2 Discuss the major drivers of the business case.

The Customer Facing Technology Program delivers and supports tools that enable our customers to self-serve through a digital channel that they choose and improves on our ability to do automated and personalized outbound communications. Improvement of the digital customer experience is at the core of the Customer Facing Technology Program.

One of the major drivers of this business case is that Avista's digital self-service channels are the primary way our customers choose to interact with our Company, and they continue to get more and more use every year. In 2023, our self-service channels supported more than 9 million customer contacts as compared to a little over 3 million in 10 years earlier, in 2013 (Figure 1). These channels provide ways our customers can self-serve and gain access to a level of information that was not readily available to them in years past. The customer desire for self-service is a common trend across all industries. In fact, 80+% of all consumers now prefer self-service to live contact (NICE, 2022) and 70% expect a company's website to include self-service options (Kulbytė, 2021). Avista's customers are no different as evidenced by their behavior in choosing self-service to live contact by a ratio of almost 18:1 in 2023 (Figure 1).
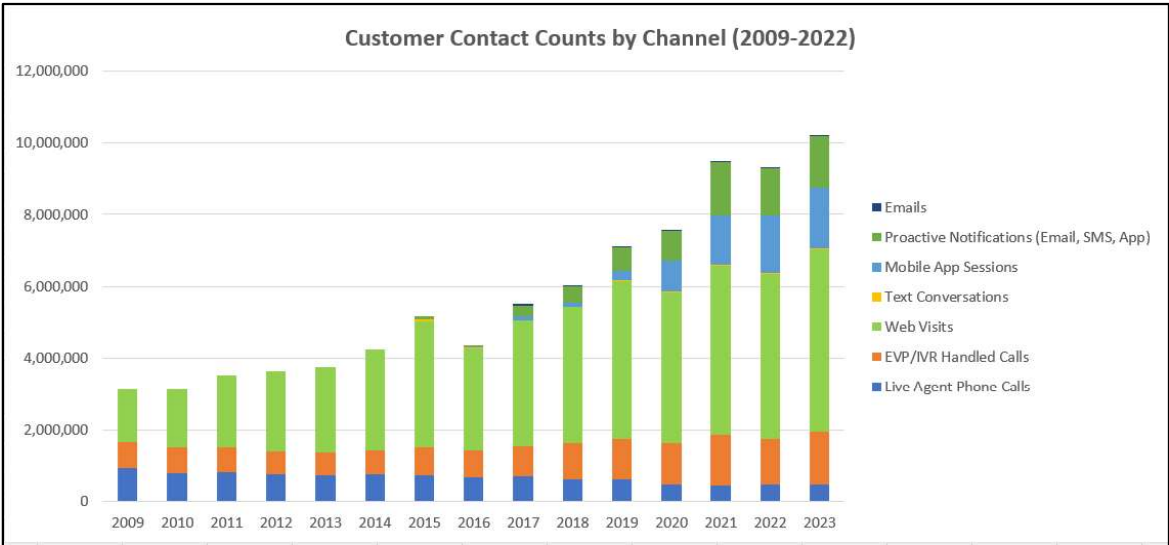

Figure 1: Customer Contact Counts by Channel

Customer expectations are generally set by interactions with organizations outside the utility industry. Those customer service and self-service expectations then get applied to their interactions with Avista. The investments in this business case will provide tools to customers that they are familiar using with other companies. This will keep customer satisfaction high, provide value for their energy dollars, and provide an exceptional customer experience.

Another major driver for this business case is that our customers require the Company to keep their information secure. All of Avista's self-service channels and supporting technology platforms require ongoing upgrades and enhancements to ensure the technology does not go out of support with software vendors and that the technology continues to deliver the value that customers expect. Specifically, the

Company's customer facing channels require security and operating system upgrades to ensure resiliency and security of customer related Personally Identifiable Information (PII).

Additionally, our customers expect our digital self-service channels to be available 24/7. Avista must build our technology infrastructure and architecture to meet that demand and do it in a cost-effective way. Our customers no longer tolerate website outages related to system maintenance or reductions in performance related to high web traffic, like is often observed during major weather events. They expect the tools to be available at the moment of their need and/or choosing and sometimes their need may be urgent. The Customer Facing Technology Program is required to be able to deliver on that customer requirement.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

This work is needed now because customer expectations are not stagnate and our technology systems are constantly requiring feature enhancements, version upgrades, as well as backend changes. In parallel, new tools and options continue to materialize that our customers grow to expect.

Customers expect superior performance of our technology systems and the availability of tools and options similar to what they see on other industries digital channels. They are constantly comparing their utility experience to experiences they have with other businesses and "utilities," such as Amazon, Apple, Safelite, Comcast, etc. Avista must keep up with customer expectations and provide value for their energy dollars that is tied to digital experiences for utility services and do so in the most cost-effective way possible.

If this business case is not approved, we risk a major decline in customer satisfaction by not meeting customer expectations. Figure 4 & 5.

If this business case is not approved, the Company risks increased calls into the call center which is a more costly way to complete customer transactions. See Section 2.2 summarizing cost per customer contact via digital self-service vs live contact.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

Avista's strategic vision is to put the customer at the center of everything we do. The meaning behind this business case is to provide tools for our customers to interact with our company in the way that the customers choose. This is 100% in line with our strategic vision.

Customer Facing Technology

A specific focus area is for our customers, "We must hold our customers' interests at the forefront of all our decisions, operating our business by showing that we are transparent, genuinely care, and are easy to do business with." This business case offers a choice to our customers; therefore, we are easy to do business with. If a customer wants to avoid talking to a customer service representative and pay their bill online, sign up for alerts and notifications, or get information on the mobile app regarding their outage, they can do that within seconds or minutes.

Our mission is "We improve our customers' lives through innovating energy solutions." Some of the planned work in the coming years will provides functionality that enables customers to become more in control of their energy use. By providing these digital channel tools to our customers we are facilitating understanding of how they are using energy and thus allowing them to more effectively manage their energy and see where they may be able to save money or repair underperforming appliances. This business case enables innovative customer interactions and provides immense value to our customers, both in terms of how they interact with us, but also through reductions in the cost to serve

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

Year	Live Agent Phone Calls	EVP/IVR Handled Calls	Web Visits	Text	Mobile App Sessions	Proactive Notifications (Email, SMS, App)	Agent Emails
2009	930,585	735,938	1,451,840	-	-	-	-
2010	790,406	753,613	1,587,786	-	-	-	-
2011	811,762	708,310	2,001,136	-	-	-	-
2012	748,840	675,436	2,228,809	-	-	-	-
2013	734,771	667,107	2,349,995	-	-	-	-
2014	748,891	706,042	2,770,632	-	-	-	-
2015	722,241	814,363	3,474,739	56,723	-	78,612	-
2016	685,966	755,271	2,838,599	3,704	41,984	40,510	-
2017	693,863	875,424	3,466,919	3,566	107,462	312,041	48,552
2018	626,910	1,029,601	3,770,243	4,691	104,786	469,133	24,366
2019	615,229	1,131,232	4,406,233	8,665	282,974	639,375	31,581
2020	491,774	1,145,869	4,209,265	12,460	859,348	817,039	37,936
2021	459,067	1,404,306	4,708,597	27,969	1,368,740	1,484,633	35,432
2022	468,381	1,297,024	4,590,879	9,103	1,601,123	1,307,837	37,134
2023	480,342	1,470,215	5,085,552	8,614	1,707,771	1,431,453	29,855

Table 1: Customer Contacts by Channel Summary Table

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Customer Facing Technology

Avista has demonstrated evidence that when we add customer requested features to our channels it drives adoption and use of that channel. In Q1 of 2019, Avista deployed the 'pay my bill' capability within the mobile app channel. As demonstrated in Figure 2 below, customer adoption of the mobile app increased markedly based on the availability of that feature, and has continued to increase over time.
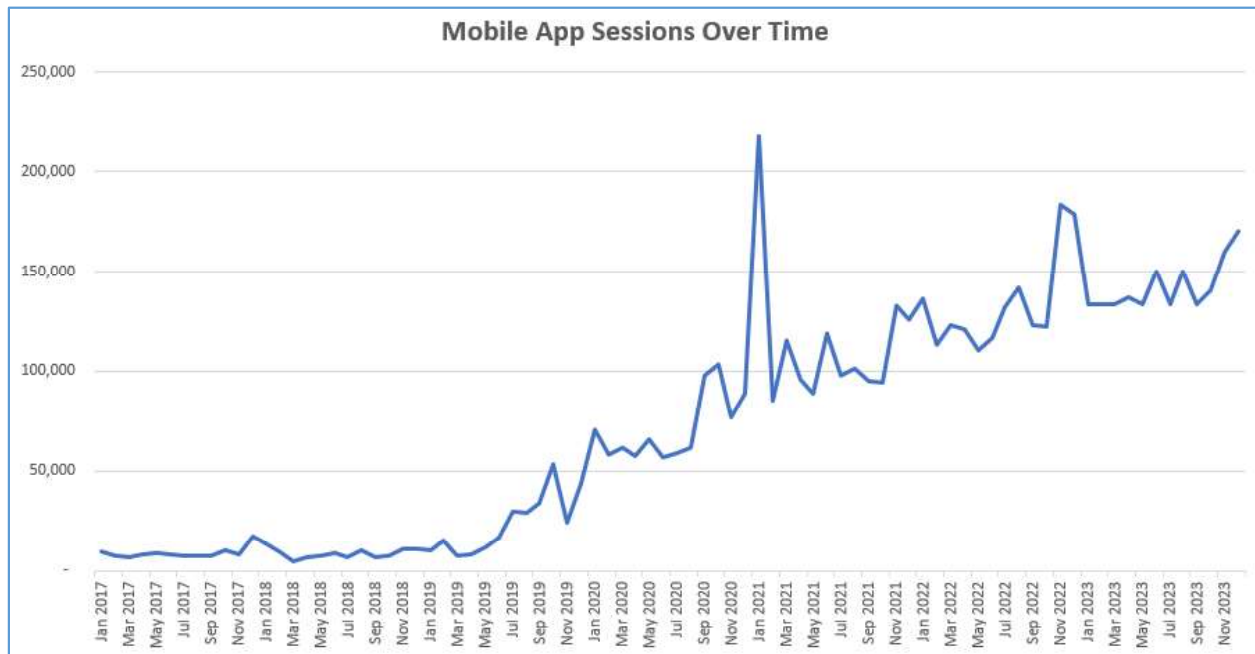
Figure 2: Avista Mobile App Usage Over

This business case provides self-service options for our customers through our digital channels. Automated self-service tools reduces amount of manual work our employees are performing on behalf of our customers. Less follow-up is required between CSR's and other employees because customers are able to self-serve and gather information on their own.

2. PROPOSAL AND RECOMMENDED SOLUTION **-** *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The recommended solution includes a multitude of self-service functionality additions and enhancements. Under the leadership of the Customer Technology Governance Team, the Program undergoes monthly assessment and prioritization of deliverables to ensure the Customer Facing Technology Program is aligned with current customer and business needs. Please note that the list below is updated and reprioritized regularly based on customer and business identified needs and as such, items listed below may be removed or deprioritized at a future date. Deliverables within the Customer Facing Technology Program could include enhancements to (but are not limited to) the following:

Customer Facing Technology

Self-Service Functionality Enhancements
- Viewing bill and associated info (desktop web, mobile web, mobile app, automated phone)
- Paying bill (desktop web, mobile web, mobile app, automated phone, payment kiosk)
- Viewing meter data and usage info (desktop web, mobile web)
- Outage Reporting (desktop web, mobile web, mobile app, automated phone, text/SMS)
- Viewing outage information (desktop web, mobile web, mobile app, automated phone, text/SMS)
- Start Service (desktop web, mobile web, automated phone)
- Stop Service (desktop web, mobile web, automated phone)
- Transfer Service (desktop web, mobile web, automated phone)
- Apply for Energy Efficiency Rebates (desktop web, mobile web)
- Reporting an Issue or Concern (desktop web, mobile web, mobile app)
- Alerts and Notifications (desktop web, mobile web, mobile app, automated phone, text/SMS)
- Enroll in Payment Arrangements (desktop web, mobile web)
- Update Personal Contact and Account Information (desktop web, mobile web)
- AMI smart meter enabled personalized energy usage insights using customer facing tools on the web and mobile application.
- Storm Center/Outage Map enhancements for an improved user interface, more useful information and tools, enhanced alert features, admin event history module, and map legend enhancements.
- Implementation of "Bill Image" generation software and/or vendor with the objective of improving availability and value to the customer.
- Mobile App Upgrade – Addition of high frequency and high volume transactions on the Mobile App that are currently available to customers via myavista.com (example: Add the ability for a customer to view their Usage Data on the Mobile App). It may also include Mobile App specific functionality that is optimized for that channel.
- Enhanced reporting for energy assistance to allow partner agencies to provide a better experience for Avista's customers seeking bill assistance.
- Tools for customers who have their own onsite renewable generation (net metering).
- Ability for customers to schedule appointments and view how various work is progressing through the pipeline (construction tracker, tree trimming status/work tracker, etc.) – This work may reduce the number of calls to our Call Center and/or Customer Project Coordinators.
- Ability to report streetlight outages via the web and mobile app. This may reduce calls to the Call Center and reduce manual processes.

Technology Updates
- Web content management system maintenance, upgrades, and ongoing enhancements. Some of this work will allow content editors to make updates to our website and the ability to provide customer facing web updates in real-time and will remove workload from our development team. The web content management system is the underlying technology and is required in order to keep a website up and functioning.
- Digital channels technologies maintenance, upgrades and ongoing enhancements. This work covers digital channels technologies other than the web content

Customer Facing Technology

management system, such as vendor related systems like Storm Center, outage map, agent web, InfoPortal, mobile app, IVR, etc.

- Customer systems resiliency work which includes redesigning existing technology processes and integrations and the replacement of web services to industry standards to improve upon our digital channels performance.
- Outage Resiliency improve the resiliency (availability) of our digital channels in the face of high traffic or catastrophic events.
- Web maintenance and technical debt to ensure our website is up to date, secure, accurate data presentment, updated customer information, banners and alerts, security enhancements, server upgrades, license and certificate renewals, etc.
- Call Center application upgrades.

2.2 **Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]**

As demonstrated in Figure 1 and Table 1, the digital self-service channels are the companies most used and customer preferred channels. The second most used functionality by customers are proactive notifications, such as automated emails and text notifications. Both of these methods have higher quantities than live phone and email contacts.

In 2023, Avista had 9,703,605 self-service customer contacts. If that stays the same for 2024, and we invest $5,200,000 into the Customer Facing Technology Program, that equates to approximately $0.54 per customer contact. Compare that to 2023 calculations for cost to serve the customer via live contact. In 2023, the yearly average cost-per-call was roughly $10.55.

Based on data obtained from surveys of Avista Customers (Figure 3), up to 46% of customers stated their 'next action' would be to call customer service if the self-service tool fails in the digital channels. As a result, if 46% of self-service customer contacts were instead a phone call, that would equate to roughly $47M (9,703,605 x 0.46 x $10.55) in annual call center costs required to support customer demand for information and service. We recognize that not all 46% are in reality going to call or email the contact center, but a conservative estimate of even 10% creating a contact center interaction is $10.2M per year in costs avoided. This means that the digital self-service channels are critical to keeping our costs down.

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.
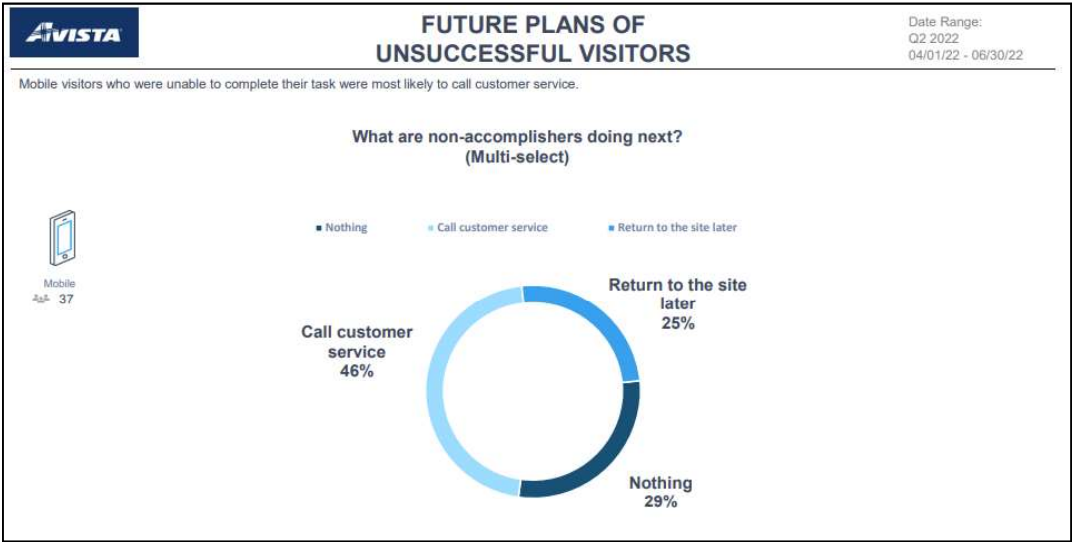
Customer Facing Technology

Figure 3: Customer "Next Action" Survey Results

One balancing reality to acknowledge is that even though customers are making less phone calls to Avista, as the more routine-type services can be managed through our digital channels, the calls the company does receive are more complex, taking longer to work through and requiring more care. Avista's Customer Service Representatives have answered 42% less phone calls when comparing 2023 to 2013 (See table 1). However, average call handle time has increased in that same timeframe because 'simple' transactions have largely moved to digital self-service channels. Not only are our customers receiving more value for their energy dollars through our digital self-service channels but our customer service representatives are able to provide more time and attention to those customers that do call in to solve more complex issues. This demonstrates that investment in our digital channels provides a two-fold value to customers.

In summary, we expect the trend for digital self-service preference to continue. With a $5.2M investment for 2025 and $5.6M for 2026, Avista can expect to keep the cost per digital/self-service customer contact at or below $0.70, which is extremely cost effective when comparing to the 2023 cost-per-call average of $10.55.

This becomes especially important when considering that the Avista service territory is currently experiencing growth (Jones, 2022) and every investment in self-service capability results in relative cost-per-contact decreases. As an example, Avista recently fully automated the 'Start Service' process as a deliverable under the Customer Facing Technology Program. Initial measures for labor-based cost savings are greater than $150,000 annually when comparing to the non-automated workflow that was replaced. Over the course of 5 years, this should result in $750,000 labor cost savings via Avista Call Center's "Flex" staffing model.

Customer Facing Technology

With our flexible work force in the call centers, we can flex the staffing to meet call volume. If calls increase, then we 'flex' on more staff to maintain the level of service. On the contrary, if calls decrease, then we staff at fewer hours for the week and sustain this level of staffing, if the lower call volume is maintained. Continuing to increase our self-service offerings enables Avista more opportunity for labor savings.

2.3 Summarize in the table, and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

There are no direct O&M reductions due to this capital business case, this business case supports customer expectations related to availability of self-service transactions that support customer value, ease and transparency.

2.4 Summarize in the table, and describe below the INDIRECT offsets[4] (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028
Capital		$0	$0	$0	$0
O&M	Avoided Call Cost Offset	$10.0M	$10.1M	$10.2M	$10.3M

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1: Funding at a reduced level

In this alternative, Avista would implement some of the customer solution capabilities and improvements listed in section 2.1, excluding those that require the help of outside professional services. This alternative will delay some of the benefits to our customers which may generate dissatisfaction and cause systems performance to degrade by preventing us from maximizing the benefits of these previously funded core systems, such as the myavista.com website, mobile app, and smart meter and load disaggregation capabilities.

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Digital Self-Service customer satisfaction will be used to determine if this investment is successfully delivering on its objectives. We receive a quarterly scorecard that measures customer satisfaction for myavista.com. According to the most recent metrics for Q2 2022, Avista scored 81.2 points (avg of desktop and mobile score) as compared to the ForeSee Website Index average of 68.5 points.
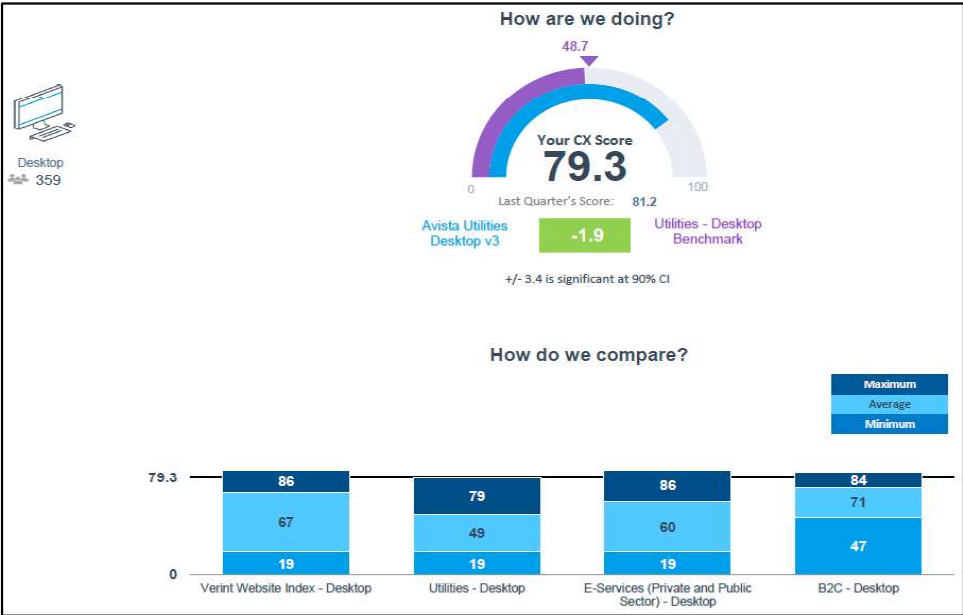

Figure 4: Avista's Q4 2023 <u>Desktop</u> Customer Satisfaction Score and Comparison
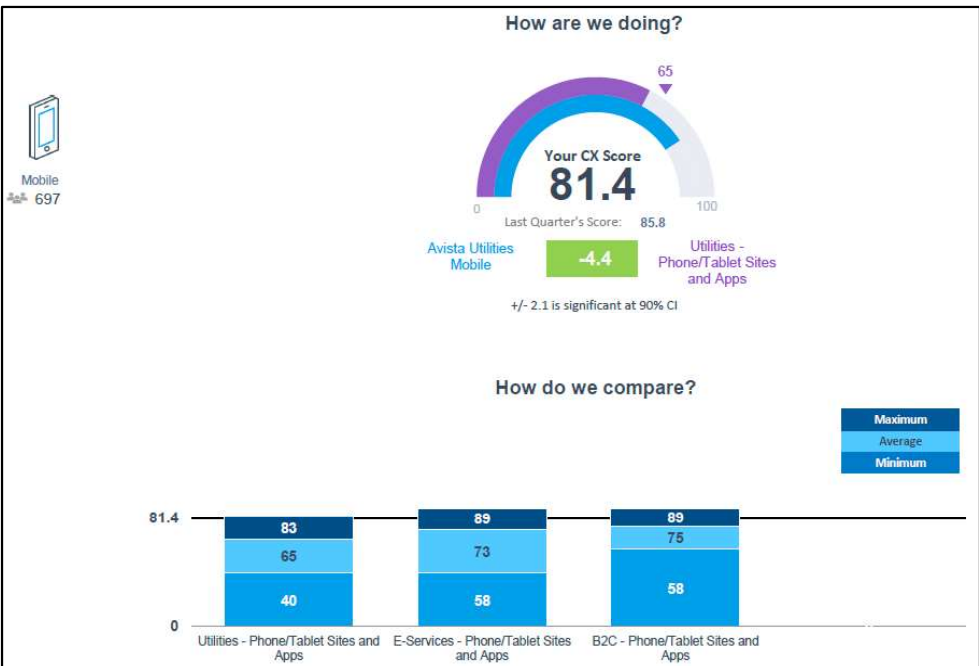

Figure 5: Avista's Q4 2023 <u>Mobile</u> Customer Satisfaction Score and Comparison

Customer Facing Technology

At this time, the company is not able to measure satisfaction for the mobile app or text channels, however the consistent increase in mobile app usage lets us know that this channel is being leveraged by customers to meet their needs.

The Company will also continue to track and monitor live customer contacts. If this business case is successful in meeting customer expectations for self-service functionality, we'd expect live customer contacts to remain the same or decrease from current levels. See Figure 1.

The Company will also measure total self-service customer contacts. If this business case is successful in meeting customer demand for self-service functionality, we'd expect digital self-service contacts to remain the same or increase from current levels year over year. See Figure 1.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The work within this business case will be conducted through a program that will contain multiple projects. The work will transfer to plant most often on an integrated release cycle; new features will go-live for customers 3 or more times per year.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

This business case is governed by the Customer Facing Technology (CFTP), Customer Experience Platform (CXP) & Customer Transactional Systems (CTS) Governance group. This group prioritizes and governs the projects under the Customer Solutions Portfolio throughout the entire project lifecycle. They then surface these to the IS/IT PMO for execution.

The CFTP, CXP and CTS Governance Group meets on a monthly basis.
> *Members include:*
> Latisha Hill – VP Community Affairs and Chief Customer Officer
> Wayne Manuel – VP Chief Information Officer and Chief Security Officer
> Nicole Hydzik – Director Energy Efficiency and Customer Solutions
> Jennifer Esch – Director of Customer Service
> Nikdel Hossein – Director Applications and System Planning
> Alexis Alexander – Director IT and Security
> Dana Anderson – Director Corporate Communications
> Paul Good – Director of Electric Operations
> Vern Malensky – Director Electric Engineering

Decision making and general prioritization decisions for the business case and programs will be documented and monitored through monthly meeting notes. Project specific decisions will be documented within the PMO's current process through project change orders.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the *Customer Facing Technology* and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Matt Halloran*	Date: May-02-2024 | 2:03 PM PDT
Print Name:	Matt Halloran	
Title:	Manager, Customer Technology Solutions	
Role:	Business Case Owner	

Signature:	*Nicole Hydzik*	Date: May-02-2024 | 2:18 PM PDT
Print Name:	Nicole Hydzik	
Title:	Director of Energy Efficiency and Products and Services	
Role:	Business Case Sponsor	

Signature:		Date:
Print Name:		
Title:		
Role:	Steering/Advisory Committee Review	

Reference:

Jones, P. (2022, July 28). *Spokane County's Population Grows Faster Than Expected*. Retrieved from Spokane Journal of Business: https://www.spokanejournal.com/local-news/spokane-countys-population-grows-faster-than-expected/

Kulbytė, T. (2021, May 4). *THE VALUE OF CUSTOMER SELF-SERVICE IN THE DIGITAL AGE*. Retrieved from Super Office: https://www.superoffice.com/blog/customer-self-service/

NICE. (2022). Retrieved from NICE 2022 Digital-First Customer Experience Report Finds 81% of Consumers Say They Want More Self-Service Options | NICE

Customer Transactional Systems

EXECUTIVE SUMMARY

Customer transactional systems are used to support the day-to-day business critical operational needs of all our customers, internal users, third party partners and our regulators. These systems include functionality such as: collection and storage of meter reads and meter data, storage and access for all customer premise and service agreements, customer bills and billing history, energy and assistance agency program reporting, rate design and rate implementation tools. To keep these systems up to date and operational, the company must perform regular upgrades and invest in enhancements that will benefit our customers, internal users, third party partners and regulators.

We strive to meet the needs of our customers by offering new options and features and to also ensure that the users of these systems can perform their jobs in the most efficient and timely manner. It is important to be able to meet the request of our third-party partners and to ensure we are reporting back accurately to our regulators. These systems are business critical and foundational in our interactions with all our partners. We must keep these systems updated to support new requests such as: new billing and rate options, product and service offerings, scheduling appointments and tracking jobs, payment arrangements and payment options, and meter data information.

Not investing in this technology would greatly reduce the ability to keep our major systems current and fully operational. We would put significant risk on the ability to meet customer, third party partner and regulatory expectations.

VERSION HISTORY

Version	Author	Description	Date
1.0	Mary Silkworth	Initially approved	07/15/2019
2.0	Stephanie Myers	Update executive summary	06/26/2020
2.1	Stephanie Myers	Additional detail	07/21/2020
2.2	Stephanie Myers	Measurements added	07/30/2020
3.0	Heather Bruns	Update for 5-year planning	07/09/2021
4.0	Matt Halloran	Annual Update	09/02/2022
5.0	Matt Halloran	Annual Update, moved to new Business Case Template	04/28/2023
BCRT	Christine Tasche		04/28/2023
6.0	Matt Halloran	Annual Update for 5-year planning	05/02/2024
BCRT	Joe Wright	Has been reviewed by BCRT and meets necessary requirements	05/02/2024

Customer Transactional Systems

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$4,500,000	$4,500,000
2026	$5,200,000	$5,200,000
2027	$5,800,000	$5,800,000
2028	$6,300,000	$6,300,000
2029	$6,800,000	$6,800,000

Project Life Span	*Ongoing Program*
Requesting Organization/Department	Customer Solutions
Business Case Owner | Sponsor	Matt Halloran | Nicole Hydzik
Sponsor Organization/Department	Customer Solutions
Phase	Execution
Category	Program
Driver	Customer Service Quality & Reliability

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

At Avista, there are a number of Customer Transactional Systems that are used to support the day-to-day business critical operational needs of our customers, internal users, third party partners and our regulators.

These systems include functionality such as:
- Collection and storage of Meter Reads and Meter Data
- Storage and utilization of Customer Information such as Service Agreements and Premise Information
- Storage of Customer Contact Information
- Customer Bills and Billing History
- Energy and Assistance Agency program reporting
- Rate Design and Modeling tools
- Rate Implementation Tools
- Field Activity (field visit) records initiation
- Customer Energy Efficiency Program Participation Records and Opportunities

Customer Transactional Systems

To keep these systems up to date and operational, we must perform regular upgrades and invest in enhancements that will benefit our customers, internal users, third party partners and regulators. Technology and user expectations continue to grow, and we need to execute on programs to meet those expectations.

We must meet the needs of our customers by offering new options and features and to also ensure that the users of these systems can perform their jobs in the most efficient and timely manner. It is important to be able to meet the requests of our third-party partners and to ensure we are reporting back accurately to our regulators. These systems are foundational in our interactions with all our partners.

We must keep these systems updated to support new requests such as: new billing and rate options, product and services offerings, scheduling appointments and tracking jobs, payment arrangements and payment options and meter data information.

1.2 Discuss the major drivers of the business case.

This business case is driven by the need to consistently and accurately bill our customers, keep track of customer accounts and provide a way for call center representatives and other employees to keep customer accounts current. This business case also supports enhancements to systems needed to track energy efficiency and data required to report to our regulators. Work requests ('Field Activities') from our customers are managed and sent to field personnel from our Customer Transactional Systems. Without these systems we put our quality and reliability of serving our customers at risk.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Not investing in this technology would greatly reduce the ability to keep business critical systems secure, current and fully operational. These systems require regular updates from the software vendors and constant security updates to ensure our customer data is protected. If this business case is not approved, we would put significant risk on the ability to meet customer, third party partner and regulatory expectations for system performance, accuracy and capability set.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

This business case aligns with the "Perform" focus area. At Avista, we have a variety of "Customer Transactional Systems" that are used to support the day-to-day operational needs of our customers, internal users, third party partners and our regulators.

For The Company to provide "Better energy for life…" it is important to keep core business systems functioning at the optimal level, not allow them to become stagnant and keep

current with industry and security standards. Continually improving, enhancing, replacing, and building upon these systems keeps us in step with our value of performing and continuously improving and finding better ways to get things done. This concept is directly stated in our mission statement, "Our focus on performance today is critical to serving our customers well…" and is a demonstration of placing the customer at the center of everything we do.

In addition to focusing on our customers, our employees are foundational to everything that we do. Improving these systems also includes direct benefit to our employees and their performance. They are using these tools daily to deliver value to our customers and the communities we serve. If these systems aren't kept current and secure, then it negatively will impact our employees ability to perform their job functions.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

CC&B/MDM Cumulative Updates/Upgrade: Direct impacts to our customers, Customer Service, Construction Services, Rates, Energy Efficiency, Security, Remittance, and Finance are among the many departments that utilize these systems along with specific roles such as Customer Service Reps, Customer Project Coordinators, account executives and regional business managers. This work will continue to keep our two most critical business applications updated to the most current versions and help to mitigate future support and security risks.

DSM System: This system will impact the employees that keep track of energy efficiency projects on behalf of our customers. Information in this system is tracked (for example: kWh and therms saved through a lighting upgrade in a supermarket) and reported to energy efficiency governing bodies.

2. PROPOSAL AND RECOMMENDED SOLUTION **-** *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The proposed solution is to continue to invest in enhancement and improvement of existing customer transactional systems that are core to Avista business functions. It is considered a prudent investment as it provides business efficiencies, alignment to current security standards and ensures customer information, billing, metering and field activity information is accurate.

The Customer Transactional Business Case will fund the following deliverables over the next 3 years. Please note that this list is updated and reprioritized regularly based on

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

customer and business identified needs and as such, items listed below may be removed or deprioritized at a future date.

- Customer Care and Billing (CC&B) Application Upgrade(s) inclusive of security patches, bug fixes and feature enhancements.
- Meter Data Management (MDM) Application Upgrade(s) inclusive of security patches, bug fixes and feature enhancements.
- Bill Image Rendering Enhancements
- Tivoli Server Replacement
- Real Time Address Validation updates and enhancements
- Server Updates and Replacements as necessary
- Net Metering Bill Presentment
- New Rate implementations
- Comfort Level Billing (CLB) Enhancements
- Payment Arrangement and Payment Plan implementation(s) and enhancements.
- Field Activity Management Enhancements
- Energy Assistance back-end system enhancements
- Renewable Natural Gas program enrollment enhancements.
- Improving bill image (PDF) availability.
- Demand Side Management System enhancements that tracks all large energy efficiency projects being conducted on behalf of our customers.
- Various products and services for customers including a time of use rate for residential customers, a bundled service for transportation electrification customers, and the ability to pre-pay for service.
- CCB/MDM Performance work is ongoing to maintain optimum performance for CCB & MDM end users.

2.2 **Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]**

Executing on this business case offers the company a multitude of benefits that range from adherence to current security and regulatory standards to improved customer and employee experience. Execution of upgrades, enhancements and implementation of new features within the CTS business case enable core business functionality, and without it, the company would be unable to effectively manage customer information, billing data, metering data, credit, collections, rebates and field activity monitoring. Execution of this business case is key to effective and efficient operation of the business.

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

2.3 Summarize in the table, and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

Given the intent of the business case is to maintain and enhance customer transactional systems to maintain adherence to technology, performance and security standards, there are no direct O&M reductions related to this business case. However, there are specific projects executed within the Customer Transactional Systems program that will lead to direct O&M offsets or savings. In the cases where this applies, it will be thoroughly documented within the specific project charter and project management plan.

2.4 Summarize in the table, and describe below the INDIRECT offsets4 (Capital and O&M) that result by undertaking this investment.

The intent of the business case is to maintain and enhance customer transactional systems to ensure adherence to technology, performance and security standards. With some specific projects executed under this business case, there are indirect offsets observed and forecasted. As those projects are executed, the indirect offsets will be documented within the specific project charter executed within this business case.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1: <u>FUNDING AT A LOWER LEVEL</u>

The "Funding at a Lower Level" option would delay benefits to our employees and customers, users of the system and third-party partners. This option could potentially increase O&M costs as we may delay our major technology system upgrades. In addition, we would delay implementing security and functionality enhancements that would benefit users of the systems and create operational efficiencies. Lastly, funding at a lower level creates risk for customer billing and data security as this business case supports enhancement of that functionality.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Success measures are as follows:

- Number of integrated releases executed within a calendar year.

- Severity level 1 defects created as a result of integrated releases.

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

- Number of bills successfully generated and processed annually.
- AMI metering commands sent annually.
- Project specific efficiency and O&M savings.
- Number of trackers completed annually.
- Direct O&M Savings and/or Offsets at an individual Project Level
- Indirect O&M Savings and/or Offsets at an individual Project Level

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The work within this business case will be conducted through a program that will contain multiple projects. The work will transfer to plant most often on both an integrated and independent release cycle; new features will go live for employees and/or customers 5-8 times per year.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

This business case is governed by the Customer Facing Technology (CFTP), Customer Experience Platform (CXP) & Customer Transactional Systems (CTS) Governance group. This group prioritizes and governs the projects under the Customer Solutions Portfolio throughout the entire project lifecycle. They then surface these to the IS/IT PMO for execution.

The CFTP, CXP and CTS Governance Group meets on a monthly basis.
> _Members include:_
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> Wayne Manuel – VP Chief Information Officer and Chief Security Officer
> Nicole Hydzik – Director Energy Efficiency and Customer Solutions
> Jennifer Esch – Director of Customer Service
> Nikdel Hossein – Director Applications and System Planning
> Alexis Alexander – Director IT and Security
> Dana Anderson – Director Corporate Communications
> Paul Good – Director of Electric Operations
> Vern Malensky – Director Electric Engineering

Decision making and general prioritization decisions for the business case and programs will be documented and monitored through monthly meeting notes. Project specific decisions will be documented within the PMO's current process through project change orders.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the *Customer Transactional Systems* and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Matt Halloran* (DocuSigned by, 2453B362CFD34F9...)	Date: May-02-2024 | 2:02 PM PDT
Print Name:	Matt Halloran	
Title:	Manager, Customer Technology Solutions	
Role:	Business Case Owner	

Signature:	*Nicole Hydzik* (DocuSigned by, 89C843A39FB7478...)	Date: May-02-2024 | 2:18 PM PDT
Print Name:	Nicole Hydzik	
Title:	Director, Energy Efficiency and Products and Services	
Role:	Business Case Sponsor	

Signature:		Date:
Print Name:		
Title:		
Role:	Steering/Advisory Committee Review	

Energy Delivery Modernization and Operational Efficiency (EDMOE) Technology

EXECUTIVE SUMMARY

Energy Delivery Modernization and Operational Efficiency (EDMOE) Program[1] as a business case supports both existing and new technologies leveraged by the Energy Delivery business areas including Gas Engineering & Operations, Electric Engineering & Operations, Distribution System Operations, Asset Management & Supply Chain, Facilities, Fleet Operations & Metering. These technologies are used to automate and augment business solutions bringing efficiencies and capabilities to support the delivery of energy to our customers. This support includes the following: 1) improving the performance and capacity of business resources by implementing new functionality in existing technologies. 2) improving the performance and capacity of business resources by implementing overall new technologies. 3) modernizing existing technologies in accordance with product lifecycles and technical roadmaps, typically through product or system upgrades. Due to an increase in vendor-driven planned obsolescence, if these systems are not refreshed on a regular cadence, the ability of Avista to meet customer, regulatory and compliance requirements will be at risk. Although these are the primary purposes of this business case, other benefits include cost savings, safety, regulatory compliance and innovative customer-focused products and services.

The total program budget over the next five years is estimated to be $48.8M dollars. The funds in this business case will be utilized to fund the EDMOE Program as detailed in the supplemental information referenced in section 2.0 below. Though not exhaustive, the list of supported technologies includes the following major systems: Metering solutions including Openway Riva our predominant Automated Metering solution, GIS our Geospatial Information System, Maximo our Enterprise Work and Asset Management System, DIMP our Distribution Integrity Management Plan tool, ECM our Enterprise Content Management solution where this solution is used in support of energy delivery activities, PI our plant information system where this system is used to support our energy delivery activities, and Service Suite our mobile workforce management system. Beyond these major systems, there are other miscellaneous applications that are leveraged that also require periodic updates and enhancements. The years 2025-2029 will be focused on the systems and capabilities detailed below.

VERSION HISTORY

Version	Author	Description	Date
1.0	*Michael Mudge*	*Initial version*	*07/21/2018*
2.0	*Michael Mudge*	*Updated Template*	*06/29/2020*
3.0	*Michael Mudge*	*Updated Information*	*06/30/2021*
4.0	*Michael Mudge*	*Updated Information for 2023-2027 timeline*	*07/07/2022*
5.0	*Michael Mudge*	*Updated Information for 2024-2028 timeline & merged Atlas into BC*	*03/31/2023*
6.0	*Michael Mudge*	*Updated information for 2025-2029 timeline*	*04/11/2024*
BCRT	*Steve Carrozzo*	*Has been reviewed by BCRT and meets necessary requirements*	*05/01/2024*

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[1] [1] "A Program is defined as related projects, subsidiary programs, and program activities managed in a coordinated manner to obtain benefits not available from managing them individually. Managing projects, subsidiary programs, and program activities as a program enhances the delivery of benefits by ensuring that the strategies and work plans of program components are responsively adapted to component outcomes, or to changes in the direction or strategies of the sponsoring organization.," Project Management Institute Global Standard, The Standard for Program Management, Fourth Edition. Page 3 (Copyright 2017).

Energy Delivery Modernization and Operational Efficiency (EDMOE) Technology

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$11,036,198	$9,397,929
2026	$10,971,786	$12,610,055
2027	$5,699,662	$4,492,870
2028	$13,985,237	$15,192,030
2029	$7,030,715	$7,030,715

Project Life Span	Ongoing Program
Requesting Organization/Department	Energy Delivery
Business Case Owner | Sponsor	Michael Mudge | Hossein Nikdel
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

Investment Drivers

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

   ## 1.1 What is the current or potential problem that is being addressed?

   The Energy Delivery and Shared Services (Fleet, Flight, Facilities, Supply Chain) business area utilizes a suite of technologies and applications to execute ongoing business processes better and more efficiently. As these business processes change, or new opportunities for better or more efficient business processes emerge, these technologies need to change as well. These changes often can be met through leveraging the capabilities of existing systems with minor modifications or configuration changes. We call these types of changes enhancements and set up minor programs to support these activities. Examples of this type of activity includes the GIS and Maximo enhancement packages. Sometimes these changes are larger and require a project of their own, but still leverage existing in portfolio products. Examples include the Utility Network and Mobility in the Field projects which are modernizing the Esri based Geographic Information System (GIS) infrastructure and digitizing work processes. Other times these changes may require new systems altogether with new or different capabilities. Regardless, these changes require technology resources (people) that are versed both in the changing business processes and the systems being leveraged to make the changes.

Energy Delivery Modernization and Operational Efficiency (EDMOE) Technology

Additionally, this suite of technologies, whether the applications themselves or the technologies supporting them (databases, operating systems, etc.) often require upgrades to keep them current with vendor lifecycle roadmaps. The performance of these upgrades often leverages the same resources as identified above, technology experts who understand both the capabilities of the systems themselves as well as strong familiarity with the business processes they support.

Finally, this business case additionally supports the capital purchases of licensing necessary for the commercial software purchased to support the energy delivery business areas.

Under this business case, we are referring to the technologies and applications leveraged by the Energy Delivery business areas including Gas Engineering & Operations, Electric Engineering & Operations, Distribution System Operations, Asset Management & Supply Chain, Facilities, Fleet Operations & Metering.

These technologies are used to automate and augment business solutions bringing efficiencies and capabilities to support the delivery of energy to our customers. This support includes the following:
1. improving the performance and capacity of business resources by implementing new functionality in existing technologies.
2. improving the performance and capacity of business resources by implementing overall new technologies.
3. modernizing existing technologies in accordance with product lifecycles and technical roadmaps, typically through product or system upgrades.

Although these are the primary purposes of this business case, other benefits include cost savings, safety, regulatory compliance and innovative customer-focused products and services.

The current major applications included in the Energy Delivery Program portfolio include:
- Geospatial platform environment - ArcGIS solution(s) – Esri
    - Enhancements to existing applications
    - Transition to the Utility Network
- Enterprise Asset Management system – Maximo solution(s) - IBM
- Time Series Operational Data - Plant Intelligence (PI) solution(s) – OSIsoft
- Mobile Workforce Management – Mobile Dispatch solution(s) – Hitachi/Service Suite
- Distribution Integrity Management Plan (DIMP) – JANA DIMP
- Fleet Asset & Work Order Management – FASuite solution(s) – Asset Works
- Crew Planning & Scheduling - Crew Manager solution(s) - Arcos
- System Operations Outage Management– CROW – Equinox
- ADMS – Advanced Distribution Management System - GE
- Metering solution(s)
    - OpenWay Riva
    - MV90
    - Field Collection System (FCS)
    - Fixed Network
    - TWACS

Energy Delivery Modernization and Operational Efficiency (EDMOE) Technology

1.2 Discuss the major drivers of the business case.

At the core of the EDMOE business case is the ongoing support and development of the technologies that enable the Energy Delivery business areas including Gas Engineering & Operations, Electric Engineering & Operations, Distribution System Operations, Asset Management & Supply Chain, Facilities, Fleet Operations & Metering. These technologies enable the workers in these various teams to respond to customer requests faster; provide information to customers that is more accurate, timely and complete; and improves customer satisfaction when they interact with Avista. Other benefits for the company and our customers include cost savings, safety, regulatory compliance and innovative customer-focused products and services. This business case supports the ongoing changes necessary to improve the performance and capacity of these business areas.

In addition to modernizing and enhancing traditional desktop applications, additional mobile applications and digital field work processes will provide field staff with applications for near real-time editing and data collection. For example, a mobile design tool will enable functionality for a designer to perform designs at a job site, providing an improved customer experience, and will be fully compatible with the desktop design tool. In addition, the Mobile tools will provide field personnel with powerful functionality to meet customer responsiveness expectations; Global Positioning System (GPS) guided turn by turn directions to work locations; electronic Receipt sent to the customer's communication preference (email, text, etc.) at completion of work orders; access to GIS data in the field; capture of as-built configuration, compliance data and materials electronically by taking advantage of a variety of data sources, including digital image data, keyed data, bar code scanned data, and GPS location data.

Although performance and capacity are the key driver, this business case where necessary also supports the other major drivers listed.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

The suite of technologies managed under this business case and the business processes they enable in many cases are core to Avista's ability to deliver energy safely and reliably to our customers.

These technologies and the business processes they support evolve on a continual basis based on both internal and external drivers. These drivers include continuous improvements in business process, continuous improvements in safety, changing compliance requirements, changing regulatory requirements, vendor driven change, product obsolescence, changes in customer expectations, as well as changes in system reliability.

Additionally, as these changes are ongoing in nature, they require a minimum level of staff capability to support these necessary changes. If the work is deferred or delayed, the technologies will not be in alignment with evolving business processes, the technologies will not support improvements in safety, regulatory, or compliance, and the technologies will not be aligned with vendor driven change. Further, if deferred or delayed (meaning the labor required to do the work is made unavailable) when the work

Energy Delivery Modernization and Operational Efficiency (EDMOE) Technology

is funded the staff required to implement these changes will not be readily available or will likely be more expensive to hire.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization.

Avista has as its mission, to improve our customers lives through innovative energy solutions: safely, reliably, affordably. Avista has as its Focus Areas: Our Customers, Our People, Perform, and Invent. This business case supports the Technologies in the Energy Delivery Business area. Half of all our customer contacts happen in the field as we work to service and deliver energy to meet our customer needs. Every interaction is an opportunity to better our customers lives through informed field workers who have the necessary information and workflows to do their job. The strategy this work most aligns with is Perform.

The systems that support these activities and are supported under this business case include Maximo our Work and Asset Management system, GIS our Geospatial Information System, and Mobile Dispatch/Service Suite our Mobile Work Management system, and in 2025 we will be additionally supporting an Advanced Distribution Management System. These systems are highly leveraged to enable the work our Field Workers perform for our customers and supports them doing so safely, reliably, and affordably.

This business case also supports our Metering systems – MV90, TWACS, Fixed Network, and Itron RIVA. These systems are critical to obtaining our customers meter reads for proper billing. PI is our Engineering Analytics platform that collects sensor data from various distribution sensors including our Itron Riva Meters, this data is used to analyze the performance of our distribution system and to support making changes to improve efficiencies and identify anomalies requiring correction.

Work within EDMOE is strategically replacing the suite of custom Geographic Information System (GIS) applications known as Avista Facility Management (AFM). AFM is the system of record for spatial electric facilities in Washington and Idaho and gas facility data in Washington, Idaho and Oregon and provides the connectivity model to support engineering and analysis applications and well as the electric and gas outage management applications. The AFM applications and data model have been used for nearly two decades and are approaching technology obsolescence. Having a modern GIS will enable Avista to meet the changing needs in energy delivery such as Distributed Generation and Smart Grids with Grid Edge Intelligence. It will also enable the ability to model complex networks and equipment such as electric substations and gas regulator stations to provide a more accurate view of the assets in the field. The increased accuracy and currency of the data along with modern mobile applications will provide field personnel with powerful functionality to meet customer responsiveness expectations. Finally, the advanced modelling will enable improved analysis and reporting capabilities.

Energy Delivery Modernization and Operational Efficiency (EDMOE) Technology

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[2]

Avista's Energy Delivery and Shared Services technology systems are a necessity, as they provide essential functions to our employees and customers throughout all service territories. These vital systems require systematic upgrades and enhancements to maintain reliability, compatibility, and reduce security vulnerabilities.

This funding level will provide the appropriate technology and development to meet the periodic upgrades and enhancements prioritized by the Energy Delivery Modernization and Operational Efficiency (EDMOE) governance committee. This funding is necessary to mitigate the risk of unsupported applications, security liability, and significantly higher costs because of the deferment of upgrades and enhancements, etc.

Investment prudency is reviewed by the EDMOE governance committee to ensure alignment of initiatives through judiciously selected and implemented projects. The funding requested as part of this program generally fits these initiatives and are assigned to specific projects (with Project Steering Committee oversight) as they are identified. Also, the Business Case owner will work with Steering Committee(s) to set project priority and sequence over a five-year planning period, subject to any additional funding changes as directed by the Capital Planning Group (CPG). Each program and project steering committee meet regularly to review the demand to ensure that it aligns with Avista's strategies. The Project Steering Committee oversees scope, schedule and budget within their respective programs and projects and informs the Business Case owner of any changes needing escalation to the Technology Planning Group (TPG) or CPG for decision-making around resource or funding constraints.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The technologies and applications improved upon and delivered under this business case automate and enable key business processes used today to deliver safe and reliable energy to our customers. These technologies and applications require ongoing enhancements and sometimes replacement to keep them in line with changing business processes and with changing vendor roadmaps. Technical resources with specialized skills who are familiar with these supported business areas are required to make the ongoing changes. This business case supports the required changes, along with the technical resources, for technologies and applications that support the Energy Delivery business areas including Gas Engineering & Operations, Electric Engineering & Operations, Distribution System Operations, Asset Management & Supply Chain, Facilities, Fleet Operations & Metering.

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Energy Delivery Modernization and Operational Efficiency (EDMOE) Technology

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[3]

A thorough review of the list of technologies and applications currently providing automation to Energy Delivery business processes was performed. Based on this cataloging, two types of activities were identified, projects and programs. Projects are typically used to support one-time major efforts such as software or platform upgrades, technology replacement or technology implementation. Programs are typically used to enhance existing technologies, keeping the technology in line with existing and evolving business process or to facilitate implementation of additional digitization of business process using existing technologies. For projects, estimates were developed based on identified staffing requirements, software, and hardware requirements (license and product costs), and professional service requirements. These were based on current scope and schedule estimates. For Programs providing ongoing enhancements or new functionality to support changing or developing business process the costs were estimated based on staffing, license, professional service, and product costs identified through historical trends.

2.3 Summarize in the table, and describe below the DIRECT offsets[4] or savings (Capital and O&M) that result by undertaking this investment.

There are no direct offsets for this business case.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$	$	$	$	$
O&M		$	$	$	$	$

2.4 Summarize in the table, and describe below the INDIRECT offsets[5] (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	N/A	$	$	$	$	$
O&M	New DIMP Application	$200k	$200k	$200k	$200k	$200k
O&M	GIS Enhancements	$212.5k	$212.5k	$212.5k	$212.5k	$212.5k
O&M	Maximo Enhancements	$425k	$425k	$425k	$425k	$425k
O&M	AMI Enhancements	$143k	$143k	$143k	$143k	$143k

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[3] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

[4] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[5] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

Energy Delivery Modernization and Operational Efficiency (EDMOE) Technology

O&M	Metering Head End Upgrades	$23k	$23k	$23k	$23k	$23k
O&M	AMI System Reliability	$1.0M	$1.0M	$1.0M	$1.0M	$1.0M
O&M	Mobility in the Field	$239k	$239k	$239k	$239k	$239k
O&M	Utility Network Projects	$425k	$425k	$425k	$425k	$425k

EDMOE Indirect Savings - EDMOE as a business case supports both existing and new technologies leveraged by the Energy Delivery business areas including Gas Engineering & Operations, Electric Engineering & Operations, Distribution system Operations, Asset Management & Supply Chain, Facilities, Fleet Operations & Metering. These technologies are used to automate and augment business solutions bringing efficiencies and capabilities to support the delivery of energy to our customers.

The costs incurred under this business case across the next five years will be spent on product licenses, hardware, professional services, and labor in support of the technical systems in place across the Energy Delivery business area. Significant costs include the cost to license and implement a new Distribution Integrity Management Plan- (DIMP) solution, labor to continue enhancements to our GIS system in support of business process, labor to continue enhancements to our Maximo solution in support of business process, labor to upgrade our Maximo solution in line with vendor product lifecycles, labor and hardware updates necessary to support enhancements and upgrades of our AMI head end platform in support of business process and vendor product lifecycles, labor in support of upgrading MV90 and TWACS in line with vendor product lifecycles, labor and professional services for smaller applications in line with vendor product lifecycles. The timelines for this work have been developed with the best information available today and represent ideal scenarios. It is subject to change based on priorities, availability of shared labor, and our ability to find appropriate professional services.

The new DIMP solution provides the following benefits:

- Additional transparency/clarity to Avista's gas integrity investment decision making process.
- Adds probabilistic modeling into the gas system and addresses whether the right amount of capital is being employed in the business unit and helps identify the higher risk, more immediate maintenance targets.
- Promotes capital efficiency in terms of obtaining the most stakeholder value for each dollar spent by the company.
- Creates language commonality, that can be used across business units, incorporating a risk-based approach, to better understand and determine investment priorities.
- Improves line of sight between business units and strategic objectives.

Currently, the implementation of DIMP is expected to result in a $200K annual reduction in risk profile beginning in 2023.

Enhancements to Avista's GIS applications is anticipated to provide the following indirect labor savings (This is separate and unique from those benefits achieved under the Atlas Program):

GIS Enhancements Annual Indirect Offset Potential

Estimated Number of Users 200

Energy Delivery Modernization and Operational Efficiency (EDMOE) Technology

Estimated Efficiency per User 5 minutes per day

Estimated Usage Days per year   200

Standard Hourly Labor Rate $85.00

Estimated Percent of Users in WA   75%

Estimated Annual Indirect Labor Offset $212,500

Maximo Enhancements Annual Indirect Offset Potential

Estimated Number of Users	400
Estimated Efficiency per User	5 minutes per day
Estimated Usage Days per year	200
Standard Hourly Labor Rate	$85.00
Estimated Percent of Users in WA	75%
Estimated Annual Indirect Labor Offset	$425,000

AMI Enhancements Annual Indirect Offset Potential

Estimated Number of Users	60
Estimated Efficiency per User	15 minutes per day
Estimated Usage Days per year	150
Standard Hourly Labor Rate	$85.00
Estimated Percent of Users in WA	75%
Estimated Annual Indirect Labor Offset	$143,437

AMI, FCS and MV90 Upgrades. These are meter head end solutions meaning they collect the reads from all the meters and distribute them to the billing solution. From time to time these solutions require updates to keep them in-line with vendor roadmaps and to keep them secure and stable (operational) on newer technologies.

(Database, Operating Systems, Hardware). Instability of these systems can take days to resolve and require resources from multiple disciplines including business analysts, technical analysts, DBA's, and Central Systems engineers.

Meter Head End Upgrades Annual Indirect Offset Potential

Estimated Number of Users	5
Estimated Efficiency per User	480 minutes per day
Estimated Usage Days per year	9 3 faults per system
Standard Hourly Labor Rate	$85.00
Estimated Percent of Users in WA	75%
Estimated Annual Indirect Labor Offset	$22,950

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Further, if these solutions were to become unavailable for longer periods, billing tasks would require extensive manual intervention and put at risk the timely billing of customers and result at minimum in substantial estimated billing. The AMI Riva solution supports over 400,000 customers and process over $2M billed daily. The MV90 solution, for our commercial customers, supports 208 customers with over $2.3M billed daily. The FCS solution currently supports approx. 158,000 customers and processes $490K daily.

Total Annual Indirect Labor Offset: $1,003,887

Modernizing Avista's GIS platform under the prior Atlas projects, future Utility Network projects, and deploying mobile GIS applications under the Mobility in the Field project is anticipated to provide the following indirect labor savings. The estimated savings are based on a review a of current and previous GIS projects completed in the Atlas Business case with a uniform efficiency value applied based on the types of applications deployed.

Mobility - GIS Mobile Applications Annual Indirect Offset Potential

Estimated Number of Users	75
Estimated Efficiency per User	15 minutes per day
Estimated Usage Days per year	200
Standard Hourly Labor Rate	$85.00
Estimated Percent of Users in WA	75%
Estimated Annual Indirect Labor Offset	$239,063

Atlas, Utility Network, and GIS Modernization Annual Indirect Offset Potential

Estimated Number of Users	200
Estimated Efficiency per User	10 minutes per day
Estimated Usage Days per year	200
Standard Hourly Labor Rate	$85.00
Estimated Percent of Users in WA	75%
Estimated Annual Indirect Labor Offset	$425,000

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:

Avista could choose to stop upgrading the solutions and run them to the end of life of the current version. This would reduce the funding needs to $13.6M dollars. The risk of

this approach is that the vendors typically require upgrades a minimum of every three years to keep them current with their roadmaps. Running beyond three years would mean running on an unsupported solution. This is true for application support from the vendors and is often in line with the underlying technologies (operating systems, databases, switches, security appliances, etc.…). Running on unsupported versions means Avista will not be able to receive patching from the application vendors. Following this approach would introduce significant operational risk as well as cybersecurity risk for each of the unsupported technologies. As Avista relies on these technologies to support Energy Delivery operations, (both gas and electric), these operations would be at high risk of moving to manual operations.

Alternative 2:

Avista could choose to no longer support additional operational efficiency work on the applications that support Energy Delivery operations. These modern Commercial off the shelf (COTS) applications are highly configurable to support the operational challenges of delivering energy to our customers. Avista employs and/or contracts with developers to configure these solutions to meet these challenges. An alternative to this approach would be to no longer make these changes, locking in the solutions to a status quo. One risk with this approach is, Avista no longer has the ability to leverage the high initial investment made in these solutions to find new efficiencies. Attempts to leverage the solutions to 'do more with less' will not be possible. Another risk is requests to modify the solutions to meet regulatory or compliance needs will also go unanswered and will need to be solutioned outside the applications. A third risk is that it is these same employees and/or contractors that perform the upgrades and thus would not be available for that work. This risk is why the cost of this alternative is $15-$20M instead of only $9M as alternative resources, (likely professional service contractors unfamiliar with our implemented solutions), would need to be leveraged to perform timely upgrades for the solutions.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

A thorough review of the list of technologies and applications currently providing automation to Energy Delivery business processes was performed. Based on this cataloging, two types of activities were identified, projects and programs. Projects are typically used to support one-time major efforts such as software or platform upgrades, technology replacement or technology implementation. Programs are typically used to enhance existing technologies, keeping the technology in line with existing and evolving business process or to facilitate implementation of additional digitization of business process using existing technologies. For projects, estimates were developed based on identified staffing requirements, software, and hardware requirements (license and product costs), and professional service requirements. These were based on current scope and schedule estimates. For Programs providing ongoing enhancements or new functionality to support changing or developing business process the costs were estimated based on staffing, license, professional service, and product costs identified through historical trends.

Energy Delivery Modernization and Operational Efficiency (EDMOE) Technology

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The timelines shown in the table below for this work has been developed with the best information available today and represent ideal scenarios. It is subject to change based on priorities, availability of shared labor, our ability to find appropriate professional services and current estimates of scope.

Projects /Programs/ Licenses	2025	2026	2027	2028	2029
ESRI ELA (Licenses)	Q1/2025			Q1/2028	
Schneider ELA (Licenses)	Q1/2025			Q1/2028	
GE ADMS (Licenses)				Q1/2028	
Maximo (Licenses)	Q1/2025			Q1/2028	
GIS Enhancements	Q1/2025-Q4/2025	Q1/2026-Q4/2026	Q1/2027-Q4/2027	Q1/2028-Q4/2028	Q1/2029-Q4/2029
Maximo Enhancements/ Upgrade	Q1/2025-Q4/2025	Q1/2026-Q4/2026	Q1/2027-Q4/2027	Q1/2028-Q4/2028	Q1/2029-Q4/2029
PI Enhancements/ Upgrade	Q1/2025-Q4/2025	Q1/2026-Q4/2026	Q1/2027-Q4/2027	Q1/2028-Q4/2028	Q1/2029-Q4/2029
AMI Enhancements/ Upgrade	Q1/2025-Q4/2025	Q1/2026-Q4/2026	Q1/2027-Q4/2027	Q1/2028-Q4/2028	Q1/2029-Q4/2029
ADMS Enhancements/ Upgrade		Q1/2026-Q4/2026	Q1/2027-Q4/2027	Q1/2028-Q4/2028	Q1/2029-Q4/2029
MV90 Upgrade	Q1/2025-Q4/2025				
TWACS Upgrade		Q3/2026	Q2/2027		
Service Suite Upgrade		Q1/2026-Q4/2026			
Misc. Upgrades	Q1/2025-Q4/2025	Q1/2026-Q4/2026	Q1/2027-Q4/2027	Q1/2028-Q4/2028	Q1/2029-Q4/2029
Utility Network	Q1/2025-Q4/2025	Q1/2026-Q4/2026	Q1/2027-Q4/2027	Q1/2028-Q4/2028	Q1/2029-Q4/2029
Mobility in the Field	Q1/2025-Q4/2025	Q1/2026-Q4/2026	Q1/2027-Q4/2027	Q1/2028-Q4/2028	Q1/2029-Q4/2029

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The EDMOE Business Case has three levels of governance: The Executive Technology Steering Committee (ETSC), an Energy Delivery Director Governance group and Project Steering Committees. The committees review monthly project status reports, which identify project scope, schedule, and budget, as well as any risks and/or issues that the

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project team is currently working on. The Energy Delivery Director Governance group reviews roadmaps and funding levels. The EDMOE Program Team reports progress monthly to the steering committees and other stakeholder groups.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Energy Delivery & Operational Efficiency Business Case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature: *Mike Mudge*
44C0BE3C52404B4...
Date: May-02-2024 | 11:21 AM PDT

Print Name: Mike Mudge
Title: Sr. Manager, Application Delivery
Role: Business Case Owner

Signature: *Josh DiLuciano*
A3C71874F6564DB...
Date: May-02-2024 | 10:53 AM PDT

Print Name: Josh DiLuciano
Title: VP, Energy Delivery
Role: Business Case Sponsor

Signature: *Kelly Magalsky*
E7A0F731C49442B...
Date: May-03-2024 | 2:36 PM PDT

Print Name: Kelly Magalsky
Title: Director, Shared Services
Role: Steering/Advisory Committee Review

Signature: *Hossein Nkdel*
E4E2D9C7EE4747F...
Date: May-02-2024 | 11:44 AM PDT

Print Name: Hossein Nikdel
Title: Director, Applications & System Planning
Role: Steering/Advisory Committee Review

EXECUTIVE SUMMARY

Please provide a <u>one-page summary</u> of the business case and high-level summary of the projects or programs included. Please describe the need for the project (a synopsis of the problem, the current state, and recommended solution), alternatives considered, the cost of the recommended solution, applicable metrics, customer benefits, Avista benefits or offsets derived from the investment, and risks, to customer and Avista, if the business case is not funded.

Avista participates in two energy markets operated by the California Independent System Operator (CAISO) – the Market Redesign Technology Upgrade (MRTU) and the Western Energy Imbalance Market (WEIM). Avista began transacting with the CAISO in June 2017 through participation in MRTU, which allows entities outside the CAISO balancing authority area to submit hourly energy bids at specific transmission intertie locations. This day-ahead market gave Avista access to economically priced solar energy, provides an opportunity to optimize internal resource flexibility by importing generation into CAISO, and provides access to additional generation during resource reliability scarcity events.

Avista joined the WEIM on March 2, 2022. The WEIM is a real-time, intra-hour energy market that facilitates regional resource dispatch on a five-minute basis to dispatch the lowest cost resources across the entire market footprint, while balancing in-hour load and resource obligations. This market allows participants to lower energy costs by either dispatching less expensive resources to meet load obligations, or by increasing revenue through the bidding of excess energy into the market. With more than 80% of the western interconnection load transacting in the WEIM, the liquidity of the hourly bi-lateral market has been significantly impacted, as market rules require participants to determine resource schedules well in advance of the operating hour. As renewable generation portfolios are increasingly mandated, market participation can ease the financial pressure of integrating renewable resources, while maintaining reliability.

For Avista to maintain operations within the CAISO markets, it must remain compliant in making required operational improvements and market design changes. Failure to comply with the upgrades in the given timeframe will disrupt Avista's ability to gain access to cost-efficient power in the market, lead to missed benefit opportunities, and may impact Avista's ability to reliably operate the electric grid. CAISO releases annual market technology updates and the estimated costs for these upgrades and enhancements is $500k annually. They are typically applied simultaneously across multiple systems, with primary impacts to and approvals from Power Supply, System Operations, Generation Production & Substation Support (GPSS) and the WEIM Settlements team. Market compliance obligations and business approvals will determine when an upgrade is applied during a calendar year.

VERSION HISTORY

Version	Author	Description	Date
1.0	Kelly Dengel	Business Case Template	6/2021
2.0	Kelly Dengel	BC Narrative Update	5/2022

3.0	*Kelly Dengel*	*BC Narrative Update*	*9/2022*
4.0	*Kelly Dengel*	*BC Narrative Update/Revised form*	*5/2023*
BCRT	*BCRT Team Member*	*Has been reviewed by BCRT and meets necessary requirements Steve Carrozzo*	*5/9/2023*

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2024	**$500,000**	**$500,000**
2025	**$600,000**	**$600,000**
2026	**$500,000**	**$500,000**
2027	**$600,000**	**$600,000**
2028	**$600,000**	**$600,000**

Project Life Span	*5 Years?*
Requesting Organization/Department	Energy Delivery
Business Case Owner | Sponsor	James Dykes | Mike Magruder
Sponsor Organization/Department	Transmission System Operations
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1.   BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

For Avista to maintain operations within the CAISO markets, it must remain compliant with software operational improvements and market design changes. Failure to comply with the upgrades in the given timeframe will disrupt Avista's ability to gain access to cost-efficient power in the market, lead to missed benefit opportunities, and may impact Avista's ability to reliably operate the electric grid. This Business Case (BC) is required to support the required updates to the software platforms and integrations implemented to transact in the CAISO markets. The upgrades are essential to remain reliable, compatible with CAISO market software releases and address security vulnerabilities to ensure ongoing value is achieved by joining CAISO markets. Failure to comply with the upgrades

in the given timeframe will disrupt Avista's participation in the market, hinder operational efficiency, and may lead to missed economic opportunities or system reliability issues.

1.2 Discuss the major drivers of the business case.

The primary investment driver for this BC is Performance and Capacity. A secondary investment driver is Asset Condition. The software applications in this BC enables Avista to effectively perform the required market functions that impact Avista's ability to operate in the market, optimize generation resources (including additional renewable generation), gain access to cost-efficient power, and reliably operate the electric grid. Benefits of upgrading and enhancing these systems for market participation include:

- Continued market participation and the realization of market benefits.
- Continued optimization of Avista's generation resource portfolio.
- Continuing as a low-cost energy provider though market participation.
- Economically managing renewable resource variability and balancing obligations.
- Enhanced grid reliability through sharing information on electricity delivery conditions between balancing authorities across the EIM region.
- Economically efficient congestion management as compared to non-market curtailments and bilateral redispatch capabilities.
- Access to 15-minute interval generation commitment and 5-minutal interval generation redispatch across the EIM footprint.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

These applications are essential to meeting operational efficiency, grid management and market participation. Updates/upgrades to these applications and associated integrations address operational changes within the CAISO markets – MTRU and EIM software applications and Avista's business process. For each market release, the CAISO provides backward compatibility for two previous market release versions, thus giving Avista flexibility in determining when an update is applied. The software vendors also release upgrades independent of CAISO market releases that Avista will need to incorporate into the delivery cycle. Performing at least one annual CAISO-initiated software updates as planned supports Avista's ability to continue to operate and have access to cost-efficient energy within the market. While there is flexibility in determining when a minor upgrade can be applied, operational efficiencies may be lost by omitting recommended upgrades.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

Avista prides itself on improving our customers' lives through innovative energy solutions and the WEIM is a portion of that goal. In 2019, Washington State passed clean energy legislation that will drive additional renewable resources to be built in Avista's Balancing Area Authority (BAA) to meet specific emission reduction requirements between 2030

and 2045. In April of 2019, Avista announced its own clean energy goals that will transition the generation resource mix to 100 percent clean by 2045. In order to meet these goals, factoring renewable generation growth integrated into Avista's BAA, a mechanism is required to provide flexibility to optimize these resources with Avista's existing generation portfolio. Participating in the CAISO markets, both MTRU and EIM, is the most efficient and cost-effective way to meet this requirement and the necessary flexible ramping capability.

> **1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]**

Prior to signing the CAISO WEIM Implementation agreement in April 2019, Avista hired Energy Environmental Economics (E3) to conduct an <u>EIM benefit assessment</u> in the fall of 2017. E3 conducted similar benefit assessments for several other utilities to help understand the potential value of EIM participation. The E3 assessment estimated that Avista could see a range of annual benefits from $2 to $12 million from EIM participation. Using Avista's best estimates for these critical study assumptions, Avista originally anticipated EIM annual benefits of $5.8 million, with potential for benefits to move closer to the upper end of the study range depending upon observed market price volatility. As of Q1 2023, the total lifetime net benefit actuals from participating in the WEIM are $27.1 million.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

> **2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.**

The proposed recommended solution is to make the required operational improvements to the software. This will enable Avista to continue to operate in the CAISO markets and thereby continue to receive benefits and generate value for customers. Failure to comply with the upgrades in the given timeframe will disrupt Avista's ability to gain access to cost-efficient power in the market, lead to missed benefit opportunities which may increase customer costs, and may impact Avista's ability to reliably operate the electric grid. CAISO releases annual market technology updates in partnership with software vendors. The estimated costs for these upgrades and enhancements are $0.5 million annually.

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

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2.2 **Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]**

In 2017, the MTRU project to conduct market settlements was $0.3 million in capital, and O&M software licensing costs were estimated at $0.03 million annually. In 2022, the EIM implementation was $27.4 million (capital and incremental expense), with annual O&M expense associated with incremental EIM employees and software maintenance/licensing costs estimated at $3.1 million and an annual capital estimate of $0.5 million to support software enhancements and upgrades (this BC). The total Avista lifetime net benefit actuals received from operating in the CAISO market as of Q1 2023 are $46.2 million, with MTRU at $19.1 million and EIM at $27.1 million. These benefits flow through the state recovery mechanisms. With more than 80% of the Western Interconnect transacting in the CAISO market, Avista needs continued market participation to access economically priced power, to ease renewable resource integration costs, and to economically managed transmission congestion. These benefits help manage customer costs and allow Avista to continue as a low-cost energy provider.

2.3 **Summarize in the table and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.**

The value generated from operating in the CAISO market, with software updates/enhancements supported by this BC, does not provide any direct capital or expense offsets.

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	N/A	$0	$0	$0	$0	$0
O&M	N/A	$0	$0	$0	$0	$0

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

2.4   Summarize in the table and describe below the INDIRECT offsets4 (Capital and O&M) that result by undertaking this investment.

The value generated from operating in the CAISO market, with software updates/enhancements supported by this BC, does provide indirect expense offsets. There are no direct capital offsets. The financial benefits of operating in CAISO markets flow through the state recovery mechanisms – the Energy Recovery Mechanism (ERM) in Washington and the Power Cost Adjustment (PCA) in Idaho. The total Avista lifetime net benefit actuals received from operating in the CAISO market as of Q1 2023 are $46.2 million, with MTRU at $19.1 million and EIM at $27.1 million.

The annual O&M offsets in the table below represent a combined estimate for MRTU and EIM net benefits. The final rules for the Washington Climate Commitment Act could impact future market net benefits.

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	N/A	$0	$0	$0	$0	$0
O&M	Net Market Financial Benefits	$26M	$26M	$26M	$26M	$26M

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4 Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

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W. Manuel, Avista
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2.5 Describe in detail the alternatives, including proposed cost for each alternative, which were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:

Failure to pursue the required market updates is the primary alternative to keeping these systems market compliant. This could keep Avista from operating in the market until the upgrade has been applied, thus keeping Avista from economically priced power and increasing potential grid risk. As more than 80% of the Western Interconnection load is transacting in the CAISO markets, the bi-lateral market has been reduced. Avista needs to participate in the market to maintain reliability and access economically priced energy to continue as a low-cost energy provider. The market also allows Avista to reduce costs associated with integrating renewable resources, while maintaining the flexibility and optimization of its hydro generation. As more renewable resources are mandated by state legislation, there will be a point where Avista's hydro flexibility cannot sufficiently or economically supply the required load following for renewable resources and must transact in an organized market to provide cost-effective energy. Additionally, Avista cannot internally develop the software needed to transact in the market and does not have access to the expertise and logic the CAISO employs in the market design.

Alternative 2:

Alternative 3:

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

For the WEIM, the CAISO publishes a quarterly benefit report, which represents a calculation of each entities' market benefits. This report is used in part to reflect Avista's WEIM benefits and support justification of on-going upgrades. In October 2022, Avista developed an internal benefit report, which includes considerations for Avista-specific operational factors that may not be adequately represented in CAISO's benefit calculation. This internal benefit calculation logic will be submitted to the commissions for review and used in future rate filings to estimate EIM benefits as part of determining overall power supply expense. These two benefit calculations will help Avista determine the financial return on the implementation and on-going EIM net benefits. The financial benefits listed in this BC are based on the internal Avista benefit logic.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

Upgrades and enhancements for both MRTU and EIM software will happen throughout the year, with a primary upgrade in the fall of each year. For each market release, the CAISO provides backward compatibility for two previous market release versions, thus giving Avista flexibility in determining when an update is applied. The software vendors also release upgrades independent of CAISO market releases that Avista will need to incorporate into the delivery cycle. Performing at least one annual CAISO-initiated software updates as planned supports Avista's ability to continue to operate and have access to cost-efficient energy within the market. While there is flexibility in determining when a minor upgrade can be applied, operational efficiencies may be lost by omitting recommended upgrades.

> **2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.**

The Energy Markets Modernization & Operational Efficiency Steering Committee members include BC Sponsors and Owners, and directors within Power Supply, System Operations, GPSS, Finance & Accounting and Enterprise Technology.

Delivery within the BC requires a partnership between various business unit teams and Enterprise Technology (ET) and will be governed by the Technology Planning Group (TPG), the Integrated Oversight Committee (IOC), and Program/Project Steering Committees.

Project prioritization is evaluated by the ET management team on a weekly basis through the IOC, while program and project steering committees meet regularly and oversee scope, schedule and budget within their respective programs and projects and inform the BC owner of any changes. Any changes in funding or scope are documented at the BC level, via Change Request document that is presented to the monthly CPG meeting and evaluated for approval. All projects in this BC are managed through the PMO, which follows the Project Management Institute (PMI) standards.

The undersigned acknowledge they have reviewed the EIM Modernization & Operational Efficiency Business Case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

3. APPROVAL AND AUTHORIZATION

> The undersigned acknowledge they have reviewed the *Energy Markets Modernization and Operational Efficiency Business Case* and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: Business Case Owner

Signature: *Michael A Magruder* Date: 5/10/2023

Print Name: Michael A. Magruder

Title: Director, System Operations & Planning

Role: Business Case Sponsor

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: Steering/Advisory Committee Review

Energy Resources Modernization & Operational Efficiency (ERMOE) Technology

EXECUTIVE SUMMARY

The Energy Resources Modernization and Operational Efficiency Technology Program[1] Business Case sponsors the technology related applications that support the Energy Resources business areas operational and strategic initiatives. The Energy Resources business area includes applications associated primarily with Power Supply, Gas Supply, Generation Production Substation Support (GPSS), and Environmental. Avista's Energy Resources technology systems are a necessity, as they provide essential functions, such as energy risk management, trading, forecasting, and market compliance, to our customers throughout all service territories. These vital systems require systematic upgrades and enhancements to maintain reliability, compatibility, and reduce security vulnerabilities.

In order to ensure that Energy Resources can meet these initiatives and respective timelines over the next five years, Avista will comply with the recommended application refresh and expansion requirements for these applications. The requested allocation is based primarily on compatibility, reliability, security, adaptability, safety, and compliance. Additional criteria considered is the ability to maintain operational efficiencies and strategic alignment by ensuring business processes are sustained, as well as future proofing to adapt to emerging impacts in our energy landscape.

This business case is necessary to fund the portfolio of components that maintain the applications and licenses necessary to meet internal and external business processes and objectives, and our strategic focus areas. The technology systems and processes within this business case strengthen our ability to perform, which impacts our capacity to grow and improve the generation and delivery of safe, reliable, clean, affordable energy services to our customers.

In order to maintain these business processes and systems supported by this business case, the recommended funding amount is $22,375,000 over the next five years. This funding level will provide the appropriate technology and development to meet the periodic upgrades and enhancements necessary to ensure that business processes are more efficient, and result in cost savings.

If this business case is not funded at the recommended level, it will risk the disruption of necessary business processes and functions that impact our customers, employees, and compliance requirements. Deferment of upgrades and enhancements can result in unsupported applications, increased security vulnerabilities, downtime, missed opportunities, and significantly higher costs.

This Business Case plan was created by the Business Case Owner, Domain Architect, Product Owner, Business Technology Analyst, and the ET Project Management Office, and approved by the Energy Resources Governance Team (includes Business Sponsor, Director and Managers within Energy Resources and Power Supply).

➤ *Starting in 2025, the Energy Markets Modernization and Operational Efficiency Business Case will end, and that programs' projects and work packages will be represented in this Business Case (ERMOE) moving forward. This justification narrative and funding request has been updated accordingly.*

VERSION HISTORY

Version	Author	Description	Date
1.0	E. Sibulsky/L.Raymond	Initial draft - combining EMMOE with ERMOE	04/09/24
2.0	B. Hoerner	BC Owner Review	04/26/24
3.0	K. Schuh	Final Review	
BCRT	Jeff Holter	Has been reviewed by BCRT and meets necessary requirements	04/24/24

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[1] [1] "A Program is defined as related projects, subsidiary programs, and program activities managed in a coordinated manner to obtain benefits not available from managing them individually. Managing projects, subsidiary programs, and program activities as a program enhances the delivery of benefits by ensuring that the strategies and work plans of program components are responsively adapted to component outcomes, or to changes in the direction or strategies of the sponsoring organization.," Project Management Institute Global Standard, The Standard for Program Management, Fourth Edition. Page 3 (Copyright 2017).

Energy Resources Modernization & Operational Efficiency (ERMOE) Technology

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2024	$4,530,000	$4,530,000
2025	$3,795,000	$4,025,000
2026	$5,010,000	$5,010,000
2027	$4,170,000	$4,170,000
2028	$4,800,000	$4,800,000
2029	$4,600,000	$4,600,000

Project Life Span	*5+ years Program*
Requesting Organization/Department	Energy Resources
Business Case Owner | Sponsor	Brian Hoerner | Kevin Holland
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[*Investment Drivers*](#)

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.* 🔲

1.1 What is the current or potential problem that is being addressed?

This program is required to support the application-related technology initiatives for all areas within Energy Resources. These areas include Power Supply, Resource Planning, Acquisition & Scheduling, and Generation Production Substation Support (GPSS).

Application refresh projects are necessary due to software lifecycle requirements to provide updates, upgrades and/or replacements on existing Energy Resources applications as they are required to respond to changing business needs and/or technical obsolescence. Application refreshes/upgrades are essential in order to remain current, maintain compatibility, reliability, and address security vulnerabilities.

Application expansion projects result from demand related to transformations in the utility and continuous technology progression required to achieve operational efficiencies and strategic objectives. The industry is navigating a period of rapid technological change that requires adaptation and the ability to expand our conventional business practices and processes.

1.2 Discuss the major drivers of the business case.

The primary investment driver for the Energy Resources Business Program is Performance and Capacity. Asset Condition is also a key component. Technology automation reduces manual effort, minimizes human error, and streamlines processes. Data management and accuracy is also a

major component, as it enables better analysis that can help identify trends, risks, and growth opportunities. Many of the applications and respective projects in this business case provide direct support to Avista customers, while the remaining provide many indirect benefits through automation efficiencies, accuracy, timely reporting, and decision making. The lifecycle management of these applications is critical to maintain performance and productivity and are largely dictated by the technology solutions that are used. All of this work is necessary to enable efficiencies, reduce risk and allow Avista to best serve our internal and external customers. Without properly managed business application lifecycles, our customers would potentially see difficulty in our ability to manage our energy resources, which could jeopardize our customers' trust in the integrity and reliability of services we provide. Asset condition also plays a pivotal role in driving the technology refresh lifecycle due to depreciation and value loss, as newer application versions with enhanced specifications are continually released. The ability to manage optimal asset conditions reduces the risks of downtime, resource drain on IT (Information Technology) support, and performance factors due to aging technology.

More specific Energy Resources investment drivers include:
- Promoting Risk Management via energy transaction data that contains market positioning monitoring, reporting, and conditions.
- Utilizing technology for supply, demand, forecasting and decision support.
- Control and monitoring of multiple operations from a single location
- Sharing generation resources to provide a more efficient use of renewable energy at the lowest available cost Understanding the supply, demand, and market
- Maintaining compliance with all FERC, NERC, and FCC rules, including environmental and safety management of hazardous waste production, storage, transport, and disposal
- Near real-time market analytics to obtain renewable energy efficiently and at the lowest available cost for our customers.
- Continual grid reliability through the Energy Imbalance Market (EIM) participation and the realization of associated benefits.
- Continuing as a low-cost energy provider through EIM participation.
- Asset management mobility for preventative/unplanned work

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

In 2019, Washington State passed clean energy legislation that will drive additional renewable resources to be built in Avista's Balancing Area Authority (BAA) to meet specific emission reduction requirements between 2030 and 2045. In order to meet these goals, the continuation of the Western EIM is the most efficient and cost-effective way to meet this requirement and the necessary flexible ramping capability.

The projects and initiatives in this business case position Avista to adapt and respond to the increasing complex and technical industry behaviors and trends. They also provide functional enhancements that address ongoing changes in the workplace, provide increased employee efficiency through the reduction of steps required to complete a task, and make better use of Avista resources. They shift costs from inefficient processes to more value-driven activities.

The primary alternative to these projects is to use existing systems as-is and to not put new systems in place. This perpetuates inefficiencies as employees are less efficient and effective.

Working through these projects as suggested, reduces Avista's overall risk exposure by ensuring Avista is using funds in the most cost-efficient manner and by maintaining a culture of performance and innovation, which has a positive impact on our employees and customers.

Energy Resources Modernization & Operational Efficiency (ERMOE) Technology

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

	Avista Focus Areas:	
☐	**Our Customers**	▪ Mature our customer experience, both internal & external ▪ Support affordability, equity, and economic vitality ▪ Understand and address the evolving customer needs by offering products, services, & solutions
☐	**Our People**	▪ Evolve our employee experience with a focus on engagement, development, resiliency & well-being ▪ Improve safety & training systems to reduce injuries, expand learning & understand risks ▪ Strengthen equity, inclusion, & diversity within systems, practices, & behaviors
☒	**Perform**	▪ Affordably operate & maintain safe, clean, reliable generation & energy delivery infrastructure ▪ Achieve stated financial objectives
☐	**Invent**	▪ Foster & apply an innovation culture to benefit employees, customers, communities, & shareholders ▪ Create the utility of the future with our stakeholders, optimizing for cost, carbon, & reliability

The Energy Resources business team utilizes technology as a critical component to achieve these strategic objectives. Most of the projects in the technology roadmap align with the 'Perform' Focus Area. The ERMOE technology drives performance through efficiency, productivity and automating manual or ineffective processes. The continuous maintenance and optimization of the technology ensures that it continues to not only function, but it is also agile and can scale at the pace of industry and technological change.

There are also technology and associated investments in this Business Case that are more innovative and align with our 'Invent' Focus Area, particularly with the Avista Decision Support System (ADSS) system. This technology provides the ability to make better energy trading and planning decisions quickly and more accurately. The opportunity to properly maintain and improve this investment fosters the innovation culture to benefit Avista's employees, customers, communities, & shareholders.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve. [OBJ]

Compliance Plan - Environmental Affairs: Avista is subject to multiple Federal, State and Local environmental regulatory programs. The Environmental Compliance Group is tasked with managing and maintaining compliance with the applicable requirements from these programs. National standards have been established to control the handling, emission, discharge, and disposal of harmful substances. Waste sources must comply with these national standards whether the programs are implemented directly by EPA or delegated to the States. In many cases, the national standards are applied to sources through permit programs which control the release of pollutants into the environment. Some examples include:

- Air Quality: Clean Air Act (CAA) – Rathdrum
- Water Quality: Clean Water Act (CWA) - Kettle Falls
- Waste Management: Resource Conservation and Recovery Act (RCRA) – LIMS / Stackvision

- Property Clean-up: Comprehensive Environmental Response, Compensation and Liability (CERCLA) – LIMS / Intelex
- Public Disclosure: Emergency Planning and Community Right-to-Know Act (EPCRA) - LIMS / Intelex / Stackvision

Stackvision_Tier 1 - Air Quality Permit: Operating Permits are required for Rathdrum per the "Rules for the Control of Air Pollution in Idaho" issued by the Idaho Department of Environmental Quality (DEQ). This Tier I operating permit establishes facility-wide requirements in accordance with the Idaho State Implementation Plan. Some examples of parameters that are required at applicable generation locations are:

- Dust (airborne particulate matter)
- Odors (gases, liquids, or solids in such quantities as to cause air pollution)
- Visible Emissions (any air pollutant emission for more than three minutes, greater than 20% opacity)
- Excess Emissions (action to correct, reduce and minimize excess emissions events)

EIM benefit assessment - Prior to signing the California Independent System Operator (CAISO) Western Energy Imbalance Market (WEIM) Implementation agreement in April 2019, Avista hired Energy Environmental Economics (E3) to conduct an EIM benefit assessment in the fall of 2017. E3 conducted similar benefit assessments for several other utilities to help understand the potential value of EIM participation. The E3 assessment estimated that Avista could see a range of annual benefits from $2 to $12 million from EIM participation. Using Avista's best estimates for these critical study assumptions, Avista originally anticipated EIM annual benefits of $5.8 million, with potential for benefits to move closer to the upper end of the study range depending upon observed market price volatility. As of Q4 2024, the total lifetime net benefit actuals from participating in the WEIM are $44.9 million

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The recommended solution to ensure that Energy Resources can meet these initiatives and respective timelines over the next five years, is to follow the recommended application refresh and expansion requirements for Energy Resources applications. The recommended application refresh and expansion requirements have been determined based on vendor expertise, meeting FERC and NERC requirements as well as managing Avista's internal IT/OT convergence. The actual implementation may deviate depending on circumstances yet to be determined. The requested allocation is based primarily on compatibility, reliability, security, adaptability, and safety. Additional criteria consider maintaining operational efficiencies and aligning with strategic objectives. Conventional business practices and processes must be scalable, provide mobility, and focus on the employee and customer experience.

The project roadmap for the next five years includes refreshing and/or expansion initiatives made possible by these core Energy Resources systems

- **Energy Risk Management and Energy Trading –** Managing Avista's collection of energy assets, asset position, and relationships within the various energy markets. Supported applications include:

    - **Avista Decision Support System (ADSS) –** Forecasting and decision support for Energy Traders and Planners, developed and maintained by Avista. (NOTE: The ADSS development is funded via its own business case through 2022. Only enhancements and updates in 2022 and beyond are included here.)

Energy Resources Modernization & Operational Efficiency (ERMOE) Technology

- **Nucleus** – An energy risk management and energy trading tool enhanced and maintained by Avista, captures all wholesale energy transactions, including significant metering data and forward pricing curves, provides data for tracking energy positions, credit monitoring, compliance reporting, financial reporting, accounting, and market drivers.

- **Gas Forecasting** – Understanding the supply, demand, and market influences on natural gas volume and prices. Supported applications include:

  - **Nostradamus** – An off-the-shelf industry solution used in gas forecasting.

- **Work Management / Asset Management** – Asset management, preventative/ unplanned work management, and construction project/portfolio management for Generation Production and Substation Support (GPSS). Supported applications include:

  - **Maximo for GPSS** – Work and Asset Management utilizing modules of Maximo, an off-the-shelf industry solution provided by IBM and used in various Avista business units.

- **Generation Plant and Substation Operations** – Control and monitoring of operations at all plants and substations from a single location. Supported applications include:

  - **Ignition** (replacing Wonderware) – An off-the-shelf industry solution under the Human Machine Interface (HMI) called Ignition that handles control and monitoring of most Avista generation and substation locations.

  - **Stackvision** - Software that is used for monitoring the stack emissions at the Rathdrum Combustion Turbine.

- **Fuel Inventory Management** – Management of Avista's biomass fuel (in the form of logging and mill wood waste) at its Kettle Falls thermal plant. Supported applications include:

  - **WeighWiz** – Part of an off-the-shelf Log Inventory and Management System (LIMS) dedicated to timber and wood products procurement and management

- **Hazardous Waste Management** - Management of Avista's waste production, storage, transport, and disposal to ensure compliance with global regulations and minimizes safety and environmental hazards.

  - **Intelex** - Automated tracking and reporting system for the various stages of waste management and disposal. It manages different waste types, varying disposal rules and confusing transport restrictions.

- **Western Energy Imbalance Market (WEIM)** - a real-time energy wholesale market that permits the western region to share generation resources over a large geographic area, resulting in a more efficient use of renewable energy at the lowest available cost for our customers. The WEIM program is currently funded under its own business case until the implementation and entry into the market in 2022. The Energy Resources Business Case will then consume the ongoing optimization and enhancements for these associated applications currently forecasted in 2023:

- **Asset Operations**

  - **Generation Outage Management System (GOMS)** – Performs functions to submit planned and unplanned outages to CAISO for the generation units.

  - **Transmission Outage Management System (TOMS)** – Performs functions to submit planned and unplanned outages to CAISO for the transmission lines.

- **GenManager Front Office (WEIM only)**

  - **PRSC Bidding & Scheduling System** – Performs Merchant functions to submit bids and base schedules to CAISO for participating resources.

  - **EESC Scheduling System** – Performs Entity (Balancing Authority) functions to submit base schedules for both participating resources and non-participating resources.

Energy Resources Modernization & Operational Efficiency (ERMOE) Technology

- **Energy Accounting**

  - **Energy Accounting System –** Performs meter verification, estimation, and editing (VEE) for generation and interchange metering to produce and share Settlement Quality Meter Data (SQMD) with CAISO.

- **SettleCore**

  - **PRSC Settlement System –** Performs Merchant settlement functions for the participating resources and activities.

  - **EESC Settlement System –** Performs Entity settlement functions for non-participating resources and transmission resources.

- **Visual Analytics**

  - **Performance & Analytics System –** Performs a near real-time market analytic functions in a visual display.

  - **Licensing / Cross-Functional / Other –** Not every project fits nicely into one of the initiatives above. Some are cross-functional, and some are simply good ideas that continue to improve upon Avista's workplace (OATI / Gurobi).

Upcoming technology-related initiatives for the Energy Resources business area include the continuous improvements to work management processes via the Maximo Anywhere application, HMI (Ignition) enhancements to optimize the generation and substation monitoring, and Avista's Decision Support System. This business case will support these initiatives along with required refresh projects.

These projects are within industry norms for like-sized Energy Resources departments within like-sized utilities and are accepted and widely adopted approaches used within the energy industry.

Capturing every detail of every project over the course of the next five years is not possible. This is part of why the Steering Committee exists – to help propel Avista forward in its initiatives through intelligently selected and implemented projects. The funding requested as part of this program generally fits these initiatives and will be assigned to specific projects (with Steering Committee oversight) as they are identified.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

Due to budget constraints within ET Applications and the Energy Resources Business Case over the past couple of years, the majority of focus has been to ensure we are as current as we need to be to maintain support, compatibility, reliability, and security. In 2025 the goal is to maintain that standard, while moving toward more strategic objectives and potentially replacing some outdated systems to create efficiency and cost savings. Many of the enhancements planned will create significant value quantitatively and qualitatively, such as the 5 Year unlimited Gurobi licenses that reduce O&M in future years, as well as the need to purchase additional licenses (only the renewal).

There are some direct savings through the Avista Decision Support System (ADSS), although direct savings are difficult to explicitly define for applications like ADSS. Academic and industry estimates are between a 2% and 10% gain derived from more efficient (productive) utilization of existing generation assets. Estimates such as this one, and anecdotal internal analyses using ADSS

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Energy Resources Modernization & Operational Efficiency (ERMOE) Technology

technology in other ways (e.g., portfolio maintenance planning, accurate price bidding in Energy Imbalance Market (EIM), more informed decisions when acquiring new resources), indicate the likely potential to save more annually than has or will be spent over the life of the technology. Therefore, we cannot reasonably quantify exact direct savings, however most of the benefits associated with ADSS are already incorporated into the power supply baseline expense determination by including resource optimization revenue, EIM benefits and California optimization revenue in the baseline calculation per the agreed upon stakeholder methodology. The strategy for and ability to achieve benefits associated with resource optimization, California day ahead trading, and EIM resource bidding is contingent upon ADSS optimization solutions. Since these offsets are already included as offsets in power supply expense, they are not additive, but the potential savings are provided below as potential indirect savings.

There are several categories of indirect savings that could arise from the Avista Decision Support System (ADSS), such as the following:

- *Commodity Energy Savings* - The value of the commodity energy supplying Avista's retail load for the 12 months ending September 2021, at Mid-C wholesale market prices, was over $400 million. The savings then, using the 2% to 10% metric shared above, ranges between $8 and $40 million per year by being more efficient.

- *Maintenance Planning and Scheduling* - Avista for decades has worked to bring more analytics to maintenance planning for its generation portfolio. Although additional ADSS enhancements are necessary before the full-fledged analytical ADSS Maintenance Planner module can be deployed, early beta tests have shown savings between $0.5-$4.0 million per year, depending on the complexity and number of maintenance projects being completed in a given year. The original business case justification for the Maintenance Planner module (expected to be completed in 2022-2023) was based on annual estimated savings of $1.5 million.

- *EIM Bidding* - Bidding into the WEIM program entails an entirely new level of interaction in wholesale markets. Avista decided to enter the WEIM because our other trading partners were doing increasingly more of their intra-day business in the WEIM, starving the NW hourly market of counterparties to buy and sell energy that we have relied upon for decades to meet our load obligations reliably. Greatly less and falling NW real-time liquidity also compromises our ability to maximize the value of our portfolio. Besides having to work with WEIM 5-minute market windows where in the past the market time step was hourly, the Company never needed to create detailed price curves for all of its assets for every bidding period. Although no specific estimates have been developed for ADSS' contribution in the WEIM effort to date, its base schedule creation and Bidding module provide more accuracy and less staff effort than a manual process. The mid-point range of overall WEIM savings included in our 2020 Washington General Rate Case (GRC) was nearly $6 million annually and was included in the power supply expense baseline calculation.

- *Planning Studies* - ADSS has a unique ability to support resource planning in that it can re-optimize system operations when system conditions change. This enables robust scenario analysis. For example, ADSS allows Avista to model a historical year of operations but change inflows to our reservoirs, add new units or create entirely new power plants to see their detailed impacts on system costs and reliability. We can perform variable energy resource integration cost studies, and model how our system value changes when we have changing data or an opportunity/obligation to upgrade a facility. Further, with its detailed representations, the value of ancillary services can be valued differently among resources and the entirety of the portfolio.

Constraints and risks are possible and would hinder the delivery of the outlined objectives. In these circumstances, the Business Case owner would work with Steering Committee(s) to set project priority and sequence, subject to any additional funding changes as directed by the Capital Planning Group (CPG). Each program and project Steering Committee meets regularly to review the demand to ensure that it aligns with Avista's strategies. The Steering Committee oversees

Energy Resources Modernization & Operational Efficiency (ERMOE) Technology

scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the Technology Planning Group (TPG) or CPG for decision-making around resource or funding constraints.

2.3 Summarize in the table and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

- There are no direct offsets for this business case.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$	$	$	$	$
O&M		$	$	$	$	$

2.4 Summarize in the table and describe below the INDIRECT offsets[4] (Capital and O&M) that result by undertaking this investment.

- Quantified indirect savings (total estimate) is $8.5 - $400 million, assuming a 10-year software life

- The value generated from operating in the CAISO market, with software updates/enhancements supported by this BC, does provide indirect expense offsets. There are no direct capital offsets. The financial benefits of operating in CAISO markets flow through the state recovery mechanisms – the Energy Recovery Mechanism (ERM) in Washington and the Power Cost Adjustment (PCA) in Idaho. The total Avista lifetime net benefit actuals received from operating in the CAISO market as of Q1 2023 are $46.2 million, with MTRU at $19.1 million and EIM at $27.1 million. The annual O&M offsets in the table below represent a combined estimate for MRTU and EIM net benefits. The final rules for the Washington Climate Commitment Act could impact future market net benefits.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$	$	$	$	$
O&M	Commodity energy savings	$8-40M	$8-40M	$8-40M	$8-40M	$8-40M
O&M	Maintenance planning and scheduling	$.5-4M	$.5-4M	$.5-4M	$.5-4M	$.5-4M
O&M	Net Market Financial Benefits	$26M	$26M	$26M	$26M	$26M

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

Energy Resources Modernization & Operational Efficiency (ERMOE) Technology

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Option	Capital Cost
Alternative 1 – Fund Energy Markets in separate Business Case	$19,120,000
Alternative 2 – Reduce GPSS Maximo funding.	½ = $21,737,500 / all = $21,055,000
Alternative 3 – Replace Nucleus	$19,875,000

Alternative 1: Do not add the Energy Markets projects to the ERMOE Business Case at this time. This could be done but would not be as efficient as combining. The work within the Energy Markets business area supports the same portfolio, aligns strategically and departmentally, and is governed by the same stakeholders and leaders. At this point in time, considering the maturity of the programs and governance processes, the work can be managed collectively.

Alternative 2   - Reduce GPSS Maximo by ½, or Remove Funding)
Reduce or remove GPSS Maximo funding. The resources funded by this had previously been funded by expense and we could revert back to that model. The amount reduced in capital would move to expense, as the need for the optimization of the tools and business processes is still required.

Alternative 3 – If the Energy Trade and Risk Management Business case is approved to replace Nucleus and fully funded, this business case would see a reduction in cost 2026 and 2027 for the Nucleus Development team of approximately $1M per year and a partial reduction in 2028.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Avista's Energy Resources technology systems are a necessity, as they provide essential functions to Avista. These vital systems require systematic upgrades and enhancements to maintain reliability, compatibility, and reduce security vulnerabilities.

This funding level will provide the appropriate technology and development to meet the periodic upgrades and enhancements prioritized by the Energy Resources and Enterprise Technology (ET) governance committee. This funding is necessary to mitigate the risk of unsupported applications, security liability, and significantly higher costs as a result of the deferment of upgrades and enhancements.

Investment prudency is reviewed by the Steering Committee to ensure alignment of initiatives through judiciously selected and implemented projects. The funding requested as part of this program generally fits these initiatives and is assigned to specific projects (with Steering Committee oversight) as they are identified. Also, the Business Case owner will work with Steering Committee(s) to set project priority and sequence over a five-year planning period, subject to any additional funding changes as directed by the Capital Planning Group (CPG). Each program and project steering committee meets regularly to review the demand to ensure that it aligns with Avista's strategies. The Steering Committee oversees scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the Technology Planning Group (TPG) or CPG for decision-making around resource or funding constraints.

Energy Resources Modernization & Operational Efficiency (ERMOE) Technology

2.7 Please provide the timeline of when this work is scheduled to commence and complete, if known.

This is a program with discrete projects and packages that typically run annually and Transfer to Plant within that same year. There are times that a project may start in Q3/Q4 of one year and Transfer to Plant the following year. Typically, application projects will Transfer to Plant about 60 days prior to the project completion date (due to the post implementation warranty period and to capture the trailing charges).

The goal is to break out large/complex projects into smaller projects (phases) to avoid scope creep, budget overages, and ensure the work can be properly prioritized. The first phase of every project would be scoped at the Minimum Viable Product (MVP), and subsequent phases would be scoped accordingly, based on the next highest priority after MVP. This also allows for more accurate Transfer to Plant forecasts.

The current roadmap is as follows and subject to change:

2025	2026	2027	2028	2029
EIM - Energy Markets Expansion	EIM - Energy Markets Expansion	EIM - Energy Markets Expansion	EIM - Energy Markets Expansion	EIM - Energy Markets Expansion
Nucleus Expansion	Nucleus Expansion	Nucleus Expansion	Nucleus Expansion	Nucleus Expansion
ADSS Expansion	ADSS Expansion	ADSS Expansion	ADSS Expansion	ADSS Expansion
GPSS Maximo Expansion	GPSS Maximo Expansion	GPSS Maximo Expansion	GPSS Maximo Expansion	GPSS Maximo Expansion
Stackvision Upgrade	Stackvision Upgrade	Stackvision Upgrade	Stackvision Upgrade	Stackvision Upgrade
Ignition Expansion	Ignition Expansion	Ignition Expansion	Ignition Expansion	Ignition Expansion
EIM – MV90 Upgrade TTP	LIMS Upgrade	EIM – MV90 Upgrade	LIMS Upgrade	EIM – SettleCore Upgrade
MRTU Licensing	EIM – SettleCore Upgrade		Nostradamus Upgrade	GT Pro/GT Master Licensing
	Plexos Gas		Plexos Gas	
	Nostradamus Upgrade		Licensing: MRTU Aurora & Plexos	
	Licensing: GT Pro/GT Master Aurora & Plexos Gurobi			

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The Energy Resources Steering Committee members include Business Case Sponsors, Directors and Managers within Energy Resources, and the Business Case Owner. The Energy Resources Business Case has four levels of governance: The Executive Technology Steering Committee (ETSC); Technology Planning Group (TPG) of Directors; Integrated Oversight Committee (IOC),

and Program/Project Steering Committees. Applicable stakeholders and disciplines meet regularly to govern the business case and subsequent programs and projects.

The IOC evaluates and compares all of the application portfolio project priorities on a bi-weekly basis, utilizing risk, capacity, and other situational factors to ensure each planned project is meeting critical milestones. The TPG sets priority across the technology investment portfolio, balancing: strategic alignment, business value, and customer benefits, as driven by the strategic initiatives established by the ETSC. The Capital Planning Group (CPG), an independent body, establishes funding allocations for each Business Case across the enterprise.

The Business Case is largely limited by the funding allocation and resource capacity (staff) to meet its goals. The funding is generally established at the Business Case level by the CPG. The resource capacity constraint is generally managed by the TPG and the Business Case owner. Once the two constraints are established, the Business Case owner will work with steering committee(s) to set project priority and sequence over a five-year planning period, subject to additional funding changes as directed by the CPG.
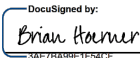
Project prioritization is evaluated by the management team on a weekly basis through the IOC. Each program and project steering committee meets regularly and oversees scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the TPG or CPG for decision-making around resource or funding constraints.

Any changes in funding or scope are documented at the Business Case level, via a Change Request document that is presented to the CPG on a monthly basis and evaluated by the CPG for approval.

Changes in scope, schedule, or budget are also documented through a 'Change Request' at the project level and reviewed and approved through a formal workflow process. All Enterprise technology projects in this business case are managed through the PMO, which follows the Project Management Institute (PMI) standards. Projects initiate with a 'Charter' to begin the planning process. When planning is complete, a 'Project Management Plan (PMP)' is created and approved as the projects baseline for scope, schedule, and budget. At the end of execution, an 'Approval to Go Live' is submitted and approved prior to implementation (Transfer to Plant). After the technology is in service and out of the warranty period, the Project Manager will hold a Lessons Learned, and subsequently submit an 'Approval to Close' prior to finishing the project. All Monitor and Control documentation and Change Requests are documented and stored to ensure a comprehensive audit trail. ⌷OBJ⌷

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the *Energy Resources Modernization and Operational Efficiency* and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Brian Hoerner*	Date:	May-01-2024 | 2:32 PM PDT
Print Name:	Brian Hoerner		
Title:	Manager, Application Delivery		
Role:	Business Case Owner		

Signature:	*Scott Kinney*	Date:	May-02-2024 | 6:37 AM PDT
Print Name:	Scott Kinney		
Title:	VP, Energy Resources		
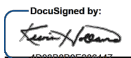
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Energy Resources Modernization & Operational Efficiency (ERMOE) Technology

Role:	Business Case Sponsor

Signature:	*Hossein Nikdel* (DocuSigned by)	Date: May-01-2024 | 12:55 PM PDT
Print Name:	Hossein Nikdel	
Title:	Director, Applications & System Planning	
Role:	Steering/Advisory Committee Review	

Signature:	*David Howell* (DocuSigned by)	Date: May-01-2024 | 12:58 PM PDT
Print Name:	David Howell	
Title:	Director, Generation, Production, & Substation Support	
Role:	Steering/Advisory Committee Review	

Signature:	*Kevin Holland* (DocuSigned by)	Date: May-01-2024 | 2:18 PM PDT
Print Name:	Kevin Holland	
Title:	Director, Energy Supply	
Role:	Steering/Advisory Committee Review	

Signature:		Date:
Print Name:		
Title:		
Role:		

Energy Trade & Risk Management (ETRM) Implementation

EXECUTIVE SUMMARY

Avista's Energy Supply business processes and complexities have expanded significantly with western organized market expansion, reductions in bi-lateral trading partners, the need to understand credit positions and requirements, and the tightening of emission and renewable regulations. To meet these existing and additional market complexities in the near future, the Company requires a vendor-supported Energy Trade and Risk Management (ETRM) system to meet current, and future electric and natural gas wholesale operational needs. Avista has relied on Nucleus since 2001 – an in-house application supporting core functions across Energy Supply, System Operations, Transmission Services, Risk/Credit, Resource Accounting, and Compliance. The Company has added additional functionality well beyond its original intent, resulting in a complex and highly integrated data system. Additional development of the system is not advantageous for the Company, as Nucleus has reached the end of its useful life. The risks associated with retaining the system can be summarized into two main categories:

Software Obsolesces / System Limitations:
- Oracle will cease new software development of its Forms and Reports software platform as of December 2026. When end of life support is reached, Oracle will no longer provide updates for security vulnerabilities, critical patches, or performance improvements. Integrating additional market software on an obsolescing platform involves unnecessary risk and should be resolved with a vendor-supported solution.

- Existing Nucleus limitations such as spreadsheet reliance and limited market/credit/carbon position visibility hinder efficiencies and expose the Company to unnecessary cost risks.

Organized Market Opportunities / Compliance:
- In March 2022, Avista joined the Western Energy Imbalance Market (WEIM) – an intra-hour market – operated by the California Independent System Operator (CAISO). The CAISO will launch a day-ahead market in the fall of 2026.

- In the summer of 2027, the Company is likely to enter as a binding participant of the Western Resource Adequacy Program (WRAP) – a regional compliance program for addressing resource adequacy and reliability needs.

- In 2027, Southwest Power Pool (SPP) will bring Markets+, the second organized market to the west, offering a combined intra-hour and day-ahead market.

- By 2027, the west's intra-hour and day-ahead energy will transact in organized markets, impacting bilateral liquidity and transmission availability. To avoid those risks, the Company needs to evaluate the customer benefits of the CAISO and SPP markets and choose a single organized market – as Avista cannot operate in both simultaneously, nor would it be viable avoid joining a day-ahead market.

A Customer Internal Rate of Return (CIRR) analysis was conducted with consultant Utilicast estimates for a vendor supported ETRM implementation and in-house Very

Energy Trade & Risk Management (ETRM) Implementation

Rough Order of Magnitude (VROM) estimates for an in-house rewrite of Nucleus – see Figure 1 below.

Figure 1 – Customer Internal Rate of Return Analysis[1]

Customer Internal Rate of Return Analysis		
Scenario	CIRR	Annual Revenue Requirement
Nucleus VROM Rewrite	11.96%	$3,711,125
Nucleus VROM Rewrite (+50% contigency)	3.48%	$5,575,969
Purchase ETRM Utilicast Estimates	3.44%	$5,495,432
Purchase ETRM Utilicast Esimates (+15% contigency)	2.64%	$6,225,951

Although the internal re-write of Nucleus, as compared with the Utilicast estimates of purchasing an ETRM, provides the highest rate of return for the customer, it does not address the risks associated with continued internal custom development or resolve business needs that are lacking in the current Nucleus system. The Company prefers not to bear the responsibly of custom software development, with interpretation of market rules and logic or carry the expertise for on-going support of custom of in-house solutions. Although a re-write of Nucleus may address the Oracle Forms and Report end of life support, it does not address the business needs and risks discussed in Section 1.1 and Section 1.3. Rewriting Nucleus does not allow the Company to leverage an existing and proven vendor solution or native integrations amongst a single vendor as additional organized market software is needed. See Section 2.2 for additional CIRR information.

This BC requests $30.3 million in capital and $3.2 million in expense over a four-year period beginning in 2025 to implement a vendor supported ETRM system and the foundation for future organized market expansion.

VERSION HISTORY

Version	Author	Description	Date
1.0	*Kelly Dengel*	*Initial draft of original business case*	*05/24/2023*
BCRT	*BCRT Team Member*	*Reviewed by BCRT and meets necessary requirements Steve Carrozzo*	*05/23/2023*
2.0	*Kelly Dengel*	*Business case – 2024 update*	*04/23/2024*
BCRT	*BCRT Team Member*	*Reviewed by BCRT and meets necessary requirements Steve Carrozzo*	*04/29/2024*

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[1] Cost estimates include implementation and post-implementation maintenance capital and expense.

Energy Trade & Risk Management (ETRM) Implementation

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$2,300,000	
2026	$11,900,000	$14,200,000
2027	$12,300,000	
2028	$3,800,000	$16,100,000
2029		

Project Life Span	4 Years
Requesting Organization/Department	Energy Supply
Business Case Owner | Sponsor	Kevin Holland | Scott Kinney
Sponsor Organization/Department	Energy Supply
Phase	Initiation
Category	Project
Driver	Asset Condition

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

Investment Drivers

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Energy Trade & Risk Management (ETRM) Implementation

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

    ## 1.1 What is the current or potential problem that is being addressed?

    Nucleus is a legacy, custom-coded system that allows Avista to conduct wholesale natural gas and electric transactions, bill transmission customers, track wholesale risk/credit obligations, manage energy schedules, interface complex data sources with multiple internal and external systems/entities, conduct financial energy accounting and ultimately, operate the Company's electric and gas systems for customers. It is literally "the Nucleus" of the Energy Supply, System Operations, Transmission Billing, Risk/Credit and Resource Accounting departments and the system of record for all associated transactions. As Avista prepares for an increasingly complex future with organized market expansion, jurisdictional resource allocation, increasing carbon compliance laws, and risk/capital management requirements, relying on antiquated and unsupported software isn't beneficial for the Company or its customers.

    In 2023, Nucleus enabled more than $431 million in wholesale electric purchases and sales, $50 million in transmission and almost $480 million in natural gas transactions – see Figure 2. Those transactions, along with Nucleus functionality, allow Avista to balance generation and customer load, while optimizing generation, transmission, and natural gas assets to provide reliable power and generate customer value. Without an ETRM system, Avista would be at the mercy of spreadsheets and paper to manage a multi-million-dollar business – leaving the Company and its customers at risk for unplanned outages, decreased optimization, and increased costs due to poor visibility of system operations and market position.

    Figure 2 – Nucleus Wholesale Transaction Totals[2]

	Nucleus Transaction Totals 2023			
	Purchase		**Sales**	
Commodity	*Amount*	*Cost*	*Amount*	*Cost*
Electric	5,601,050 MW	$ 191,172,493	3,521,491 MW	$ 240,236,330
Transmission	215,115 MW	$ 19,063,436	4,446,353 MW	$ 30,969,981
Natural Gas	120,408,856 MMBTU	$ 425,934,141	114,836,128 MMBTU	$ 53,656,676

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[2] Based on Resource Accounting forms filed with FERC in 2024 for 2023 actuals. Excludes EIM transactions.

Energy Trade & Risk Management (ETRM) Implementation

To continue providing that customer value, while simultaneously adapting to complex market changes in the west, Avista needs a vendor supported ETRM to maintain wholesale operations, while planning for significant organized market business changes. Over the last 20 years, Avista chose to develop additional functionality in Nucleus instead of pursuing off-the-shelf products, including system operations and energy management functions such as tag calculations, metering calculations, and inadvertent energy management that are better suited for a balancing authority operation and/or an energy management application. Nucleus has reached its useful life and is at a point where additional development for on-going use is not advantageous for the Company and elevates risk as market operations complexity increases. While the system is currently stable and avoid risks after software support has ended, the Company should implement a commercial ETRM prior to joining another organized market.

Nucleus has limitations that require spreadsheets, manual input, and cause inefficiencies. Critical business functions, including energy market hedging, credit and market position reports, resource optimization, and clean energy/carbon compliance obligations are conducted on highly complex and sophisticated spreadsheets using Nucleus data. These require knowledge of the Nucleus database and a deep understanding of the business logic to maintain. Avista anticipates significant day ahead market process changes in regard to scheduling, tagging and transmission, and will benefit from a natively integrated ETRM and market software solution for processing the 24-hour day-ahead market solution.

In terms of carbon emission compliance and multi-jurisdictional requirements, the tracking of Renewable Energy Credits (RECs), Renewable Thermal Credits (RTCs) and carbon allowances has become increasingly more important. A modern ETRM will allow the Company to manage these commodities with system visibility to overall position, costs, optimization opportunities, and compliance obligations instead of relying on a spreadsheet. To ensure adequate compliance, while optimizing REC sales for customer benefit, the Company needs a system that can provide visibility to the multi-year compliance obligation and the current year's REC forecast (amongst other compliance instruments) to proactively manage the position – avoiding the over selling of RECs and a costly compliance deficit.

The Company needs a system that can forecast a near real-time current credit and collateral position when making transactions across multiple trading horizons such as term to balance of the month to day-ahead. In addition, the Company would benefit from a credit analyzer feature to understand the impact a potential deal would have on Avista's credit position. As the commodity and borrowing costs have increased, visibility to credit limits has come increasingly important in managing price volatility. Without these tools, the Energy Supply team is making decisions without understanding the full impact to credit, which has a cascading affect across the Company.

Energy Trade & Risk Management (ETRM) Implementation

While the ETRM will support both natural gas and electric operations, the Company will need to implement the electric business first in anticipation of additional market software and business changes associated with the WRAP and a day-ahead market. In 2027, the Company will likely enter as a binding participant of the WRAP and join a day-ahead market operated by CASIO or SPP soon after to reduce operating risk and optimize the full value these critical regional programs offer. It is highly possible Avista will need to start a market implementation while the ETRM implementation is in progress, which is why the ETRM implementation must start in 2025.

1.2 Discuss the major drivers of the business case.

The primary investment driver for this BC is Asset Condition, as Nucleus is an aging and obsolescent application approaching Oracle's end-of-life support in December 2026. It is the core of wholesale operations and the official system of record, as this system allows Energy Supply and System Operations to perform their job functions in providing reliable and cost-effective power and natural gas, as well as allocate settlement and transmission charges for Resource Accounting and Transmission Billing.

A secondary investment driver is Performance and Capacity, as this software enables whole operations and lays a foundation for future market integration. Maintaining the intra-hour organized market operations, while joining a day-ahead market allows the Company continued access to available power – especially cost-effective wind and solar across the region – and the ability to maintain flexibility with its hydro resources, both of which generate value for customers. Abstaining from an organized market (intra-hour or day-head) will severely limit – if not eliminate – the Company's access to market energy and third-party transmission capacity needed for meeting hourly energy needs.

Energy Trade & Risk Management (ETRM) Implementation

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

In the fall of 2022, Avista contracted Utilicast – an utility consultant and proven system integrator in Avista's Western Energy Imbalance Market implementation – to conduct a <u>Nucleus/ETRM assessment</u>. The assessment identified risks, key business processes, ETRM vendor options and an estimate of implementation costs over a three-to-four-year period. They identified 17 risks across the areas of personnel, process, and technology, and by severity of critical, high, medium and low (see Figure 3 below – Nucleus Risk Summary). Of the identified risks, spreadsheet reliance and personnel retirement were scored as critical, while new market opportunities, software obsolescence and developer retainment were scored as high. As such, there are two primary areas of concerns with retaining Nucleus for wholesale operations: software obsolescence and system limitations, and ensuring the Company is well positioned to take advantage of future market opportunities and comply with multi-jurisdictional obligations.

Figure 3 – Nucleus Risk Summary
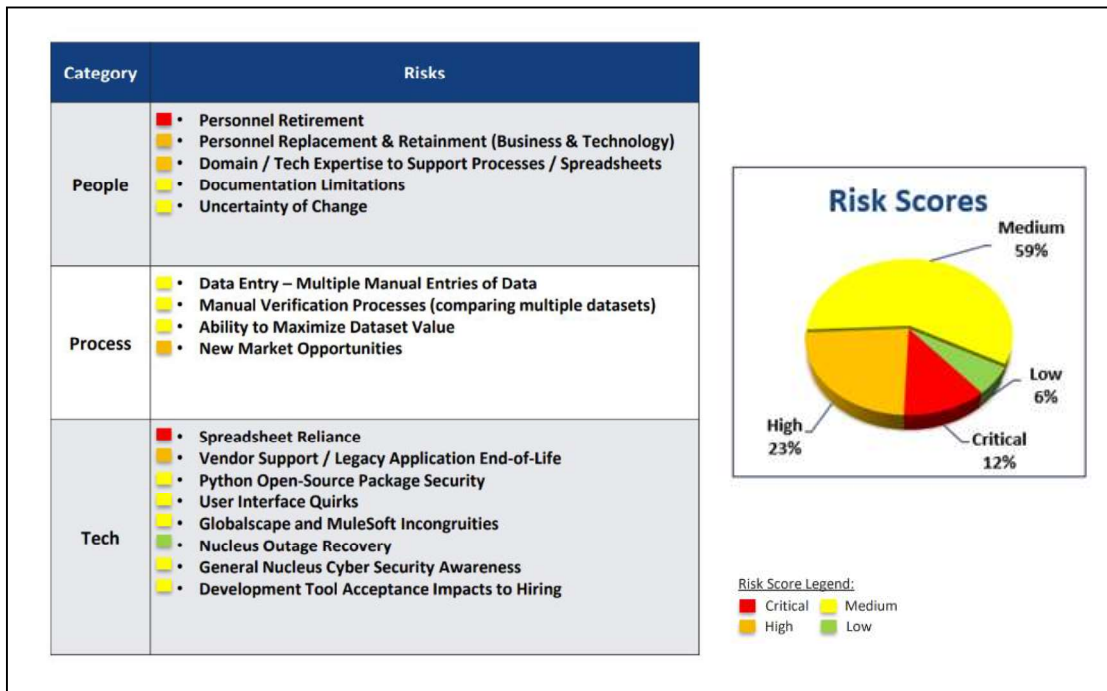
Software Obsolescence/System Limitations: The Nucleus application has been in use for more than two decades and is approaching technology obsolescence by December 2026. Oracle Forms & Reports is the technology upon which the Nucleus interface is built and is considered a legacy application.

Energy Trade & Risk Management (ETRM) Implementation

As legacy systems age, they limit the business' ability to evolve and stay nimble as processes change and new requirements emerge. This limitation is often driven by a vendor's discontinued development of the software, technical limitations, and on-going support. Over time, this results in inaccessible data, system complexities, limited functionality, rigid structure, cybersecurity vulnerabilities, and an overall decrease in system performance.

These limitations are present in a lack of near real-time credit position visibility, carbon compliance tracking (RECs, RTCs, carbon allowances) deal to tagging automation, spreadsheet reliance, automated validation and error handling resolution, and compatibility with organized market integrations. In addition, the risk of continuing with unsupported software introduces additional security vulnerabilities and requires Avista to become an expert in interpreting requirements and developing market software. For additional software limitation explanation see Section 1.1.

Market Opportunities/Compliance: As clean energy requirements continue in complexity and organized markets continue expansion in the west, the Company should utilize an industry-standard software from a vendor that is interpreting requirements and developing solutions for all utilities, instead of continuing to customize Nucleus – or even consider other custom in-house solutions. Nucleus was not designed for the complexity of organized markets (intra-hour or day-ahead), or the level of tracking required for carbon compliance and multi-jurisdictional energy requirements. Commercial ETRMs have native functionality for regulatory and compliance obligations that legacy systems or spreadsheets cannot. By relaying on an industry software vendor to implement a solution, Avista is transferring risk associated with market rule interpretation, implementation timing and data accuracy. In addition, Avista needs an ETRM that will natively integrate with organized market software for efficient wholesale operations and avoid custom integrations.

Continuing to rely on Nucleus does not provide a solid foundation for which the Company will execute on future energy supply opportunities, including becoming a binding WRAP participant in 2027, evaluating additional organized market opportunities with CAISO and SPP, joining a day-ahead market and potentially joining a Regional Transmission Organization (RTO). The Company will benefit from a single vendor to accommodate ETRM and other market software needs with native integration to avoid custom integrations across disparate, multi-vendor platforms. Addressing this need ahead of the next market integration will reduce the risk of simultaneously integrating an ETRM, while also implementing new market software. A vendor supported, modern ETRM will reduce manual processes and the opportunity for human error, decrease reliance on extraordinarily complex spreadsheets, accommodate current and future market needs, increase automated validation, provide near real-time position visibility, and natively integrate to reduce siloed workflows.

Energy Trade & Risk Management (ETRM) Implementation

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*. **AVISTA STRATEGIC GOALS**

Mission Statement excerpt: "By delivering energy safely, responsibly, and affordably, Avista helps empower our customers to live their lives to the fullest." An ETRM system is at the core of system operations and energy market functions, which enables Avista to deliver safe, reliable and responsible energy. Given the changing market landscape, carbon compliance obligations, and elevated credit/collateral requirements, Avista's needs a modern ETRM to improve current operations and integrate future organized market software. A vendor supported ETRM will reduce the risk of manual input error, spreadsheet reliance, risk of system failure and reduce inefficiencies. In addition, it will allow the Company to leverage contemporary industry wide ETRM solutions and features, while transferring compliance risk associated with organized market changes.

Energy Trade & Risk Management (ETRM) Implementation

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.

Through an inventory of business processes in the 2022 assessment, Utilicast identified core ETRM functionality versus functionality better suited for another system, including meter data management and balancing authority area functions. The Utilicast estimated funding requirements include costs for migrating Nucleus functionality to non-ETRM systems which may or may not already be in Avista's environment. They also assume a software as a service (SaaS) implementation.

Based on Utilicast experience with ETRM implementations, software vendors and Avista's internal labor contribution, the 2022 assessment provided a total implementation estimate range of $21.5 million to $26.3 million, including capital and expense integration costs, system integrator and vendor(s) costs. Based on accounting rules, once a decision has been made to replace a system (likely upon signature of a software contract), any future work on the existing system, regardless of type, is expense. As such, the implementation expense estimates include expense labor associated with maintaining Nucleus during the four-year implementation period. See Figure 4 for the original 2022 Utilicast estimates, which were used in the 2023 BC request.

Figure 4 – 2023 Original ETRM Cost Estimates[3]

| | ETRM Cost Estimates | | | |
| | Implementation | | Maintenace | |
Year	Capital	Expense	Capital	Expense
2025	$2.0	$1.2		
2026	$10.0	$0.8		
2027	$10.0	$0.5		
2028	$3.0	$0.3		
2029			$0.5	$1.2
Totals	$25.0	$2.7	$ 0.5	$ 1.2

in Millions

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[3] See the "Financial Estimates Tables – Utilicast Nucleus Assessment" Excel spreadsheet for cost estimating detail as included in Utilicast's "Avista Nucleus CTRM Assessment" final report.

Energy Trade & Risk Management (ETRM) Implementation

Figure 5 below represents the 2024 estimates for both implementation and post-implementation (capital and expense), which have been adjusted based on projected inflation rates. This 2024 BC requests $30.3 million for capital implementation costs, $3.3 million for implementation expense for the Request for Proposal (RFP) software process (estimated at $1.2 million) and various non-capital implementation costs (including Nucleus expense labor). The total estimated implementation cost over the four-year period is $33.6 million. Ongoing annual capital investments are estimated at $0.8 million and software license/maintenance costs are estimated between $0.60 million and $1.3 million. Cost estimates and project timeline will be updated after the system integrator and software RFP(s) selections are complete.

Figure 5 – 2024 Adjusted ETRM Cost Estimates[4]

| | Adjusted ETRM Cost Estimates | | | |
| | Implementation | | Maintenace | |
Year	Capital	Expense	Capital	Expense
2025	$2.3	$1.4		
2026	$11.9	$0.9		
2027	$12.3	$0.6		
2028	$3.8	$0.4		
2029			$0.8	$1.3
Totals	**$30.3**	**$3.3**	**$0.8**	**$1.3**
				in Millions

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[4] Updated ETRM implementation cost estimates for implementation and post-implementation maintenance, capital and expense, have been adjusted for inflation with year 2025 at 5% and years 2026-2028 at 3%.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

With the tightening of carbon regulations, multi-jurisdictional obligations and western organized market expansion, Avista is facing a complex energy future. A future of change that must be planned and sequenced in order to maintain operations, while adopting market changes to meet future operating requirements. With these unavoidable market changes coming in 2027 and 2028, the Company is attempting to reduce operating risk by starting this implementation in 2025 to avoid simultaneous ETRM and market expansion software changes. Although Avista plans to implement the electric business first, followed by natural gas, there is a risk of starting an organized market implementation while the electric implementation is still in progress or before the project has even begun.

Implementing a vendor-supported ETRM allows Avista to transfer the risk and responsibility of system enhancements, upgrades, and maintenance to the vendor, while leveraging industry-wide utility features and functionality common in a commercial ETRM, including those Avista has traditionally conducted on spreadsheets. Commercial ETRMs have native functionality that allows utilities to accommodate regulation and compliance obligations that legacy systems or spreadsheets are not well-equipped to manage. As state's carbon policies evolve and mandate a decarbonized grid, Avista needs a system to monitor and report carbon emissions, track compliance instruments or credits and optimize offsets.

Instead of developing Avista-specific tools in Nucleus, the Company should leverage vendor provided tools, as they service multiple utility customers with the same needs. Avista foresees a modern ETRM system that will allow for an integrated platform that manages front office (merchant/system operations/transmission services/natural gas), middle office (risk/credit) and back office (financial accounting) tasks, and natively integrate across multiple systems and with organized market software. The remaining Nucleus functionality not provided by a commercial ETRM application will transfer to other industry standard commercial solutions to accommodate energy accounting and balancing authority operations with user-configurable interface that can adapt to changing business needs. As the Company considers future software needs, they will strongly consider single vendor solutions for native integration amongst systems, implementing standard functionality and configuration, and leveraging bundled pricing to save on integrations and maintenance costs. Where possible the Company intends to avoid "best of breed" systems with custom integrations.

If this effort is not funded, Avista will assume a myriad of unnecessary risks and liabilities in continuing with an end-of-life system, and jeopardize preparedness for future market integration, which will impact market liquidity and transmission access.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).

As based on a Customer Internal Rate of Return (CIRR) analysis (see Figure 5 below), a comparison of four costs estimates were considered, including the updated Utilicast costs estimates (Figure 5 above), the internal Very Rough Order of Magnitude (VROM) estimates of re-writing Nucleus (Section 2.5 / Figure 6 below), the Utilicast estimates increased by 15 percent and the rewrite VROMs increased by 50% (see Figure 6 below).

The internal VROM estimates (-/+50% accuracy) and the Utilicast estimates are not a like for like comparison. For an adequate cost estimate comparison, the Company would need to issue an RFP for a re-write of and an RFP to implement a vendor supported ETRM – both would include requirements to address the business risks/needs identified in this BC.

Figure 6 – Customer Internal Rate of Return Analysis[5]

Customer Internal Rate of Return Analysis		
Scenario	CIRR	Annual Revenue Requirement
Nucleus VROM Rewrite	11.96%	$3,711,125
Nucleus VROM Rewrite (+50% contigency)	3.48%	$5,575,969
Purchase ETRM Utilicast Estimates	3.44%	$5,495,432
Purchase ETRM Utilicast Esimates (+15% contigency)	2.64%	$6,225,951

Although the internal re-write of Nucleus provides the highest rate of return for the customer, as compared with the Utilicast estimates of purchasing an ETRM, it does not address the risks associated with continued custom development or resolve business needs that are lacking in the current Nucleus system. The Company does not want to bear the responsibly of custom software development, with interpretation of market rules and logic, carry the expertise

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[5] Cost estimates include implementation and post-implementation maintenance capital and expense over an assumed 15-year life.

Energy Trade & Risk Management (ETRM) Implementation

for on-going support of custom of in-house solutions or support the multiple Nucleus interfaces that have evolved over the 20 plus years of operation. Although a re-write of Nucleus may address the Oracle Forms and Report end of life support, it does not address the business needs and risks discussed in Section 1.1 and Section 1.3. Rewriting Nucleus does not allow the Company to leverage an existing and proven vendor solution or native integrations amongst a single vendor as additional organized market software is needed.

2.3 Summarize in the table and describe below the DIRECT offsets[6] or savings (Capital and O&M) that result by undertaking this investment.

There may be direct offsets related to implementing an ETRM and associated systems. However, based on Utilicast estimates – see Figure 4 above – post implementation licensing/maintenance support estimates will increase expense costs, while capital expenses are expected to stay flat. Direct offset opportunities will be reviewed and updated after the software RPF is conducted and the vendor(s)/applications(s) are selected.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M	ETRM license/maintenance	$0	$0	$0	$0	$1.3M

2.4 Summarize in the table and describe below the INDIRECT offsets (Capital and O&M) that result by undertaking this investment.

A new ETRM will allow Avista to continue to conduct wholesale energy sales – see Figure 1 above – and capture additional organized market benefit. Any costs/benefits associated with ETRM transactions are indirect and will flow through the state's recovery mechanisms – Idaho's Power Cost Adjustment (PCA) and Washington's Energy Recovery Mechanism (ERM). Indirect offsets opportunities will be reviewed after the software RPF is conducted and the vendor(s)/applications(s) are selected, however indirect offsets are more strongly associated with enabling wholesale transactions and should be reviewed after the new system is in production.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M		$0	$0	$0	$0	$0

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[6] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, which were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1: Custom In-House Application Rewrite

In 2017 and 2018, the Company discussed options for replacing Nucleus, including re-writing the application layer and retiring Oracle Forms & Reports, while also evaluating the options and impacts of joining the WEIM operated by CAISO. By Q3 2018, the Company had hired Utilicast to conduct EIM preparedness assessments and on April 25, 2019, Avista signed the WEIM Implementation Agreement with CAISO to join the market in March 2022. At that point, discussions about Nucleus replacement options were paused as the Company focused resources on the multi-year, multi-million EIM implementation.

During that analysis period, Avista was made aware of three known production instances of Nucleus at Shell Energy, Dominion Energy and Florida Light and Power. In September 2018, Avista contacted Shell Energy about their version of Nucleus (likely branching from Avista's Nucleus code base around 2001) and their front-end rewrite of the system. Shell Energy had hired a software development company called Paragon to re-write 375 screens and 200 reports with 19 developers over a two-year period. At that time, the Company did not contact the other two utilities, nor did they know Shell Energy's costs associated with the effort.

For this 2024 BC update, the Company has drawn from Shell Energy's 2018 information to estimate costs for an in-house, on premise re-write of Nucleus. The Company also contacted Dominion Energy and Florida Light and Power about their use of the Nucleus product. Florida Light and Power confirmed they hadn't used Nucleus in at least 10 years. After retiring Nucleus, they implemented another in-house custom solution and are currently planning a commercial, vendor-supported implementation. After multiple email and phone call attempts were made to discuss Nucleus with Dominion Energy, a contact there reported Nucleus had not been in use at Dominion for many years and there wasn't anyone still employed with the company who could speak to its use. Based on this information, there are two known implementations of Nucleus still in use today – Avista and Shell Energy.

Based on Shell Energy's resource count, timeline and number of screens/reports, a very rough order of magnitude (VROM) estimate could be established at $9.5 million in 2024 dollars with a loaded and blended rate of $120/hour per developer. However, Avista has at least a third more screens and reports, which would bring the VROM estimate to $12.5 million. In addition to

forms and reports replacement, Avista would also need to address the numerous integrations and security vulnerabilities present in the existing version of Nucleus. Over the last 20 years, security protocols for integrations have improved with the use of Secure Sockets Layer (SSL) encryptions. However, Nucleus has interfaces that aren't able to use SSL encryption or encrypted email. Based on previous internal integration and security vulnerability remediation efforts, a VROM estimate would include four developers working half time throughout the project at $1.5 million. Implementation expense as been estimated at $1.0 million – see Figure 7 for total VROM estimates.

Figure 7 – Custom In-House Application Rewrite VROM Estimates[7]

| Item | Nucleus Re-Write Cost VROM Estimates | | | |
| | Implementation | | Maintenace | |
	Capital	Expense	Capital	Expense
Forms/Reports	$12.5	$0.5	$1.5	$0.3
Security/Integrations	$1.5	$0.5		
Totals	**$14.0**	**$1.0**	**$1.5**	**$0.3**
Uncertianty -50%	$7.0	$0.5	$0.8	$0.1
Uncertianty +50%	$21.0	$1.5	$2.3	$0.4
				in Millions

These VROM estimates require a plus or minus 50% uncertainty factor and were compiled based on internal experience and knowledge. The Company did not contact an outside software development company or issue a Request for Information (RFI) or RFP. As such, a $14 million VROM for an in-house rewrite of Nucleus, provides a cost range of $7 million to $21 million capital for the implementation and a range of $0.5 to $1.5 million in implementation expense. In terms of post-implementation costs, a VROM range of $0.8 to $2.3 million in capital and $0.1 to $0.4 million in expense has been estimated – these estimates are not incremental to the existing Nucleus capital and expense spend. These VROM estimates were compared to the Utilicast estimates for a CIRR analysis in Section 2.2.

This custom in-house rewrite of the Nucleus application does not meet the following business needs and objectives, or mitigate risk concerns:

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[7] Avista did not issue an RFI/RFP for these VROM estimates. Internal estimates assumed hiring staff with appropriate skill set, developing an on-premises solution with a desktop client – not at a cloud hosted (Avista or third-party) web-based client, which would have increased implementation and maintenance costs. Although the database is expected to pose limitations (regardless of on-prem or cloud implementation), this re-write scenario assumes the existing database is able to accommodate all future business and technical requirements.

- Avista has made a corporate decision that it is not a software development company and will instead purchase and configure industry-standard applications to reduce the risks and costs of owning and maintaining custom applications.
- Avista does not staff the technical or business knowledge required for this undertaking.
- Replacing Nucleus would require the Company to carry the sole responsibility for resolving performance, accuracy, and reliability issues with a first-generation application.
- The Company anticipates the Nucleus database will pose limitations to future organized market operations and already limits business operations with spreadsheet workarounds. If the Company were to start this project and change scope mid-project to implement a new database, it would jeopardize costs and schedule, and increase complexity. Replacing the entire system with in-house technology would require implementing and maintaining a full software stack from a front-end browser, middle ware, database, security protocols, and a host of other technologies to maintain and update.
- Developing another in-house custom solution does not position the Company well for integrating additional organized market software. Ideally, the Company would select a vendor who could provide an ETRM solution and organized market software to leverage native integration amongst the systems.
- See Section 1.1, Section 1.3 and Section 2.2 for additional business needs and risks this alternative does not accommodate.

Alternatives 2, 3, 4: The following alternatives continue with in-house development and support of Nucleus. Based on information available as of April 2024, annual O&M support for Nucleus is approximately $0.05 million a year and capital investments range between $0.70 to $0.95 million a year. These alternatives do not solve the business problem in preparing for organized market expansion, multi-jurisdictional obligations/tracking or alleviate the unnecessary risks and liabilities associated with using a software system beyond its end-of-life date. They do not protect against cyber security threats, remediate integrations limitations, or enable performance upgrades and improvements.

Alternative 2: Expect Oracle to Extend the End-of-Life Support Date
Although Oracle has extended the end-of-life support date in the past, there is no guarantee Oracle will continue to do so in the future. When the future of Nucleus was discussed in 2017, the end-of-life support date was planned for October 2020 with an extended support date of October 2023. As of April 2024, the end-of-life support has been extended to December 2026, with extended support expiring in December 2027.

Alternative 3: Purchase Oracle's Extended Support

Based on a call with Oracle in May 2023, end-of-life support was planned for December 2025, with an option to purchase extended support to December 2027 for an additional fee. As of April 2024, the end-of-life support has been extended to December 2026, with extended support expiring in December 2027. The extended support does not offer access to new or on-going updates as Oracle will not develop any – it only allows to access existing updates from Oracle, providing no real value.

The incremental cost to purchase extended support would be based on Oracle's annual costs at the time of the purchase. They are estimated at 10 percent of the licensing/support costs for year one of support and 20 percent for year two. Based on the April 2024 Oracle WebLogic Suite annual costs of $0.06 million, two years of extended support is estimated at $0.02 million. Purchasing this support extension would be based on future Oracle costs, which are unknown, but are expected to increase by 8 percent annually based on Oracle's pricing policy.

Alternative 4: Operate Application Without Oracle Support
Avista may also chose to continue use of Nucleus beyond the current Oracle end-life-life support date of December 2026 and/or chose not to purchase the extended support, as it offers no value.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Although early in the initiation phase of this ETRM implementation, the following metrics may be leveraged to measure success including the Company's ability to maximize organized market participation and benefits, optimize transmission sales, the ability to supply and deliver natural gas and power and the ability to meet compliance and program obligations under NERC, FERC or the WRAP. Metrics will be reviewed and updated after the RPF phase.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The 2022 Nucleus/ETRM assessment conducted in partnership with Utilicast, provided an estimated implementation of three-to-four years. The project must first conduct a software RFP and select a vendor(s), which is planned for early 2025 with the capital project beginning in late 2025. If capital and expense funding for this BC is not approved to begin in 2025, the project would be delayed to 2026 which increases operating performance risk and jeopardizes future organized market opportunities. Utilicast provided an estimated timeline for delivery for electric and natural gas, however that schedule is dependent on chosen vendor capabilities and business priorities. An updated delivery timeline will be provided

after the system integrator, software vendor(s) have been contracted and business priorities have been reviewed and prioritized.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.
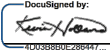
This BC will have two levels of governance: the Director Steering Committee and the Executive Steering Committee. The committees will review monthly project status reports, which identify project scope, schedule, and budget, as well as risk or issues the project team has identified.

Status reports to the steering committees will be used as the official review and approval process for decisions, prioritization and change requests. Risk, issues and change requests will be documented in project logs and kept as artifacts.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Energy Trade & Risk Management Implementation BC and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	Date: Apr-29-2024 | 12:19 PM PDT
Print Name:	Kevin Holland
Title:	Director, Energy Resources
Role:	Business Case Owner
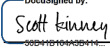
Signature:	Date: Apr-30-2024 | 3:48 PM PDT
Print Name:	Scott Kinney
Title:	Vice President Energy Resources
Role:	Business Case Sponsor

Signature:	Date:
Print Name:	
Title:	
Role:	Steering/Advisory Committee Review

Financial and Accounting Technology

EXECUTIVE SUMMARY

The Finance and Accounting Technology Program[1] Business Case sponsors the financial applications that are critical to Avista's financial health, regulatory compliance, and supports the business areas operational and strategic initiatives. The Finance and Accounting business areas include Financial Planning & Analysis, Corporate Accounting, Utility Accounting, Revenue-Financial Systems, Accounts Payable, Remittance, Resource Accounting, EIM Settlements, Risk Management, Treasury, Tax Services and Data Science.

Avista's Finance and Accounting technology systems are a necessity as they provide critical financial, economic, regulatory and budgetary business functions that support our employees and customers throughout all service territories. These vital systems require systematic upgrades and enhancements to maintain reliability, compatibility, and reduce security vulnerabilities.

This business case is necessary to fund the portfolio of components that maintain the applications and licenses necessary to meet internal and external business processes and objectives. In addition, it will enable the automation of manual business processes in order to strengthen our ability to perform, which impacts our capacity to achieve stated financial objectives and affordably operate and maintain safe and reliable generation and energy delivery infrastructure.

In order to maintain these business processes and systems supported by this business case, the recommended funding amount is $19,325,000 over the next five years. This funding level will provide the appropriate technology and development resources to meet the periodic upgrades and enhancements prioritized by the Finance and Accounting Governance committee. This funding level also considers the development staff required to maintain these core technology solutions. The cost of these solutions varies by scale of footprint and resource models. The technology under this program undergoes regular utilization and performance reviews to determine expected standards and capacity requirements to maintain system reliability under the established budget allocations and respective technology lifecycles. These reviews can result in periodic supplementary investment demands as a result of technology lagging behind its lifecycle or predetermined performance standards. The technology, tools, and systems under this program benefit Avista customers, as they support company-wide business application systems that empower employees to perform at a more strategic level.

Failure to approve the recommended funding would cause the deferment of upgrades and enhancements, resulting in unsupported applications, which in turn results in increased security liability, non-compliance, and significantly higher operational and future capital costs. It would also risk the reduction of skilled resources resulting in the loss of institutional business processes and technology skillsets in an exceptionally competitive market.

This Business Case plan was created by the Business Case Owner, Domain Architect, Product Owner, Business Technology Analyst, and the ET Project Management Office and approved by the Finance and accounting Governance Team (includes Business Sponsor, Director and Managers within Finance and Accounting).

VERSION HISTORY

Version	Author	Description	Date
1.0	L Raymond	*Updated template and content for new planning cycle*	*04/05/24*
2.0	G. Smith/K. Schuh	*Final Review*	*04/29/24*
BCRT	Jeff Holter	*Has been reviewed by BCRT and meets necessary requirements*	*04/15/24*

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[1] [1] "A Program is defined as related projects, subsidiary programs, and program activities managed in a coordinated manner to obtain benefits not available from managing them individually. Managing projects, subsidiary programs, and program activities as a program enhances the delivery of benefits by ensuring that the strategies and work plans of program components are responsively adapted to component outcomes, or to changes in the direction or strategies of the sponsoring organization.," Project Management Institute Global Standard, *The Standard for Program Management, Fourth Edition. Page 3* (Copyright 2017).

Financial and Accounting Technology

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$4,000,000	$3,850,000
2026	$4,570,000	$3,775,000
2027	$3,640,000	$4,435,000
2028	$3,715,000	$4,075,000
2029	$3,400,000	$3,400,000

Project Life Span	*5 Years (Program)*
Requesting Organization/Department	Finance & Accounting
Business Case Owner | Sponsor	Graham Smith | Ryan Krasselt
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

Investment Drivers

1. BUSINESS PROBLEM - this section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.

1.1 What is the current or potential problem that is being addressed?

This program is required to support the application-related technology initiatives for all areas within Finance and Accounting. These areas include Financial Planning & Analysis (Oracle Enterprise Performance Management and UI Planner), Corporate Accounting (Oracle E-Business Suite), Utility Accounting (PowerPlan Fixed Assets), Revenue-Financial Systems (Oracle E-Business Suite), Accounts Payable (Oracle E-Business Suite and APx), Remittance (Paycourier and OPEX), Resource Accounting, EIM Settlements, Risk Management (Nucleus), Treasury, and Tax Services (PowerPlan Tax Fixed Assets).

Application refresh projects play a crucial role in the realm of finance and accounting. These projects are driven by software lifecycle requirements, necessitating updates, upgrades, or replacements for existing systems. Their purpose is to align with evolving business needs and address technical obsolescence. By undertaking application refreshes, Avista is able to maintain system compatibility, reliability, supportability, and security enhancements.

In today's dynamic landscape, the industry faces rapid technological shifts. To thrive, Avista must adapt their conventional practices and processes. Application expansion becomes imperative as demand evolves, compelling us to enhance the functionality of their software investments.

Financial and Accounting Technology

1.2 Discuss the major drivers of the business case.

The primary investment driver for the Finance and Accounting Business Program is Performance and Capacity. A secondary investment driver, nearly as important as the first, is Asset Condition.

The Finance and Accounting department relies on software for performance and capacity for efficiency and automation of routine tasks such as data entry, reconciliation, and financial reporting. Technology automation reduces manual effort, minimizes human error, and streamlines processes. Data management and accuracy is also a major component, as it enables better analysis that can help identify trends, risks, and growth opportunities.

Many of the applications and respective components in this Business Case provide indirect support to Avista customers through automation efficiencies, accuracy in financial records, timely reporting, and decision making. The lifecycle management of these applications are critical to maintain performance and productivity and are largely dictated by the technology solutions that are used. All of this work is necessary to enable efficiencies, reduce risk and allow Avista to best serve our internal and external customers. Without properly managed business application lifecycles, our customers would potentially see difficulty in our ability to report company financials, which could jeopardize our ability to access capital markets and impair customers' ability to trust our integrity, and the reliability of services that we provide.

Asset condition plays a pivotal role in driving the technology refresh lifecycle due to depreciation and value loss, as newer versions with enhanced specifications are continually released. The ability to manage optimal asset conditions reduces the risks of downtime, resource drain on IT support, and performance factors due to aging technology.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Timely system upgrades and enhancements are essential for maintaining operational efficiency, security, and business continuity. Failing to approve or fund these upgrades exposes Avista to risks, including performance bottlenecks, security vulnerabilities, and business disruptions.

The projects and initiatives outlined in the Finance and Accounting technology roadmap (see section 2.1) provide functional enhancements that address ongoing changes in the workplace, provide increased employee efficiency through the reduction of steps required to complete a task, and better utilization of resources. They shift costs from inefficient processes to more value-driven activities.

Working through these projects as suggested, reduces Avista's overall risk exposure by ensuring Avista is using funds in the most cost-efficient manner and by maintaining a culture of performance and innovation, which has a positive impact on our employees and customers.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. See link.

[Avista Strategic Goals](#)

This is a program with discrete projects and products that strategically aligns with 'Perform' Focus Area. The technology and business processes directly impact our ability to achieve our financial objectives as they are not only providing internal efficiencies, but also serve as the source of record for our financial results. In addition, these internal business technologies enable best practices and impact Avista's ability to affordably operate and maintain safe, clean, reliable generation and energy delivery infrastructure.

Specific Focus Areas include:

- **Perform:** The technology in this business case provides the capability to operate efficiently, make informed decisions, and better navigate the complexities of the industry. It increases employee productivity through the reduction of steps required to complete a task and shifts efforts from inefficient processes to more value-driven activities by leveraging technology to meet business needs. The technology within this program supports the delivery of safe, clean,

Financial and Accounting Technology

reliable energy delivery by enabling prudent financial decisions, risk management, compliance, and efficient resource utilization.

- Our People: Technology plays a critical role in how employees feel about their day to day experience. Employees that are more productive and efficient by using technology, allows them to focus on more strategic objectives that help to propel the company forward. These types of activities naturally promote more resilient, engaged employees that are more performance and results driven.

Primary Focus Area for project (select one):		
☐	**Our Customers**	▪ Mature our customer experience, both internal & external ▪ Support affordability, equity, and economic vitality ▪ Understand and address the evolving needs of our customers
☐	**Our People**	▪ Advance our employee experience with a focus on cultural values ▪ Continuously Improve the safety and wellbeing of our people ▪ Strengthen equity, inclusion, and diversity
☒	**Perform**	▪ Affordably operate and maintain safe, clean, reliable generation and energy delivery infrastructure ▪ Achieve stated financial objectives ▪ Manage risks to protect our employees, customers, communities and owners
☐	**Invent**	▪ Build the utility of the future with our stakeholders ▪ Foster an environment of continuous improvement and transformation

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[2]

Vendor roadmaps and technology asset lifecycles serve as critical data points for planning replacements of existing technology within this program. The goal is to align with business value and strategic objectives while working within the constraints of resource capacity and funding. However, deferring replacements introduces the risk of technology failure. Regular reviews of vendor roadmaps and technology asset lifecycles help track how much our technology investment lags behind the vendor's roadmap, thereby introducing risk to supporting business application systems and their corresponding automated processes.

Other references utilized include:

- Gartner, a renowned authority in Information Technology, offers valuable insights, research, and reference materials. As an industry leader, Gartner provides a deep understanding of market trends, best practices, and informed technology decision-making. For instance, Gartner's 'Magic Quadrant' visually positions technology providers in the market, allowing us to focus on critical capabilities aligned with specific requirements and use cases. This capability significantly streamlines our research, evaluation, and reference-checking efforts. Gartner for Information Technology (IT) Leaders

- SaaS (Software as a Service) Metrics & Adaptive Planning – Moving applications from on-premise to SaaS environments will reduce the amount of capital for internal resources required to maintain, upgrade, enhance, and support the technology solutions along with bypassing the need for hardware to run the applications and the maintenance, support, and upgrades of the hardware as well. It also provides the organization with more predictable costs, less oversight of budgeting and estimating as less effort is spent on those activities. In addition, less customization, and more standardization, which is also proven to increase productivity and eventually may lead to the reduction of business, delivery, and support FTEs (Full-Time Employees). SaaS vs On-Premises: Choosing the Right Enterprise Solutions

A study commissioned by adaptive planning revealed that the total cost of ownership (TCO) for SaaS performance management solutions can be as much as 77% lower than on-premises alternatives. The reduction in labor required for maintaining in-house applications contributes significantly to these savings.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The proposed solution to ensure that Finance and Accounting align with upcoming initiatives and meet their respective timelines over the next five years involves adhering to the recommended application refresh and expansion requirements for their business applications. The allocation request is primarily driven by factors such as compatibility, reliability, security, and safety. Additionally, we consider maintaining operational efficiencies and strategic alignment. Our conventional business practices and processes must be scalable, promote mobility, and prioritize both employee and customer experience.

The project roadmap for the next five years includes refreshing and/or expansion initiatives made possible by these core Finance and Accounting systems:

These upcoming technology-related initiatives for the Finance and Accounting business area include the

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

continuous improvements to Oracle EBS and PowerPlan, including upgrading to a Software as a Service (SaaS) model within the 5-year roadmap. There is also the demand to upgrade the budgeting system (EPM) and replace the current Debt and Extract Databases, as the existing processes are manual and inefficient. There are also plans for automation that will enable technology to manage processes that can be automated and save labor costs.

These projects are within industry norms for like-sized Finance and Accounting departments within like-sized utilities and are accepted and widely adopted approaches used within the energy industry.   This is part of why the Steering Committee exists – to help propel Avista forward in its initiatives through intelligently selected and implemented projects. The funding requested as part of this program generally fits these initiatives and will be assigned to specific projects (with Steering Committee oversight) as they are identified.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[3]

As part of the 5-year planning process, Enterprise Technology and the Finance and Accounting departments key stakeholders meet to review the technology demand that is derived from maintaining the current 'core' systems currently in place, as well as enhancements or new technology that enables the business to meet their strategic technology roadmap.

Upgrading to the recommended or latest versions of software is important to maintain the overall health of our business. There are many reasons that upgrades are necessary, from enhanced security, to increases in employee productivity (and lower costs). Upgrading business software is an economical decision compared to the cost of maintaining outdated software that suffers breakdowns and increases the cost to maintain. More detailed examples are as follows:

- Operational Efficiency:
    - Upgrades optimize system performance, leading to streamlined processes.
    - Enhanced efficiency translates to cost savings through reduced labor hours and improved productivity.
- Security and Compliance:
    - Upgraded systems receive necessary security patches and compliance updates.
    - Avoiding security breaches or penalties saves both money and reputation.
- Reduced Maintenance Costs:
    - Enhancements often simplify workflows and reduce manual interventions.
    - Fewer maintenance hours mean lower operational costs.
- Scalability and Flexibility:
    - Upgrades allow systems to handle increased workloads.
    - Scalable solutions accommodate business growth without major investments.
- Avoiding Technical Debt (result of prioritizing speed over quality):
    - Regular upgrades prevent the accumulation of technical debt.
    - Addressing issues promptly avoids costly fixes later.

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[3] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Financial and Accounting Technology

- Improved Decision-Making:
  - o Enhanced analytics provide better insights for strategic decisions.
  - o Informed choices lead to cost-effective resource allocation.
- Business Continuity:
  - o Timely upgrades prevent system failures and disruptions.
  - o Avoiding downtime ensures uninterrupted operations.

Software enhancements are also critical, as demands change so rapidly, we must look for ways to extend the functionality of our software investment rather than go through a full replacement process.

The requested funding was developed from estimates based on the historical trends for enhancement work and the recommended product lifecycle for upgrades and licensing renewals, as well as high-level estimates for new product technologies. High level estimates are collected by the business level subject matter experts, technology domain architects, and delivery management teams. The schedule was developed with the most recently available information and is subject to change via the governance processes mentioned above.

2.3 Summarize in the table and describe below the DIRECT offsets[4] or savings (Capital and O&M) that result by undertaking this investment.

When the Power Plan application is move to the cloud, the capital project will be removed from the roadmap. There are typically increased O&M costs when moving to the cloud, but those are unknown at this time. When the ERP to SaaS project completes, we will see significant reduction in capital in 2030+ for the same reason.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	Power Plan to SaaS	$	$	$	$	$1,000,000
O&M		$	$	$	$	$

2.4 Summarize in the table and describe below the INDIRECT offsets[5] (Capital and O&M) that result by undertaking this investment.

According to research and analysis (see section 1.5) we plan to see a continued offset each year after replacing on premise systems with SaaS. This will primarily impact the capital offsets, as the labor heavy upgrades will no longer be needed.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$	$	$	$	$
O&M	Various projects (See section 2.1)	$345,000	$375,000	$375,000	$425,000	$$425,000

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[4] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[5] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Option	Capital Cost
Alternative 1 – Not replacing the Extract Database	$16,325,000
Alternative 2 – Not moving to SaaS (Power Plan, EBS)	$14,500,000

- Alternative 1: Not replacing the Extract Database: The Extract Database contains financial data from multiple subledgers (Accounts Payable, Accounts Receivable, Projects, Tax Fixed Assets) and incorporates data from UKG (HR system), Enterprise Performance Management (EPM) and Forecasting. It also serves as a 'backend system' for Claims and Financial Support System (FSS). If Extract is not maintained, updated or upgraded (assuming it will not be replaced by an integrated database) then there is risk of losing financial transaction history and disabling a multitude of reports leveraging the data housed within Extract.

- Alternative 2: Not moving to SaaS (Power Plan, EBS): Remaining 'on premise' with our core financial applications is not a viable and sustainable option long term. Software as a Service (SaaS) solutions provide the capabilities and benefits that allow us to better manage costs, enhance scalability, and focus on higher value activities. The costs associated with managing our hardware and infrastructure investments becomes a non-issue with SaaS or cloud solutions, particularly with growth, where there is the ability to quickly and easily add new users, modules, and features without any additional hardware investments. There are also savings associated with energy costs and other operational expenses related to maintaining on-premises hardware and infrastructure.

  Another major advantage of moving to SaaS is the ease of upgrades and maintenance of the systems. Our current on-premises upgrades are very time-consuming and disruptive, requiring extensive testing and downtime. Transitioning to SaaS would simplify this process as it is managed by the vendor (which includes patches and new features) with minimal disruption to the business. This not only saves time, but also helps reduce the risk of errors and system downtime. With SaaS solutions, we are able to more quickly realize benefits and reduce risks, such as implementation failure or cost overruns. By outsourcing to a SaaS provider, the team can spend less time managing and maintaining the software and infrastructure and more time redirected towards strategic initiatives, such as innovation, digital transformation, and improving core business processes.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Finance and Accounting's technology is critical to Avista's ability to function. The business process supported by this business case impacts all of the financial transactions for the company. A few examples include the creation of a new accounting project, a new customer construction request, or the payment of an invoice.

The ability for this business area and job functions to succeed is dependent on the understanding and support of Avista's employees and contractors. Failure to support these systems may cause numerous near term and downstream impacts.

- Timely reporting of monthly/quarterly/annual financial statements
- 80% of the Technology solutions utilized are on a vendor supported version

- 5% reduction in the quantity of services incidence opened against the financial systems

2.7   Please identify the timeline of when this work is schedule to commence and complete, if known.

This is a program with discrete projects and product packages that typically run annually and Transfer to Plant within that same year. There are times that a project may start in Q3/Q4 of one year and Transfer to Plant the following year. Typically, application projects will Transfer to Plant about 60 days prior to the project completion date.

The goal is to break out large/complex projects into smaller projects (phases) to avoid scope creep, budget overages, and ensure the work can be properly prioritized. The first phase of every project would be scoped at the Minimum Viable Product (MVP), and subsequent phases would be scoped accordingly, based on the next highest priority after MVP. This also allows for more accurate Transfer to Plant forecasts. This is the current roadmap as identified by the business governance team and ET.

2025	2026	2027	2028	2029
EBS/PP Expansion	EBS/PP Expansion	EBS/PP Expansion	EBS/PP Expansion	EBS/PP Expansion
Account Reconciliation Refresh	Debt Database Replacement	Extract Database Replacement	Extract Database Replacement (TTP)	EPM Budget Tool Expansion
Oracle EBS Upgrade	UI Planner Upgrade	ERP (Enterprise Resource Planning) to SaaS	ERP to SaaS	ERP to SaaS (TTP)
RED/JET Replacement	Remittance Processing Refresh	Remittance Processing Refresh (TTP)	EPM Budget Tool Expansion	
Revenue & Gross Margin Forecasting Tool	Revenue & Gross Margin Forecasting Tool Expansion	UI Planner Upgrade		
UI Planner Upgrade	Power Plan Core Accounting to SaaS	Power Plan Core Accounting to SaaS (TTP)		
APx Upgrade Replacement	APx Upgrade Replacement (TTP)			
Energy Risk Management Integrations (post Nucleus rep.)				

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The Finance and Accounting Business Case has four levels of governance: The Executive Technology Steering Committee (ETSC); Technology Planning Group (TPG) of Directors; Integrated Oversight Committee (IOC), and Program/Project Steering Committees. Applicable stakeholders and disciplines meet regularly to govern the business case and subsequent programs and projects.

The IOC evaluates and compares all of the application portfolio project priorities on a bi-weekly basis, utilizing risk, capacity, and other situational factors to ensure each planned project is meeting critical milestones. The TPG sets priority across the technology investment portfolio, balancing strategic alignment, business value, and customer benefits, as driven by the strategic initiatives established by the ETSC. The Capital Planning Group (CPG), an independent body, establishes funding allocations for each Business Case across the enterprise.

Financial and Accounting Technology

The Business Case is largely limited by the funding allocation and resource capacity (staff) to meet its goals. The funding is generally established at the Business Case level by the CPG. The resource capacity constraint is generally managed by the TPG and the Business Case owner. Once the two constraints are established, the Business Case owner will work with steering committee(s) to set project priorities and sequence over a five-year planning period, subject to additional funding changes as directed by the CPG.

Project prioritization is evaluated by the management team on a bi-weekly basis through the IOC. Each program and project steering committee meets regularly, as set by each project but generally monthly, and oversees scope, schedule and budget within their respective projects and programs and informs the Business Case owner of any changes needing escalation to the TPG or CPG for decision-making around resource or funding constraints.

Any changes in funding or scope are documented at the Business Case level, via a Change Request document that is presented to the CPG on a monthly basis and evaluated by the CPG for approval.

Changes in scope, schedule, or budget are also documented through a 'Change Request' at the project level and reviewed and approved through a formal workflow process. All Finance and Accounting Technology projects in this business case are managed through the Project Management Office (PMO), which follows the Project Management Institute (PMI) standards. Projects initiate with a 'Charter' to begin the planning process. When planning is complete, a 'Project Management Plan (PMP)' is created and approved as the projects baseline for scope, schedule and budget. At the end of execution, an 'Approval to Go Live' is submitted and approved prior to implementation (Transfer to Plant). After the technology is in service and out of the warranty period, the Project Manager will hold a Lessons Learned, and subsequently submit an 'Approval to Close' prior to finishing the project. All Monitor and Control documentation and Change Requests are documented and stored to ensure a comprehensive audit trail.

3 APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Financial and Accounting Business Case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature: *Graham Smith*
Date: Apr-29-2024 | 4:58 PM PDT
Print Name: Graham Smith
Title: Sr. Manager, ET Application Delivery
Role: Business Case Owner

Signature: *Ryan Krasselt*
Date: Apr-30-2024 | 8:33 AM PDT
Print Name: Ryan Krasselt
Title: VP & Controller
Role: Business Case Sponsor

Signature: *John Wilcox*
Date: Apr-30-2024 | 10:08 AM PDT
Print Name: John Wilcox
Title: Director, Accounting
Role: Steering/Advisory Committee Review

Financial and Accounting Technology

Signature: *Hossein Nikdel*

DocuSigned by:

E4E2D9C7EE4747F...

Date: Apr-29-2024 | 4:26 PM PDT

Print Name: Hossein Nikdel

Title: Director, Applications & System Planning

Role: Steering/Advisory Committee Review

Signature: *Ian McLelland*

DocuSigned by:

4113CFD36C94443...

Date: May-01-2024 | 8:17 AM PDT

Print Name: Ian McLelland

Title: Manager, Revenue Accounting

Role: Steering/Advisory Committee Review

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Case Nos. AVU-E-25-01/AVU-G-25-01
W. Manuel, Avista
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Human Resources Technology (HRT)

EXECUTIVE SUMMARY

The Human Resources Technology (HRT) Program[1] Business Case sponsors the technology related applications that support the Human Resources (HR) business areas operational and strategic initiatives. The HR business area includes Benefits, Occupational Health, Avista First Care Clinic, Wellness, HRIS/Payroll, Employee Relations, Labor Relations, Leadership and Organizational Development, Corporate Training & Development, HR Shared Services, Recruiting, On-Boarding, Employee Experience, Equity-Inclusion-Diversity, HR Analytics & Compliance, Craft & Technical Training, Apprenticeships & Safety.

This business case is intended to fund the portfolio of components that maintain the technology and licenses necessary to meet HR's internal and external business processes and objectives. Avista's Human Resources technology systems are a necessity, as they provide essential functions to all our employees and customers throughout all service territories, such as hiring, payroll, benefits, safety, personnel development, and labor/regulatory compliance. These vital systems require systematic upgrades and enhancements to maintain reliability, compatibility, and reduce security vulnerabilities. To maintain these business processes and systems supported by this business case, the recommended funding is $3,160,000 over the next five years ($535k to $750k per year). This funding level will provide the appropriate technology and development to meet the periodic upgrades and enhancements prioritized by the HR and Enterprise Technology (ET) Governance Committee. This funding level also considers the development staff required to maintain these core technology solutions. The cost of these solutions varies by scale of footprint and resource models.

The technology under this program undergoes regular utilization and performance reviews to determine expected standards and capacity requirements to maintain system reliability under the established budget allocations and respective technology lifecycles. These reviews can result in periodic supplementary investment demands as a result of technology lagging behind its lifecycle or predetermined performance standards. The technology, tools, and systems under this program benefit Avista customers, as they support company-wide business application systems that empower employees to perform at a more strategic level.

Failure to approve the recommended funding would cause the deferment of upgrades and enhancements, resulting in unsupported applications, which in turn results in increased security liability, non-compliance, and significantly higher operational and future capital costs. It would also risk the reduction of skilled resources resulting in the loss of institutional business processes and technology skillsets in an exceptionally competitive market.

This Business Case plan was created by the Business Case Owner, Domain Architect, Product Owner, Business Technology Analyst, and the ET Project Management Office and approved by Human Resources Governance Team (includes Business Sponsor, Director, and Managers within HR).

VERSION HISTORY

Version	Author	Description	Date
1.0	*L. Raymond*	*Draft*	*03/21/24*
2.0	*D.Quincy*	*Draft edits*	*04/22/24*
3.0	*B. Hoerner/K.Schuh*	*Final Review*	*04/29/24*
BCRT	*Jeff Holter*	*Has been reviewed by BCRT and meets necessary requirements*	*04/15/24*

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[1] [1] "A Program is defined as related projects, subsidiary programs, and program activities managed in a coordinated manner to obtain benefits not available from managing them individually. Managing projects, subsidiary programs, and program activities as a program enhances the delivery of benefits by ensuring that the strategies and work plans of program components are responsively adapted to component outcomes, or to changes in the direction or strategies of the sponsoring organization.," Project Management Institute Global Standard, The Standard for Program Management, Fourth Edition. Page 3 (Copyright 2017).

Human Resources Technology (HRT)

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2024	$450,000	$315,000
2025	$535,000	$345,000
2026	$700,000	$735,000
2027	$600,000	$600,000
2028	$750,000	$750,000
2029	$575,000	$575,000

Project Life Span	5+ years (Program)
Requesting Organization/Department	Human Resources
Business Case Owner | Sponsor	Brian Hoerner | Bryan Cox
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

Investment Drivers

1. BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.* 🔲

1.1 What is the current or potential problem that is being addressed?

This program is required to support the application-related technology initiatives for all areas within Human Resources (HR). Those areas include Payroll & Timekeeping, Benefits & Compensation, Leadership & Organizational Development, Labor & Employee Relations, Recruiting, On-Boarding & Compliance, HR Analytics, Occupational Health, Safety and Craft Training.

Application refresh projects are necessary due to the ongoing HR and enterprise technology business requirements to provide updates, upgrades and/or replacements on existing HR applications, as they are required to respond to changing business needs and/or technical obsolescence. Refreshes/upgrades are also essential to remain current, maintain compatibility, reliability, and address security vulnerabilities.

Application expansion projects result from demand related to transformations in the utility and continuous technology progression required to achieve operational efficiencies and strategic objectives. Current trends in the areas of mobility (portable internet-enabled devices like smartphones, tablets, notebooks, GPS devices, etc.), scalability (ability to increase or decrease in performance in response to changes), and employee experience (nature of the relationship between the organization and employees), require technological expansion of conventional business practices and processes.

Human Resources Technology (HRT)

1.2 Discuss the major drivers of the business case.

The primary investment driver for the Human Resources Business Case is 'Performance and Capacity' as it is intended to achieve work process and business continuity objectives through a range of system reinforcement projects to meet performance standards.

A secondary investment driver is 'Mandatory & Compliance,' as it contains investments driven by compliance with laws, rules, and contractual obligations that are external to the Company (e.g., State and Federal statutes, settlement agreements, FERC, NERC, FCC rules, and Commission Orders, employment law, etc.).

Many of the applications and respective projects in this Business Case indirectly support Avista customers through technology and business processes that include:

- Advancing the 'Customer Experience' (cumulative impact of various touchpoints over the course of customer's interaction with Avista) focus
- Improving the 'Employee Experience' and engagement
- Attracting and retaining diverse resources
- Fostering 'Equity, Inclusion and Diversity' and a culture of belonging
- Promoting safety and health / reducing risks
- Increasing employee productivity
- Encouraging and facilitating learning and skill development
- Refining talent management
- Fostering collaboration and communication
- Investing in our people supporting their development, resiliency, and well-being
- Enabling more efficient, more modern modes of accomplishing work and providing services
- Maintaining compliance with relevant local, state, and federal regulations

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Growing needs and expectations in mobility access, scalability and providing an effective and attractive employee digital experience require expansion of conventional business practices and processes. These needs are growing, given the accelerated migration to a hybrid/virtual/digital work environment.

The projects and initiatives in this business case provide functional enhancements that address ongoing changes in the workplace (e.g., hybrid/remote work, increased mobile app capabilities), provide increased employee efficiency through the reduction of steps required to complete a task, and make better use of Avista resources. They shift costs from inefficient processes to more value-driven activities.

Upgrading to the recommended or latest versions of software is important to maintain the overall health of our business. Upgrades reduce security, compatibility, and reliability risks and naturally provide improved productivity, user experience, and cost savings.

Software enhancements are just as critical, as demand changes so rapidly, we must look for ways to extend the functionality of our software investments rather than go through full replacement cycles. Software enhancements help to improve system efficiency, anomalies, and better cross-platform compatibility. There are also unavoidable governance and compliance changes that may drive the need for software optimization, thus continuous delivery and continuous integration are customary practices within business applications.

Human Resources Technology (HRT)

Working through these projects as suggested reduces Avista's overall risk exposure by confirming our employees are fully compliant with all FERC, NERC, and FCC rules (via training and talent management), ensuring Avista is using funds in the most cost-efficient manner (via improved employee tools that increase overall efficiency and keep employees focused), limiting costly employee turnover, and by keeping employees educated in the latest safety and health trends and requirements.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization.

Primary Focus Area for project		
☐	**Our Customers**	▪ Mature our customer experience, both internal & external ▪ Support affordability, equity, and economic vitality ▪ Understand and address the evolving needs of our customers
☒	**Our People**	▪ Advance our employee experience with a focus on our cultural values. ▪ Continuously improve the safety & well-being of our people. ▪ Strengthen equity, inclusion, & diversity
☒	**Perform**	▪ Affordably operate & maintain safe, clean, reliable generation & energy delivery infrastructure ▪ Achieve stated financial objectives ▪ Manage risks to protect our employees, customers, communities & owners.
☐	**Invent**	▪ Build the utility of the future with our stakeholders. ▪ Foster an environment of continuous improvement and transformation.

This is a program with discrete projects and packages that strategically align with the 'Perform' and 'Our People' Focus Areas. Specific Focus Areas include:

Our People: Technology plays a critical role in how employees feel about their day-to-day experience. Employees that are more productive and efficient by using technology are to focus on more strategic objectives that help to propel the company forward. These types of activities naturally promote more resilient, engaged employees that are more performance and results driven. HR focuses on engagement through technology that helps to evolve employee development, resiliency, and well-being, as well as equity, inclusion, & diversity practices and behaviors. This Business Case also includes the technology that will continuously improve safety, reduce injuries, and better understand the associated risks.

Perform: The technology in this business case provides increased employee efficiency through the reduction of steps required to complete a task and make better use of Avista resources. They shift efforts from inefficient processes to more value-driven activities by leveraging technology to meet business needs, which aids in Avista's ability to meet necessary financial objectives. In addition, HR technology is utilized to continuously perform and improve through systems that focus on employee development, training, apprenticeships, recruiting, analytics, and compliance.

Human Resources Technology

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.

Vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements for existing technology under the HR program, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure. Ongoing reviews of vendor roadmap and technology asset lifecycle alignment provide necessary information to track how much of our investment in technology is lagging the vendor roadmap, and thereby introducing risk to supporting business application systems and their corresponding and respective automated business processes.

Gartner is used for Information Technology insights, analysis, research, and reference materials. Gartner is an industry leader in IT research, benchmarking, and consulting practices and provides Avista with the ability to understand market trends, best practices and make more informed technology decisions. For example, Gartner's 'Magic Quadrant,' provides a graphical positioning of technology providers in the market, with the ability to home in on critical capabilities based on requirements and specific use cases. This capability alone significantly reduces the time and effort of researching, evaluating, and reference checking. [Gartner for Information Technology (IT) Leaders](#).

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The recommended solution to ensure that HR can meet these initiatives and their timelines over the next five years, is to follow the recommended software development lifecycle application refresh and expansion requirements for HR applications. The requested allocation is based primarily on compatibility, reliability, security, and safety. The increase in 2025 and 2026 is due to the prospective replacement of the current ALN as the contract will also be up for renewal. The core HR system, UKG is also up for renewal in 2025. We will be evaluating renewal strategies for these two key systems to ensure core business functionality, as well as aligning with the overall company integrated technology strategy direction in the coming years.

Currently, Business Process Automation is funded under a separate Business Case through 2025. After 2025, the HR Business Case will need to fund any HR automation, thus those forecasted costs have been added to 2026-2029. The project roadmap for the next 5 years includes refreshing and/or expansion of the core HR systems that support these initiatives:

- **Analytics / Compliance –** Compliance is an important part of Avista's regulated business. This includes compliance with finance laws, safety laws, and more. Ensuring compliance requires a great deal of data discovery and analysis. Additionally, growing Operator Qualification Compliance for gas workers and contractors creates increased requirements for learning systems. This is one of the drivers behind reviewing Avista's current LMS (Learning Management System), a potential shift to other systems, and emerging needs for additional applications.
- **Employee Engagement and Belonging –** Studies show that an engaged workforce is a healthier workforce. Engaged employees have higher job satisfaction, lower attrition rates, and higher productivity. Some of that engagement comes in the form of Avista's ALN work mentioned above; some comes in the form of surveys and other forms of employee input. HR personnel are considering products and product suites that target employee sentiment

and suggest new areas of employee engagement. Employee engagement also comes from having the people systems and tools that support ease of productivity, collaboration, communication, belonging, equity, and fairness. Providing a modern and effective Digital Employee Experience is also a key factor in attracting and retaining employee talent, key to supporting our customers. This may including incorporation of appropriate generative AI tools and functions as they become feasible to enable accelerated productivity and efficiency, ease of use.

- **HR Information Systems (HRIS) –** HR Information Systems (HRIS) are those that process and manage employee records and transactions. Examples include systems responsible for timekeeping (UltiPro), change of status and other people-system related functions (Resource Hub), performance management, employee perceptions, benefits enrollment, and more.

- **HR Management (HRM) –** HR Management (HRM) systems support the day-to-day management of employees from across the employee life cycle from recruiting to onboarding to exit interviews.

- **Learning and Ongoing Training –** Providing up-to-date training keeps the Avista workforce safe (through ongoing safety training), productive and customer-focused (by learning the latest approaches and techniques), and compliant (through ongoing FERC/NERC/Other training by Avista contractors and employees). Avista does this by accelerating the development of new leaders and employees through guided talent management, building a skilled workforce, and providing central talent to Avista leaders through learning platforms (Avista Learning Network and other learning systems such as Articulate 360 learning design tools and Mandarin Learning Center software)

- **Safety and Health –** Safety and Health are key elements of Avista's culture. Promoting a culture of safety and health falls to Avista's HR team. (Enterprise Health and Safety System- Intelex, PrognoCIS EMR)

- **Cross-Functional / Other –** Not every project fits nicely into one of the initiatives above. Some are cross-functional, and some are simply good ideas that continue to improve upon Avista's workplace.

Capturing every detail of every project over the next five years is impossible. This is part of why the Steering Committee exists – to help propel Avista forward in its initiatives through intelligently selected and implemented projects, while maintaining the ability to be agile. The funding requested as part of this program generally fits these initiatives and will be assigned to specific projects (with Steering Committee oversight) as they are identified.

These upcoming technology-related initiatives for the Human Resources business area include the continuous improvements to UltiPro/UKG, Hub, Intelex, and Articulate, including potential replacement of the ALN system and renewal strategies for the ALN and UKG within the 5-year roadmap. There is also the demand to replace the Library System as the existing system is outdated. There are also plans for automation that will enable technology to manage processes that can be mechanized and will save labor costs.

These projects are within industry norms for like-sized HR departments per our discussions with our peer like-sized utilities and are accepted and widely adopted approaches used within the utility industry.

Human Resources Technology

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

There are direct savings or offsets in this business case, primarily from reducing printing costs, copier maintenance and filing of paper documents. Some examples include:

- UKG - $15,000 annually resulting from implementing a file and content management module in 2023. Reduced costs by eliminating printing paper.
- Sum Total (ALN) - $1,300 annually resulting from implementing a mobile solution, so that workers do not have to print out their weekly report of qualifications; and so that worker skill evaluations can be moved from paper to electronic and completed in the field.

The majority of offsets are realized through indirect savings, such as increased efficiency, productivity, and accessibility, so that employees can re-direct their efforts toward more core and value-added work and reduce administrative burden. Other offsets are realized through maturing safety systems and avoiding risk of injury. Some examples include:

- UKG - $67,000 annually resulting from implementing document management and people assist modules in 2023 that will centralize employee documents within the system, integrate document approval, signing functionality, create workflows, and assist HR resources. Employees, and retirees in request activities, including a request tracking system, status and action needed notifications. Will also provide enhanced security and more efficient retrieval of information for internal and external stakeholders, auditors, and regulators.
- UKG - $45,000 annually resulting from improving manual processes by implementing electronic data transfer interfaces with other key systems that rely on HRIS data such as HUB, pension calculation services (WTW), finance reporting (Transportation Subledger), union employee timekeeping (ARCOS), learning management system, HR analytics reporting, safety reporting & information system (Intelex), donations and contributions (Cybergrants), and more.
- Sum Total - $125,000 annually resulting from implementing a mobile solution in 2023 so that employees can access training and required certifications via any electronic device from any location. And so that we can improve the employee digital experience with improved ease of access. External learning systems industry and vendor benchmarks provide conservative estimates of a 3% productivity gain upon implementation of a mobile solution for employee learning and training. We used the three-year average time in a system of 19 hours per year per user to calculate a 3% productivity gain to determine productivity gain estimate.
- Sum Total - $103,000 annually from implementing a mobile skill evaluation process, eliminating a manual paper process and duplicate data entry. The ability for Avista Skill Evaluators to evaluate our gas workers in the field and certify or de-certify a user in a skill via the Avista Learning Network (ALN) mobile app, will provide real-time updates to the workforce and eliminate redundant data entry. Estimate 5-minute savings per task along with annual task volume to determine productivity gain estimate.
- Intelex - $60,000 annually. From avoiding hearing loss and soft tissue injuries by implementing an Industrial Hygiene module. This module will better enable us to target where hearing protection is needed, better identify and reduce potential injuries related to ergonomic factors and better zero in on areas and trends where we can mitigate

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

hazard risks.

There are numerous other smaller technology systems needed to operate HR in this complex environment that contribute to the goals of the HR Technology Business case.

2.3 Summarize in the table and describe below the direct offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M	Paper, printing, and copier maintenance (File Management and Mobile ALN)	$16,300	$16,300	$16,300	$16,300	$16,300

2.4 Summarize in the table and describe below the indirect offsets[4] (capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M	Efficiency, productivity, accessibility for employees via UKG, ALN Mobile, & Intelex	$400,000	$400,000	$400,000	$400,000	$400,000

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Option	Capital Cost
Alternative 1 – Fund only current technology (no replacement)	$2,725,000
Alternative 2 – Remove Business Process Automation	$2,850,000

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

Human Resources Technology

Alternative 1: Use existing systems as-is and to not put new systems in place. This would put Avista at a disadvantage through attrition and perpetuates inefficiencies as employees rely on productivity tools to perform their job. New technologies can streamline processes, reduce overhead, and lead to cost savings. Also, leveraging new systems, enables features and functionalities such as artificial intelligence, automation, and cloud computing. Finally, compliance standards evolve over time and many legacy systems don't align with current regulations, data privacy laws, and security protocols.

Alternative 2 – Removing the Business Process Automation from the forecast is an option but would hinder our ability to reduce administrative tasks and improve productivity, allowing resources to work on higher priority, more strategic initiatives, saving labor costs. The longer Avista delays technology automation, the more difficult it will be scale and thrive in the dynamic digital ecosystem.

Note: this Business Case includes upgrades that are not optional and are vendor-driven to stay current. Such as annual Articulate upgrades as well as others.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

The HR business team utilizes technology as a critical component to meet their operational and strategic objectives. Some tools used to measure success would include surveys, reporting (compliance, training, payroll), collaboration tools (Viva Engage, Avenue, Teams) and various other forms of employee input.

Constraints and risks are possible to hinder the delivery of the outlined objectives. In these circumstances, the Business Case owner and Program Manager will work with the Steering Committee to set project priority and sequencing, subject to any additional funding changes as directed by the Capital Planning Group (CPG). Each program and project Steering Committee meets monthly to review the demand to ensure that it aligns with Avista's strategies. The Steering Committee oversees scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the Technology Planning Group (TPG) or CPG for decision-making around resource or funding constraints. In addition, the Enterprise Technology Project Management Office (PMO) performs a Project Performance Report (PPR) which is the integrated measurement of the success of the technology to align with Avista's corporate strategy and Focus Areas. This report produces a score associated with cost, schedule, and scope management, and the value-add (via survey to the business stakeholders and Steering Committee).

2.7 Please provide the timeline of when this work is scheduled to commence and complete, if known.

This is a program with discrete projects and packages that typically run annually and Transfer to Plant (TTP) within that same year. There are times that a project may start in Q3/Q4 of one year and Transfer to Plant the following year.

Typically, application projects will Transfer to Plant about 60 days prior to the project completion date (due to the post implementation warranty period and to capture the trailing charges).

Human Resources Technology

The project roadmap for the next five years includes refreshing and/or expansion initiatives of the core HR systems. The current roadmap includes but it not limited to:

2025	2026	2027	2028	2029
HR Hub Expansion	HR Hub Expansion	HR Hub Expansion	HR Hub Expansion	HR Hub Expansion
UKG Expansion	UKG Expansion	UKG Expansion	UKG Expansion	UKG Expansion
Intelex Expansion	Intelex Expansion	Intelex Expansion	Intelex Expansion	Intelex Expansion
Articulate 360 Upgrades	Articulate 360 Upgrades	Articulate 360 Upgrades	Articulate 360 Upgrades	Articulate 360 Upgrades
Library System Replacement	HR Employee Relationship Management	Digital Employee Experience	Digital Employee Experience	Digital Employee Experience
ALN Replacement (or renewal) (Start)	ALN Replacement (or renewal) (TTP)	HR Business Process Automation	HR Business Process Automation	HR Business Process Automation
UKG - Change of Status Plus ALN renewal	UKG Timekeeping Upgrade	Contractor Portal	Articulate 360 Licensing Renewal	
Articulate 360 Licensing Renewal	HR Business Process Automation			

Note: further evaluation of renewal vs. replacement strategies of key systems up for contract renewals will be conducted with due diligence over this 5 year time horizon. This Business Case will also seek alignment with company direction such as integrated platforms and data architecture strategies.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The Human Resources Steering Committee (called the HR Tech Roadmap group) members include Business Case Sponsors, Directors and Managers within Human Resources, and the Business Case Owner.

The Human Resources Business Case has four levels of governance: The Executive Technology Steering Committee (ETSC); Technology Planning Group (TPG) of Directors; Integrated Oversight Committee (IOC), and Program/Project Steering Committees. Applicable stakeholders and disciplines meet regularly to govern the business case and subsequent programs and projects.

The IOC evaluates and compares all of the application portfolio project priorities on a weekly basis, utilizing risk, capacity, and other situational factors to ensure each planned project is meeting critical milestones. The TPG sets priority across the technology investment portfolio, balancing strategic alignment, business value, and customer benefits, as driven by the strategic initiatives established by the ETSC. The Capital Planning Group (CPG), an independent body, establishes funding allocations for each Business Case across the enterprise.

The Business Case is largely limited by the funding allocation and resource capacity (staff) to meet its goals. The funding is established at the Business Case level by the CPG. The resource capacity constraint is managed by the TPG and the Business Case owner. Once the two constraints are established, the Business Case owner will work with steering committee(s) to set

project priorities and sequence over a five-year planning period, subject to additional funding changes as directed by the CPG.

Project prioritization is evaluated by the management team on a weekly basis by the IOC. Each program and project steering committee meets regularly and oversees scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the TPG or CPG for decision-making around resource or funding constraints.

Any changes in funding or scope are documented at the Business Case level, via Change Request document that is presented to the CPG on a monthly basis and evaluated by the CPG for approval.

Changes in scope, schedule, or budget are also documented through a 'Change Request' at the project level and reviewed and approved through a formal workflow process. All Enterprise technology projects in this business case are managed through the Project Management Office (PMO), which follows the Project Management Institute (PMI) standards. Projects initiate with a 'Charter' to begin the planning process. When planning is complete, a 'Project Management Plan (PMP)' is created and approved as the project baseline for scope, schedule, and budget. At the end of execution, an 'Approval to Go Live' is submitted and approved prior to implementation (Transfer to Plant). After the technology is in service and out of the warranty period, the Project Manager will hold a Lessons Learned, and subsequently submit an 'Approval to Close' prior to finishing the project. All Monitor and Control documentation and Change Requests are documented and stored to ensure a comprehensive audit trail.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the **Human Resources Technology Business Case** and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.
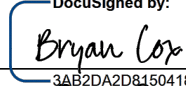
Signature:	*Brian Hoerner* 3AE7BA99E1F54CF...	Date:	Apr-30-2024 | 7:19 AM PDT
Print Name:	Brian Hoerner		
Title:	Manager, Application Delivery		
Role:	Business Case Owner		
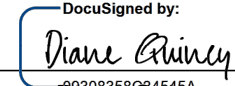
Signature:	*Bryan Cox* 3AB2DA2D8150418...	Date:	Apr-30-2024 | 9:01 AM PDT
Print Name:	Bryan Cox		
Title:	VP, Safety and Human Resources		
Role:	Business Case Sponsor		

Signature:	*Diane Quincy* 99308358034545A	Date:	Apr-29-2024 | 4:54 PM PDT
Print Name:	Diane Quincy		
Title:	Director, Leadership and Org. Development		

Business Case Justification Narrative   Template Version: February 2024

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Exhibit No. 12
Case Nos. AVU-E-25-01/AVU-G-25-01
W. Manuel, Avista
Schedule 1, Page 110 of 351

Human Resources Technology

Role:	Steering/Advisory Committee Review

Signature:	DocuSigned by: *Hossein Nkdel* 54E2D9C7EE4747F...	Date: Apr-29-2024 | 5:01 PM PDT
Print Name:	Hossein Nikdel	
Title:	Director, Applications and System Planning	
Role:	Steering/Advisory Committee Review	

Legal & Compliance Technology

EXECUTIVE SUMMARY

The Legal and Compliance Technology Program[1] Business Case sponsors applications critical to Avista's legal, compliance, and regulatory's operational and strategic objectives. The Legal and Compliance business areas include Claims, Legal (Labor Relations, Data Privacy), and Compliance [Ethics, Environmental, Federal Energy Regulatory Commission (FERC), North American Electric Reliability Commission (NERC), and Environmental, Social & Governance (ESG)].

This Business Case is necessary to fund the portfolio of components that maintain the technology and licenses required to meet the Legal and Compliance internal and external business processes and strategic objectives. Avista's Legal and Compliance technology systems are a necessity, as they provide essential business functions to our employees and customers throughout all service territories. These vital systems require systematic upgrades and enhancements in order to maintain reliability, compatibility, and reduce security vulnerabilities.

In order to maintain these business processes and the systems supported by this business case, the recommended funding amount is $2,420,000 over the next five years. This funding level will provide the appropriate technology and development to meet the periodic upgrades and enhancements prioritized by the Legal and Compliance Governance team. This funding level also considers the development staff required to maintain these core technology solutions. The cost of these solutions varies by scale of footprint and resource models.

The technology under this program undergoes regular utilization and performance reviews to determine expected standards and capacity requirements to maintain system reliability under the established budget allocations and corresponding technology lifecycles. These reviews can result in the need for periodic supplementary investment demands as a result of the technology falling behind its lifecycle or established performance standards.

Failure to approve the recommended funding would cause the deferment of upgrades and enhancements, resulting in unsupported applications, which increases the risk for security liability, non-compliance, and significantly higher operational and future capital costs. It would also risk the reduction of skilled resources resulting in the loss of institutional business process and technology skillset in an exceptionally competitive market.

This Business Case was created with input by the Business Case Owner, Domain Architect, Product Owner, Business Technology Analyst, ET Project Management Office and approved by the Legal and Compliance Governance Team (includes Business Sponsor, Director and Managers within the Legal and Compliance organization).

VERSION HISTORY

Version	Author	Description	Date
1.0	*L. Raymond*	*2024 Draft*	*04/06/24*
2.0	*G. Smith/K. Schuh*	*2024 Final Review*	*04/29/24*
BCRT	*Jeff Holter*	*Has been reviewed by BCRT and meets necessary requirements*	*04/11/24*

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[1] [1] "A Program is defined as related projects, subsidiary programs, and program activities managed in a coordinated manner to obtain benefits not available from managing them individually. Managing projects, subsidiary programs, and program activities as a program enhances the delivery of benefits by ensuring that the strategies and work plans of program components are responsively adapted to component outcomes, or to changes in the direction or strategies of the sponsoring organization.," Project Management Institute Global Standard, *The Standard for Program Management, Fourth Edition. Page 3* (Copyright 2017).

Legal & Compliance Technology

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$495,000	$495,000
2026	$450,000	$450,000
2027	$515,000	$515,000
2028	$435,000	$435,000
2029	$525,000	$525,000

Project Life Span	*5+ years (Program)*
Requesting Organization/Department	Legal and Compliance
Business Case Owner | Sponsor	Graham Smith | Greg Hesler
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

The Legal and Compliance department includes Claims, Legal (Labor Relations, Data Privacy), and Compliance [Ethics, Environmental, Federal Energy Regulatory Commission (FERC), North American Electric Reliability Commission (NERC), and Environmental, Social & Governance (ESG)]. These crucial business functions require reliable, secure, and effective software technology solutions that enable their capability to ensure that Avista adheres to laws, regulations, standards, etc.

Many of these technology solutions require regular application upgrades to ensure they respond to changing business needs and avoid the risks of outdates systems, such as security vulnerabilities, reliability, and overall performance. Application expansion demands result from evolving requirements in the utility and continuous technology progression required to achieve operational efficiencies and strategic objectives. Technology continues to move at a rapid pace and technology expansion of conventional business practices and processes is imperative to Avista's growth, resilience, and relevance in this dynamic digital landscape.

1.2   Discuss the major drivers of the business case.

The primary investment driver for this business case is 'Performance and Capacity' as it is intended to achieve work processes and business continuity objectives through technology.

The Legal and Compliance department relies on software for performance and capacity for efficiency and automation of routine tasks such as data entry, reconciliation, and compliance reporting. Technology automation reduces manual effort, minimizes human error, and streamlines processes. Data management and accuracy is also a major component, as it enables better analysis that can help identify trends, risks, and opportunities.

Many of the applications and respective component projects in this Business Case provide indirect support to Avista customers through automation efficiencies, accuracy in records, timely reporting, and decision making. The lifecycle management of these applications are critical to maintain performance and productivity, and are largely dictated by the technology solutions that are used. All of this work is necessary to enable efficiencies, reduce risk and allow Avista to best serve our internal and external customers.

A secondary investment driver is 'Mandatory & Compliance,' as it contains investments driven by compliance with laws, rules, and contractual obligations that are external to the Company (e.g., State and Federal statutes, settlement agreements, FERC, NERC, and FCC rules, and Commission Orders, etc.). Avista customers benefit from our internal efficient systems in place that allows our employees to manage legal and compliance matters effectively, adhering to mandatory requirements, reducing risk, and safeguarding our reputation and integrity.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

This funding supports a program to manage the on-going changes to legal and compliance business processes. If this work is not funded, it increases the potential for operational costs and associated fines related to non-compliance with federal, state, or other regulations. The projects and initiatives provide functional enhancements that address ongoing changes in the workplace, provide increased employee efficiency through the reduction of steps required to complete a task, and make better use of Avista resources. They shift costs from inefficient processes to more value-driven activities.

Upgrading to the recommended or latest versions of software is important to maintain the overall health of our business. There are many reasons that upgrades are necessary, from enhanced security, to increases in employee productivity (and lower costs). Upgrading business software is an economical decision compared to the cost of maintaining outdated software that suffer breakdowns and increases the cost to maintain. More detailed examples are as follows:

- Operational Efficiency:
    - o Upgrades optimize system performance, leading to streamlined processes.
    - o Enhanced efficiency translates to cost savings through reduced labor hours and improved productivity.
- Security and Compliance:
    - o Upgraded systems receive necessary security patches and compliance updates.
    - o Avoiding security breaches or penalties saves both money and reputation.
- Reduced Maintenance Costs:
    - o Enhancements often simplify workflows and reduce manual interventions.
    - o Fewer maintenance hours mean lower operational costs.
- Scalability and Flexibility:

Legal & Compliance Technology

- o Upgrades allow systems to handle increased workloads.
- o Scalable solutions accommodate business growth without major investments.

- Avoiding Technical Debt (result of prioritizing speed over quality):
  - o Regular upgrades prevent the accumulation of technical debt.
  - o Addressing issues promptly avoids costly fixes later.

- Improved Decision-Making:
  - o Enhanced analytics provide better insights for strategic decisions.
  - o Informed choices lead to cost-effective resource allocation.

- Business Continuity:
  - o Timely upgrades prevent system failures and disruptions.
  - o Avoiding downtime ensures uninterrupted operations.

Software enhancements are also critical, as demands change so rapidly, we must look for ways to extend functionality of our software investment rather than go through full replacement process.

The primary alternative to these projects is to use existing systems as-is and to not upgrade systems that are in place. This perpetuates inefficiencies as employees are less productive and lack relevant tools to make effective business decisions.

Working through these components as planned reduces Avista's overall risk exposure by ensuring Avista is using funds in the most cost-efficient manner and by maintaining a culture of performance, which results in an improved downstream impact on our employee and customer experience.

The requested funding was developed from estimates based on the historical trends for enhancement work and the recommended product lifecycle for upgrades and licensing renewals, as well as high-level estimates for new product technologies. High level estimates are collected by the business level subject matter experts, technology domain architects, and delivery management teams.

Legal & Compliance Technology

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization.

	Primary Focus Area for project (select one)**:**	
☐	**Our Customers**	▪ Mature our customer experience, both internal & external ▪ Support affordability, equity, and economic vitality ▪ Understand and address the evolving customer needs by offering products, services, & solutions
☐	**Our People**	▪ Evolve our employee experience with a focus on engagement, development, resiliency & well-being ▪ Improve safety & training systems to reduce injuries, expand learning & understand risks ▪ Strengthen equity, inclusion, & diversity within systems, practices, & behaviors
☒	**Perform**	▪ Affordably operate & maintain safe, clean, reliable generation & energy delivery infrastructure ▪ Achieve stated financial objectives
☐	**Invent**	▪ Foster & apply an innovation culture to benefit employees, customers, communities, & shareholders ▪ Create the utility of the future with our stakeholders, optimizing for cost, carbon, & reliability

This is a program with discrete projects and product packages that strategically align with the 'Perform' Focus Area.

Perform: The technology in this business case provides increased employee efficiency through the reduction of steps required to complete a task and make better use of Avista resources. They shift efforts from inefficient processes to more value-driven activities by leveraging technology to meet business needs, which aids in Avista's ability to meet necessary financial objectives. In addition, legal and compliance technology is utilized to continuously perform and improve through systems that focus on compliance management and risk avoidance, which also helps to reduce associated operational expenses.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[2]

Vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements for existing technology under the Legal and Compliance program, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure. Ongoing reviews of vendor roadmap and technology asset lifecycle alignment provide necessary information to track how much of our investment in technology is lagging behind the vendor roadmap, and thereby introducing risk to supporting business application systems and their corresponding and respective automated business processes.

Gartner is used for Information Technology insights, analysis, research and reference materials. Gartner is an industry leader in IT research, benchmarking, and consulting practices and provides Avista the ability to understand market trends, best practices and make more informed technology decisions. For example, Gartner's 'Magic Quadrant,' provides a graphical positioning of technology providers in the market, with the ability to home in on critical capabilities based on requirements and specific use cases. This capability alone significantly reduces the time and effort of researching, evaluating, and reference checking. Gartner for Information Technology (IT) Leaders.

The 'Contract Lifecycle Management' Business Case was utilized for reference regarding CLM impact, offsets, etc. This is currently funded through Productivity (ER 7050, BI 30U01). FP&A Productivity CLM BC

2. PROPOSAL AND RECOMMENDED SOLUTION

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

This program is set up to maintain and enhance the technology that supports the Legal and Compliance business processes. By keeping the technology current with industry standards and aligned with business processes this program reduces the risks that may incur additional O&M expense. Much of 2023-2024 was focused on ensuring we are as current as we need to be to maintain support, compatibility, reliability, and security. The goal is to maintain that standard, while moving toward more strategic objectives, such as the Contract Lifecycle Management implementation.

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Legal & Compliance Technology

The recommended solution to ensure that Legal and Compliance can meet these initiatives and timelines over the next five years, is to follow the recommended software development lifecycle application refresh and expansion requirements for each application. The requested allocation is based primarily on compatibility, reliability, security, and safety. Additional criteria considers maintaining operational efficiencies and aligning with Avista and Legal and Compliance's strategic Focus Areas. Conventional business practices and processes must be scalable (cost effectively handling increased workloads), provide mobility, and focus on the employee and customer experiences. The project roadmap for the next five years includes refreshing and/or expansion initiatives of the core LCT systems.

Those systems include:
- Contract Lifecycle Management system – new system will manage the contracts process from creation to execution and renewal. This new solution will be instrumental in providing a more organized approach to contract management activities, broader contract lifecycle visibility, better negotiation opportunities, and enable proactive cost savings measures. In addition, this will become the system of record for Electric and Gas Service Agreements and other revenue-based agreements that are currently being tracked in disparate systems. Software and vendor selection is in process and implementation is currently forecasted to complete before 2024.
- CATSWeb (Corrective Action Tracking System) - Avista's compliance tracking and reporting system.
- Valuemation - Avista's legacy contract management system, that will be replaced by the Contract Lifecycle Management system when all phases are fully implemented.
- Navex / Conflict of Interest – Software as a Service (SaaS) technology module used for systematic tracking and reporting of Conflicts of Interest Disclosures which are necessary to protect corporate reputation, avoid actual or apparent conflicts of interest, and to comply with legal requirements.
- Claims Management System – The claims management system tracks all claims for Avista both for and counter to the company. All of the necessary information tied to the claim (the research, documentation, financial information is housed within this system. It is heavily relied upon for internal, commission and compliance reporting purposes. The custom legacy Avista Claims Management (ACM) system will be replaced by Salesforce in 2024.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[3]

In order to ensure that Avista maximizes the benefits for the investments made in our enterprise applications, we implement regularly released enhancements that provide incremental improvements and optimization to these systems. The work under this business case enables improvements in these processes thus creating efficiencies and cost savings. These savings come from having systems to aid the legal and compliance activities and without them, we would see an increase in our direct costs.

The CLM investment is a typical SaaS purchase with significantly positive productivity and financial benefits to Avista. Enabling CLM as an enterprise-wide capability allows us to leverage automation as one of our solutions for managing costs over the long-term and provide

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[3] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

organizational transparency for our enterprise contract environment. An estimate of achievable value over time shows that there is an Internal Rate of Return (IRR) of 25%.

2.3 Summarize in the table, and describe below the DIRECT offsets[4] or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M	Contract Performance	$856,250	$856,250	$856,250	$856,250	$856,250

Direct offsets noted above are related to the CLM implementation, considering reductions in costs related to improved contract renewal negotiations, enforceable credits/penalties for unmet supplier obligations, overpayments, and sunsetting Valuemation.

2.4 Summarize in the table, and describe below the INDIRECT offsets[5] (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M	Labor Efficiencies	$273,400	$411,800	$411,800	$411,800	$411,800

Indirect offsets noted above are related to the general personnel efficiency gains, adding in expected ½ CLM impact in 2025, and full savings starting in 2026.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Option	Capital Cost
Alternative 1 – Fund at a lower level (Waterline)	$2.000,000

Alternative 1: Funding at a lower level

The Waterline is bottom-up estimate for technology that is required to enable and sustain automated business processes of existing enterprise applications that essentially maintain business operations. These investments allow the company to continue to extract value from the initial technology investment that supports essential functions and delivers efficiency at the appropriate level of quality and performance. Without this investment, systems can fall out of support based on technology vendor-driven lifecycles, as well as degrade appropriate levels of performance and capacity needed to sustain existing automated or technology-supported business processes or to keep automated solutions in line with changing business processes.

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[4] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[5] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

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Estimates include labor and non-labor forecasts based on historical trends and anticipated expenses, which support the skillset, product, and licensing entitlements required to keep the systems current. Waterlines can be fluid for various reasons and therefore are calibrated annually. This alternative has a number of factors working against it.

If this Business Case were funded at the waterline, it would result in the need to run the projects at a slower pace or defer existing system enhancements. This alternative would cause a decline in the number of enhancements implemented and efficiencies gained each year. While the work would likely get pushed to future years, the ability to meet planned strategic objectives would be delayed even further. This action will also increase the risk of timely reporting which could result in compliance challenges. The scale of increased risk is dependent upon many factors such as, regulatory environment, license renewals and other factors outside of our direct control.

In short, while feasible, funding at a lower level reduces the timing of efficiency gains that are introduced with new or updated features, and adds risk that Avista would have to increase the number of software application assets that would need to be deferred, thereby increasing risk of obsolescence, losing maintenance and support, and reducing automation efficiencies.

2.6   Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

The Legal and Compliance Business teams utilizes technology as a critical component to meeting their strategic objectives. Some success measurements would include risk avoidance, system reporting, and better forecasting results.

Constraints are possible and risks hinder the delivery of the outlined objectives. In these circumstances, the Business Case owner will work with Steering Committee (see section 2.8) to set project priority and sequence over a five-year planning period, subject to any additional funding changes as directed by the Capital Planning Group (CPG). Each program and project Steering Committee meets monthly to review the demand to ensure that it aligns with Avista's strategies. The Steering Committee oversees scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the Technology Planning Group (TPG) or CPG for decision-making around resource or funding constraints.

Avista's Legal and Compliance technology systems are a necessity, as they provide essential business process and productivity capabilities to all of our employees and customers throughout all service territories. These vital systems require systematic upgrades and enhancements in order to maintain reliability, compatibility, and reduce security vulnerabilities.

This funding level will provide the appropriate technology and development to meet the periodic upgrades and enhancements prioritized by the Legal and Compliance Technology (LCT) and Enterprise Technology (ET) governance committee. This funding is necessary to mitigate the risk of unsupported applications, security liability, and significantly higher operational costs as a result of the deferment of upgrades and enhancements, etc.

Investment prudency is reviewed by the Steering Committee (see section 2.8) to ensure alignment of initiatives through judiciously selected and implemented projects. The funding requested as part of this program generally fits these initiatives and are assigned to specific projects (with Steering Committee oversight) as they are identified. Also, the Business Case owner will work with Steering Committee(s) to set project priority and sequence over a five-year planning period, subject to any additional funding changes as directed by the Capital Planning Group (CPG). Each program and project steering committee meets regularly to review the demand to ensure that it aligns with Avista's strategies. The Steering Committee oversees scope, schedule and budget within their respective programs and projects and inform the Business Case

Legal & Compliance Technology

owner of any changes needing escalation to the Technology Planning Group (TPG) or CPG for decision- making around resource or funding constraints.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

This is a program with discrete projects and packages that typically run annually and Transfer to Plant within that same year. There are times that a project may start in Q3/Q4 of one year and Transfer to Plant the following year. Typically, application projects will Transfer to Plant about 60 days prior to the project completion date (due to the post implementation warranty period and to capture the trailing charges).

The goal is to break out large/complex projects into smaller projects (phases) to avoid scope creep, budget overages, and ensure the work can be properly prioritized. The first phase of every project would be scoped at the Minimum Viable Product (MVP), and subsequent phases would be scoped accordingly, based on the next highest priority after MVP. This also allows for more accurate Transfer to Plant forecasts.

The current roadmap includes but it not limited to:

2025	2026	2027	2028	2029
CATSWeb Expansion	CATSWeb Expansion	CATSWeb Expansion	CATSWeb Expansion	CATSWeb Expansion
Claims Management Expansion	Claims Management Expansion	Claims Management Expansion	Claims Management Expansion	Claims Management Expansion
CATSWeb Upgrade	Contract Lifecycle Management Expansion	CATSWeb Upgrade	Contract Lifecycle Management Expansion	CATSWeb Upgrade
		Contract Lifecycle Management Expansion		Contract Lifecycle Management Expansion

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

This business case is governed by a steering committee made up of the principal managers of the legal and compliance domains, and typically facilitated by the Application Delivery Manager.

The roles include but are not limited to: Director of Environmental Affairs, VP General Counsel Chief Compliance Officer, Manager Reliability Compliance, Manager Claims, Manager FERC Compliance, and Ethics and Compliance Manager.

The Legal and Compliance Technology Business Case has four levels of governance: The Executive Technology Steering Committee (ETSC); Technology Planning Group (TPG) of Directors; Integrated Oversight Committee (IOC), and Program/Project Steering Committees. Applicable stakeholders and disciplines meet monthly (at a minimum) to govern the business case and subsequent programs and projects.

The IOC evaluates and compares all of the application portfolio project priorities on a weekly basis, utilizing risk, capacity, and other situational factors to ensure each planned project is

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meeting critical milestones. The TPG sets priority across the technology investment portfolio, balancing: strategic alignment, business value, and customer benefits, as driven by the strategic initiatives established by the ETSC. The Capital Planning Group (CPG), an independent body, establishes funding allocations for each Business Case across the enterprise.

The Business Case is largely limited by the funding allocation and resource capacity (staff) to meet its goals. The funding is generally established at the Business Case level by the CPG. The resource capacity constraint is generally managed by the TPG and the Business Case owner. Once the two constrains are established, the Business Case owner will work with steering committee(s) to set project priority and sequence over a five-year planning period, subject to additional funding changes as directed by the CPG

Project prioritization is evaluated by the management team on a weekly basis by the IOC. Each program and project steering committee meets monthly (at a minimum) and oversees scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the TPG or CPG for decision-making around resource or funding constraints.

Any changes in funding or scope are documented at the Business Case level, via Change Request document that is presented to the CPG on a monthly basis and evaluated by the CPG for approval.

Changes in scope, schedule, or budget are also documented through a 'Change Request' at the project level and reviewed and approved through a formal workflow process. All Enterprise technology projects in this business case are managed through the Project Management Office (PMO), which follows the Project Management Institute (PMI) standards. Projects initiate with a 'Charter' to begin the planning process. When planning is complete, a 'Project Management Plan (PMP)' is created and approved as the projects baseline for scope, schedule and budget. At the end of execution, an 'Approval to Go Live' is submitted and approved prior to implementation. After the technology is in service and out of the warranty period, the Project Manager will hold a Lessons Learned, and subsequently submit an 'Approval to Close' prior to finishing the project. All Monitor and Control documentation and Change Requests are documented and stored to ensure a comprehensive audit trail.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Legal and Compliance Technology Business Case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Graham Smith* DocuSigned by: B5895C5C47704C3...	Date: Apr-29-2024 | 3:56 PM PDT
Print Name:	Graham Smith	
Title:	Sr. Manager, Application Delivery	
Role:	Business Case Owner	

Legal & Compliance Technology

Signature:	*Greg Hesler*	Date:	Apr-29-2024 | 8:36 AM PDT
Print Name:	Greg Hesler		
Title:	VP, General Counsel & Chief Compliance Officer		
Role:	Business Case Sponsor		

Signature:	*Kathy Nitteberg*	Date:	Apr-29-2024 | 8:55 AM PDT
Print Name:	Kathy Nitteberg		
Title:	Manager, Ethics & Compliance		
Role:	Steering/Advisory Committee Review		

Signature:	*Hossein Nikdel*	Date:	Apr-29-2024 | 9:33 AM PDT
Print Name:	Hossein Nikdel		
Title:	Director, Applications & System Planning		
Role:	Steering/Advisory Committee Review		

Business Case Justification Narrative   Template Version: February 2023

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W. Manuel, Avista
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EXECUTIVE SUMMARY

Avista's Outage Management Tool (OMT) is an in-house developed custom application that supports electric outage analysis, management, and restoration. OMT is a mission critical system which provides the functionality to manage the electric distribution grid, the overall life cycle of electric outages and the restoration processes for the Washington and Idaho service territories. The OMT application and data model were developed by Avista at a time when commercial outage management software was not available. It has been used for nearly two decades and is approaching technology obsolescence. Since the time that OMT was developed, societal and business needs have evolved necessitating a more innovative solution. These needs include customer desire for improved restoration times and business needs for Wildfire. In addition, the existing Geographic Information System (GIS) operating platform on which OMT is built is scheduled by the vendor for end of life in 2025 and is recommended for replacement in the Energy Delivery Modernization and Operational Efficiency business case. The OMT application is showing increasing signs of fatigue (such as system instability during storm scenarios) and the loss of OMT would mean significant risks, increased costs, and customer benefit impacts which are detailed in the narrative below. The loss of OMT is rated 12th on Avista's corporate risk register, which means replacing it with a modern application is a high priority.

OMT works in synchronization with Avista's Distribution Management System (DMS), to monitor and control Avista's electric distribution network efficiently and reliably. The DMS is a commercial application used to monitor and control the portion of the distribution grid that is equipped with "smart grid" technology that enables remote monitor and control. It relies on Geographic Information System (GIS) data to determine the current operating state of the distribution system, which is provided via an outdated, custom-built data model import tool and OMT integration. Frequent integration failures result in the two systems being out of synch with each other, requiring a significant amount of manual intervention to resolve. For example, comparisons between the DMS and OMT model data sets must be reviewed line by line and verified Monday thru Thursday, and pushed out to applications every Friday. The DMS marginally meets the current business needs but it cannot scale to meet future needs for additional distribution grid automation and Distributed Energy Resources requirements to meet customer choice and Clean Energy Transformation Act requirements. Avista's relationship with the DMS vendor the past decade has shown that these future needs are not adequately planned for on the vendor's long-term roadmap.

Avista foresees a future utility architecture that bridges use cases across Customer, Grid, Operations, and Utility Enterprise domains. This future will require a technology platform that enables the integration of these domains. The industry standard for this platform is an Advanced Distribution Management System (ADMS). Replacing Avista's OMT and DMS with a single ADMS will achieve improved operational awareness and grid management capabilities, enable real-time automated outage restoration, enable real-time grid optimization and performance, improve field and office worker productivity, and

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OMS ADMS

provide the ability to reengineer work processes and methods to support the continuous improvement of Avista's Distribution System Operator program. An ADMS solution incorporates industry best practices for optimized workflow, software performance and reporting which will provide Avista with the ability to respond to more stringent and detailed regulatory compliance reporting requirements, such as those for Wildfire Resiliency and the Clean Energy Transformation Act. A modern ADMS also enables the ability to deliver more geographically specific Estimated Restoration Time (ERT) information to electric customers during outages. The improved ERT accuracy and restoration status for customers will improve customer confidence in the information, reducing the number of calls received by our customer service representatives, as well as call durations.

The estimated project cost is $43M over a four-year planned project duration. Because of the importance of this project, and the fact that the primary reason ADMS projects fail or run over time and over budget is due to the inability to create and maintain an accurate distribution grid data model, initial development work on the data model was started in 2022. The bulk of the ADMS implementation effort is scheduled to start in Q2-2023, with a three-month Phase 0 effort focused on validating the data model and identifying technically challenging use cases by running a series of tests utilizing the out-of-the-box software, using Avista's distribution grid data model and Avista's realtime distribution grid simulator. The Phase 0 effort will enable the project to efficiently proceed into the Phase 1 design and implementation effort in Q3-2023 with reduced risk to scope, schedule, and budget, improving the likelihood of completing the project as planned.

Since this is a multiyear project, the work needs to start in 2023 as scheduled to have the ADMS fully operational before the OMT operating platform is no longer supported and to meet increasing customer and regulatory expectations which cannot be achieved with the legacy OMT and DMS applications. Avista needs to proceed with the work now to be ready for the future, in a similar way to how planning is done for future power needs; i.e., we don't wait until we run out of power to build new generation. It would not be prudent to wait until after our current system completely fails to meet our needs to start an ADMS project.

A Request for Proposal (RFP) was released to the industry leading ADMS software vendors in Q3-2022. From that process, four vendors responded which were thoroughly evaluated and a recommendation to proceed with General Electric (GE) was made to executive leadership to proceed into contract negotiations with the successful bidder. The recommendation was approved, and contract negotiations were complete in Q1-2023.

VERSION HISTORY

Version	Author	Description	Date
1.0	Mike Littrel	Initial draft of business case	04/2017
2.0	*Mike Littrel*	*Updated business case format*	*07/2020*
3.0	*Mike Littrel*	*Updated program details and budget*	*07/2021*
4.0	*Mike Littrel*	*Updated program details and budget*	*08/2022*

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5.0	*Mike Littrel*	*Updated program details and budget*	*04/2023*
6.0	*Myers / Ruppert*	*Updated program details and budget*	*05/2024*
BCRT	BCRT Team Member	*Has been reviewed by BCRT and meets necessary requirements*	*Steve Carrozzo 4/30/2024*

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GENERAL INFORMATION

YEAR	PLANNED/ACTUAL SPEND AMOUNT ($)	PLANNED/ACTUAL TRANSFER TO PLANT ($)
2025	$10.5	$22.7M
2026	$7.9M	$7.9M
2027	$4.0M	$4M
2028	$0	$0

Project Life Span	*5 years*
Requesting Organization/Department	Enterprise Technology
Business Case Owner | Sponsor	Stephanie Myers | Mike Magruder, Hossein Nikdel
Sponsor Organization/Department	Energy Delivery Technology Projects
Phase	Execution
Category	Project
Driver	Asset Condition

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[*Investment Drivers*](#)

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1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

Avista's current Outage Management Tool (OMT) has been used for nearly two decades and is approaching obsolescence. The technology is becoming more and more difficult to configure to meet the changing business needs and has exceeded its useful life. The software has already undergone two major conversions to extend the life to this point. Both changes achieved their goals; however, the code is now more fragile which has increased the complexity of supporting OMT.

Additionally, the existing system is custom built and requires continual maintenance and support by internal staff whose skillset is becoming scarce, as the fundamental code and architecture is complex and outdated. OMT does not have the full complement of functionality required to meet current and future needs of the Distribution System Operators as they respond to an increasingly complex and dynamic electric distribution grid. Outage incident processing performance can be very slow and unstable during high-volume outage conditions (storms), particularly in field division offices, impacting the ability to restore service quickly. When a new configuration request is surfaced, the change cannot always be implemented, as the custom code and architecture may not allow it. The existing operating platform used by OMT is currently scheduled for end of life in 2025.

The existing OMT workflow does not include a fully digital workflow for field personnel who are responding to outage scenarios. This lack of a digital workflow creates gaps in situational awareness for the field personnel and the Distribution Operators who are planning and coordinating the restoration effort. These gaps can lead to potential safety hazards and inefficiencies in the restoration process. It also creates gaps in the level of detail collected during the damage assessment and restoration activities. These details are becoming increasingly important to be able to report on for programs such as Wildfire Resiliency. Modern ADMS platforms either includes or has the ability to integrate with a solution(s) that provide a fully digital workflow. This will enable both field and office personnel to have access to the same information and receive near real-time status updates during an outage event, improving safety and efficiency. A digital workflow also ensures that the damage and repair information is captured accurately and completely through the use rule driven forms.

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Switching (the process to de-energize a section of the electric grid for construction, maintenance, or repair) is another area for significant improvement in both effectiveness and safety. Currently switching plans are developed in a Word document through conversations with the people involved (Area Engineer, Foreman, Distribution Operators, etc.) and the plan steps are executed manually on the day of the planned switching activity. An ADMS provides a fully digital and integrated process for switch plan development, study mode, and execution of the switching activity. This fully digital process ensures that the switching meets all electric grid and safety requirements by monitoring each step of the plan against the actions taken and alerting the personnel if a step is missed, a step is invalid, or an error is made during the switching process. The switch plans are also stored in an online library for quick reference to have a highly reproducible process for future switch plans.

The existing Distribution Management System (DMS) has several challenges which the ADMS will address. First, the DMS relies on GIS data to determine the current operating state of the distribution system which is provided via an outdated, custom-built OMT integration. Frequent integration failures result in the two systems being out of synch with each other, requiring a significant amount of manual intervention to resolve each week. The DMS marginally meets the current business needs but will not meet future needs for additional distribution grid automation and Distributed Energy Resources requirements to meet customer choice, and Clean Energy Transformation Act requirements.

Regulatory bodies are also expected to soon require reporting on certain Wildfire Prevention initiatives and metrics, possibly including those related to observations, ignition locations, or prevention. Presently, OMT only provides minimal data on fire-related events or outages, and the methods to extract the data are very labor-intensive due to the tedious review needed of Distribution Operator notes in a simple text-box field.

It is additionally expected that regulatory bodies will expect reporting on certain Clean Energy Transformation Act (CETA) requirements by providing metrics outlined by Avista within its Clean Energy Implementation Plan (CEIP). Presently, these metrics are still being established through several parties including Avista's Connected Communities project, but it is highly probable that the business need of capturing the applicable data will not be possible in Avista's current solutions such as OMT.

1.2 Discuss the major drivers of the business case.

Avista can gain significant operations and business advantages by replacing the OMT and the DMS with an ADMS. A modern ADMS can address many of the issues currently faced by Distribution System Operators and Electric Operations field personnel. The benefits of an ADMS fully integrated with other enterprise systems along with optimized business processes include; improved outage

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analysis and restoration capabilities, improved safety, improved status information to customer facing systems, and improved system reliability and dependability. Avista responds to multiple major storm events per year. An ADMS with a fully digital workflow has the potential to reduce the labor costs of these major events by at least 10%. Based on actual storm costs for 2017-2021 that's an average savings of $340,379 per year (see table below) split 75% capital and 25% O&M.

Accounting Year	Summary Exp Category	Sum of Actuals	with ADMS	10% Savings
2017	Labor	$3,357,066	$3,021,360	$335,707
	Non-Labor	$4,460,419	$4,460,419	$0
2017 Total		**$7,817,485**	**$7,481,778**	**$335,707**
2018	Labor	$2,227,664	$2,004,897	$222,766
	Non-Labor	$2,649,948	$2,649,948	$0
2018 Total		**$4,877,611**	**$4,654,845**	**$222,766**
2019	Labor	$2,366,126	$2,129,514	$236,613
	Non-Labor	$5,341,119	$5,341,119	$0
2019 Total		**$7,707,245**	**$7,470,633**	**$236,613**
2020	Labor	$4,139,030	$3,725,127	$413,903
	Non-Labor	$14,288,254	$14,288,254	$0
2020 Total		**$18,427,284**	**$18,013,381**	**$413,903**
2021	Labor	$4,929,088	$4,436,179	$492,909
	Non-Labor	$14,398,068	$14,398,068	$0
2021 Total		**$19,327,156**	**$18,834,248**	**$492,909**
Annual Average		**$11,631,356**	**$11,290,977**	**$340,379**

A fully integrated ADMS provides capabilities that include: (1) a platform that integrates numerous utility systems to achieve improved operational awareness and grid management capabilities, (2) expanded real-time automated outage restoration, (3) enables real-time optimization of electric distribution grid performance, and (4) meeting regulatory requirements related to wildfire and CETA programs.

While improved customer experience is difficult to quantify, it is perhaps the most important business reason for justifying a new ADMS. During major outage event situations, the ability to communicate timely, accurate and consistent status of outages and estimated restoration time is of paramount importance to customers. Whether the customer hears directly from the utility, the media or a public agency, the information about the outage needs to be consistent. An ADMS is that vehicle to provide this timely, accurate and consistent information to customers.

Significant customer value from other corporate initiatives will be at risk if Avista lost the OMT and/or DMS capabilities and did not have an ADMS in place. This value is at risk if the ADMS project does not occur (or is delayed until OMT/DMS failure) because the Advanced Metering Infrastructure (AMI) meters simply provide near real-time data, they do not perform the analytics or initiate the

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optimization functions that produce the customer benefit. That work is currently accomplished by custom functionality within OMT and DMS, which would become native functionality within an ADMS. Some examples of these customer values from the August 2020 Avista Utilities Advanced Metering Infrastructure (AMI) Project Report include:

Benefit	**Average Annual Customer Value**
Early Outage Notification	$4,005,827
More Rapid Restoration	$2,269,968
Avoided Single Lights Out	$289,723
Reduced Major Storms Cost	$327,566
Conservation Voltage Reduction	$2,108,817

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1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

The OMT application and data model have been used for nearly two decades and are approaching technology obsolescence. Continuing to utilize OMT would continue to create Operating and Maintenance cost pressure while also creating risks of system failure during times of high demand (storms). Additionally, any investment in the current system is a sunk cost, as the system is limited in the additional functionality it can provide to our staff as they respond to electric customer outages on an increasingly complex distribution system and the underlaying platform in schedule for end-of-life in 2025. The current system is highly customized making it increasingly difficult to integrate with newer enterprise applications. OMT is a cornerstone to Avista's ability to manage the overall cycle of the electric outage and restoration processes for the Washington and Idaho electric service territories. If it is not replaced prior to system failure, it would likely double the amount labor required to complete the restoration efforts, while also increasing public safety risks and lowering customer satisfaction. Based on a five-year average of actual storm labor costs for 2017-2021 that's an addition cost of $3,403,795 per year (see table below) split 75% capital and 25% O&M. The costs and risks would continue to accumulate after the storm as daily operations would be impacted for the duration of an OMT system failure. The Avista Risk register has the impact range of an OMT system failure set at $1.0M - $10.0M.

Accounting Year	Summary Exp Category	Sum of Actuals	OMT/DMS Failure	Annual Cost Increase
2017	Labor	$3,357,066	$6,714,132	$3,357,066
	Non-Labor	$4,460,419	$4,460,419	$0
2017 Total		**$7,817,485**	**$11,174,551**	**$3,357,066**
2018	Labor	$2,227,664	$4,455,327	$2,227,664
	Non-Labor	$2,649,948	$2,649,948	$0
2018 Total		**$4,877,611**	**$7,105,275**	**$2,227,664**
2019	Labor	$2,366,126	$4,732,253	$2,366,126
	Non-Labor	$5,341,119	$5,341,119	$0
2019 Total		**$7,707,245**	**$10,073,372**	**$2,366,126**
2020	Labor	$4,139,030	$8,278,060	$4,139,030
	Non-Labor	$14,288,254	$14,288,254	$0
2020 Total		**$18,427,284**	**$22,566,313**	**$4,139,030**
2021	Labor	$4,929,088	$9,858,176	$4,929,088
	Non-Labor	$14,398,068	$14,398,068	$0
2021 Total		**$19,327,156**	**$24,256,245**	**$4,929,088**
Annual Average		**$11,631,356**	**$15,035,151**	**$3,403,795**

Since this is a multiyear project, the work needs to start as scheduled in order to have the ADMS fully operational before the OMT operating platform is no longer supported, and to meet increasing customer and regulatory expectations, which cannot be achieved with the legacy OMT and DSM applications. Avista needs to proceed with the work now in order to be ready for the future, in a similar way to how planning is done for future power needs; i.e., we don't wait until we run out of power to build new generation.

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Implementing an ADMS is a long-term project, so we don't want to wait until after our current system completely fails to meet our needs to start an ADMS project. If OMT is not replaced with a modern ADMS, the ability of Avista to meet current and future customer, regulatory, and compliance requirements will be at risk.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link***.**

Avista Strategic Goals

Having a modern ADMS will improve field and office worker productivity, provide more accurate data, and provide the ability to reengineer work processes and methods to support the continuous improvement of Avista's outage management and restoration program. It will also provide Avista with the ability to respond to more stringent and detailed regulatory compliance reporting requirements, enable effective operation of an increasingly complex and dynamic electric distribution grid, and may deliver more accurate Estimated Restoration Time (ERT) information to electric customers during outages. The improved ERT accuracy and restoration status for customers will improve customer confidence in the information which may reduce the number of calls received by our customer service representatives, as well as call durations. The additional Distributed Energy Resource Management (DERM) functionality will support the long-term goals of the CEIP and Connected Communities project. CEIP and Connected Communities goals are described in more detail in section 2.6. A DERM provides the ability to actively manage energy resources such and wind, solar, batteries, etc. based on specific grid requirements in order to achieved goals such as increased distribution grid reliability.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

Justification for system replacement is based on comprehensive assessments of technologies, processes and functions that were performed in 2015 by third-party consultants as part of an enterprise project planning process. The details of the assessments are available in the following supporting documents:

- Business Case
- Current State Report
- Future State Report
- Gap Analysis Report
- Industry Analysis Report

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

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- Requirements Report
- Alternative Analysis Report

The Gap Analysis report includes a list of more than 30 gaps in the current state OMT/DMS applications that would be resolved/corrected with the implementation of an ADMS. The conclusion from the third-part consultant is:

> Avista can gain significant operations and business advantages by replacing OMT with a commercial OMS (ADMS). A new OMS (ADMS) can address many of the issues currently faced by dispatch and field personnel. Properly integrated with other systems with optimized processes, benefits to be realized include improved outage analysis and restoration capabilities, improved status information to customer facing systems, and improved system reliability and dependability. A new OMS(ADMS) will improve Avista's ability to respond to storm condition outages and restoration processes.
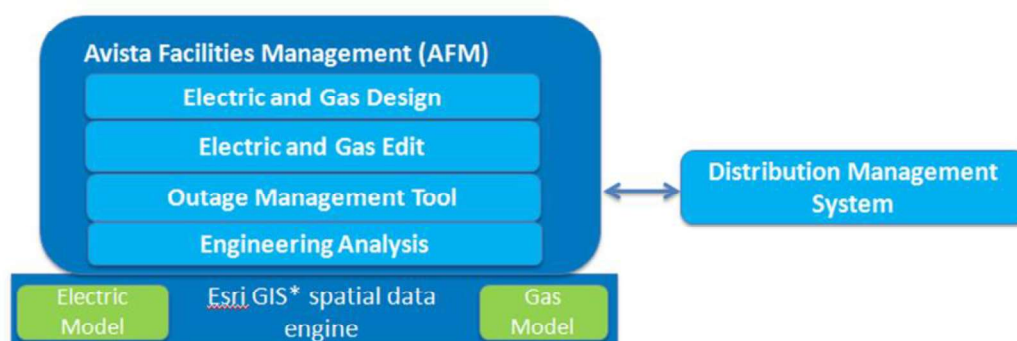
*GIS - Geographic Information System

An Esri Geographic Information System (GIS) serves as the foundational data structure on which Avista Facility Management (AFM) applications, including OMT, are built or rely on. AFM is the system of record for spatial electric and gas facility data and provides the connectivity model to support OMT. The following is a brief description of AFM tools.

- Electric and Gas Edit are tools inherent in the system used for data edits prior to committing final data changes and additions.
- Outage Management Tool is an in-house developed application that supports outage analysis and management.
- Engineering Analysis is a commercial tool used for engineering analysis modeling.
- Distribution Management System is a commercial application used to monitor and control the portion of the distribution grid that is enabled with "smart grid" technology. It relies on the GIS data from OMT to determine the current operating state.

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2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

Avista foresees a future utility architecture that bridges use cases across Customer, Grid, Operations, and Utility Enterprise domains. This future will require a technology platform that enables the integration of these domains. The industry standard for this platform is an Advanced Distribution Management System (ADMS). Replacing Avista's OMT and DMS with a single ADMS will achieve improved operational awareness and grid management capabilities, enable real-time automated outage restoration, enable real-time grid optimization and performance, improve field and office worker productivity, and provide the ability to reengineer work processes and methods to support the continuous improvement of Avista's Distribution System Operator program. An ADMS solution also provides Avista with the ability to respond to more stringent and detailed regulatory compliance reporting requirements, such as those for Wildfire Resiliency and the Clean Energy Transformation Act. A modern ADMS also enables the ability to deliver more geographically specific Estimated Restoration Time (ERT) information to electric customers during outages. The improved ERT accuracy and restoration status for customers will improve customer confidence in the information which will reduce the number of calls received by our customer service representatives, as well as call durations.

The additional Distributed Energy Resource Management (DERM) functionality will support the long-term goals of the CEIP and Connected Communities project. CEIP and Connected Communities goals are described in more detail in section 2.6.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

Detailed documentation from industry experts as listed in section 1.5 above, along with project costs from recent comparable projects at other utilities were used to determine the amount of the capital funds request and duration of the business case.

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

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Avista released a Request for Proposal (RFP) in Q3-2022 to qualified ADMS software vendors and implementors. The responses were evaluated and scored in order to determine the best ADMS solution. The RFP results were provided to the project governance group for review and approval to proceed. The decision was made to proceed into contract negotiations with the recommended solution from GE, which provided both a rich set of features and functionality and a very competitive price. An initial Phase 0 engagement is planned to refine the project's scope, schedule and budget which will reduce the risks of unforeseen issues impacting the project as work proceeds.

The funds in this business case will be utilized to fund the replacement of OMT and DMS with an ADMS. The project is estimated to have a four-year duration. Upon completion, the ADMS will fully replace both the existing Outage Management Tool and the Distribution Management System. The project is scheduled to start in Q2-2023, with a six month Phase 0 effort focused on validating the data model and identifying technically challenging use cases by running a series of tests utilizing the out-of-the-box GE software, using Avista's distribution grid data model and Avista's real-time distribution grid simulator. The Phase 0 effort will enable the project to efficiently proceed into the Phase 1 design and implementation effort in Q4-2023 with reduced risk to scope, schedule, and budget, improving the likelihood of completing the project as planned. The project will ramp up during 2023, then have a levelized spend for multiple years over the duration of the project.

The Regulatory Affairs Team has reviewed the project and determined that an internal rate of return calculation would not be needed for this project.

2.3 Summarize in the table, and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

The ADMS project is not forecasting any direct offsets because there will be no staffing or software reductions as a result of this project. **There will be incremental additions to O&M and Capital** due to support staff employees that will need to be hired to maintain the ADMS solution past Go-Live and into its 15-year projected depreciation lifespan. As of Q2 2024, the estimated costs for these new support staff employees are as follows.

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

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Offsets	Offset Description	2025	2026	2027	Annually Beyond
Capital	Employee Additions (not an offset)	$488K	$412K	$318K	$318K
O&M	Employee Additions (not an offset)	$251K	$235K	$247K	$247K

NOTE: The Capital and O&M additions shown on the chart above are based upon employee resources that have been approved by the SteerCo as of April 2024. Both the Capital and O&M amounts might change as this Business Case evolves over time, especially as the Narrative is updated year over year.

2.4 Summarize in the table, and describe below the INDIRECT offsets (Capital and O&M) that result by undertaking this investment.

Modernizing Avista's outage management software and business processes is potentially anticipated to provide the following indirect labor savings from improved work efficiencies for Field personnel and Distribution Operations personnel who respond to electric outages. The five-year estimated savings (starting in 2025) is estimated to be $1.0M.

These high-level estimated savings are based on a review of current and previous projects completed at Avista with a uniform efficiency value applied based on the types of applications deployed. The following are high-level estimates, and the Company does not currently have a way to track if these benefits will be realized.

Offsets	Offset Description	2025	2026	2027	Annually Beyond
Capital	Improved Storm Response	$255K	$255K	$255K	$255K
O&M	Field personnel	$81k	$81k	$81k	$81k
O&M	Distribution Operations Personnel	$120K	$120K	$120K	$120K
O&M	Improved Storm Response	$85K	$85K	$85K	$85K

OMS/ADMS Indirect Savings Estimates

Field Personnel Annual Indirect Offset Potential

Estimated Number of Users	85
Estimated Efficiency per User	15 minutes per incident
Estimated Usage Incidents per year	60
Standard Hourly Labor Rate	$85.00
Estimated Percent of Users in WA	75%
Estimated Annual Indirect Labor Offset	**$81,281**

Distribution Operations Annual Indirect Offset Potential

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Estimated Number of Users	10	
Estimated Efficiency per User	10	minutes per day
Estimated Usage Days per year	365	
Standard Hourly Labor Rate	$85.00	
Estimated Percent of Users in WA	75%	
Estimated Annual Indirect Labor Offset	$38,781	

Estimated Annual Indirect Labor Offset $120,063

Improved Storm Response

Avista can gain significant operations and business advantages by replacing the OMT and the DMS with an ADMS. A modern ADMS can address many of the issues currently faced by Distribution System Operators and Electric Operations field personnel. The benefits of an ADMS fully integrated with other enterprise systems along with optimized business processes include; improved outage analysis and restoration capabilities, improved safety, improved status information to customer facing systems, and improved system reliability and dependability. Avista responds to multiple major storm events per year. An ADMS with a fully digital workflow has the potential to reduce the labor costs of these major events by at least 10%. Based on actual storm costs for 2017-2021 that's an average savings of $340,379 per year (see table below) split 75% capital and 25% O&M.

Estimated Annual O&M Indirect Labor Offset $85,095
Estimated Annual Capital Indirect Labor Offset $255,294

Accounting Year	Summary Exp Category	Sum of Actuals	with ADMS	10% Savings
2017	Labor	$3,357,066	$3,021,360	$335,707
	Non-Labor	$4,460,419	$4,460,419	$0
2017 Total		**$7,817,485**	**$7,481,778**	**$335,707**
2018	Labor	$2,227,664	$2,004,897	$222,766
	Non-Labor	$2,649,948	$2,649,948	$0
2018 Total		**$4,877,611**	**$4,654,845**	**$222,766**
2019	Labor	$2,366,126	$2,129,514	$236,613
	Non-Labor	$5,341,119	$5,341,119	$0
2019 Total		**$7,707,245**	**$7,470,633**	**$236,613**
2020	Labor	$4,139,030	$3,725,127	$413,903
	Non-Labor	$14,288,254	$14,288,254	$0
2020 Total		**$18,427,284**	**$18,013,381**	**$413,903**
2021	Labor	$4,929,088	$4,436,179	$492,909
	Non-Labor	$14,398,068	$14,398,068	$0
2021 Total		**$19,327,156**	**$18,834,248**	**$492,909**
Annual Average		**$11,631,356**	**$11,290,977**	**$340,379**

Additionally, as part of CETA and CEIP, an ADMS will assist in achieving the goals of those programs for the indirect benefits listed below:

OMS ADMS

- Environmental Responsibility
- Regulatory Compliance of emission standards
- Economic Benefits of CETA implementation
- Equity Considerations for vulnerable populatons and highly impacted communities
- Improved Public Health and air quality
- Energy Assistance for low-income households

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Option	Capital Cost	Start	Complete
Alternative 1 – Rewrite Custom OMT and keep DMS	Not Available	01/2023	06/2026
Alternative 2 - Continue to utilize the custom OMT and DMS applications until OMT runs out of support in 2025	$1.0M	06/2023	12/2025

Alternative 1 – Rewrite OMT - Avista could endeavor to rewrite the current OMT application to function on the new Esri operating platform and data model. An initial effort estimate on this alternative indicates that it would have a lower first cost than implementing an ADMS however this alternative has several areas of high risk that would likely overshadow the initial costs savings. Examples include:

- Avista has made a corporate decision that it is not a software development company and will instead purchase and configure industry standard applications to reduce the risks and costs of owning and maintaining custom applications.
- OMT is a mission critical system. At the time it was originally developed by Avista there were no commercially available outage management applications that met Avista's requirements. That is no longer the situation.
- No other utility has written a custom OMT application using the new Esri operating platform. This first of its kind development effort has many unknowns that Avista would discover along the way likely increasing timelines, costs, and risks. Avista would also carry the sole responsibility for resolving performance/accuracy/reliability issues that will inevitably crop up in production with a first-generation application.
- Keeping OMT in the GIS environment, rather than moving it to a separate ADMS platform, keeps the outage system closely coupled to the GIS data model. This will introduce new risks and complexities as Avista transitions to Esri's new data model in the next 3-5 years.

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Having a separate ADMS platform will isolate the ADMS from future Esri data model changes.

- Keeping OMT in the GIS environment rather than moving it to a separate ADMS platform, would cause the system to continue to be susceptible to configuration changes made to support GIS Edit functionality which has an inadvertent negative impact on OMT. A change made in 2022 to support Edit introduced a data problem which did not reveal itself for several months, but eventually lead to a failure in OMT during an outage event.

- A rewrite of the existing functionality would not provide the improved safety, performance, and data accuracy features that a fully digital workflow through and ADMS would provide. Because a GIS environment is not built for the high volume of data and high rate of data change that is required during outage scenarios. This leads to slow performance as the volume of data and increases. This performance issue would not be overcome with a rewriting of the OMT application, because the underlying architecture would still have the performance limitation.

- Rewriting OMT is estimated to take about the same number of years as implementing an ADMS but does nothing to address the current shortcomings of the existing DMS or its inability to fulfill future needs of Distributed Energy Resources requirements to meet customer choice and Clean Energy Transformation Act requirements. These shortcomings would need to be addressed in a future project, extending the timing for when Avista would be able to meet those requirements and significantly increasing the total cost of ownership.

Alternative 2- Continue to use OMT - There's an option to continue to use the existing OMT in its current format with continued minor enhancements to keep it operational. It would not resolve any of the issues that have been identified throughout this narrative. In addition, delaying the start of a project to replace OMT and the DMS with a modern ADMS increases the risk that the existing systems will fail before an ADMS project can be completed. Should this risk occur, it would require the immediate increase of labor across many departments to implement manual work arounds for processes that rely on OMT. Avista needs to proceed with the work now to be ready for the future, in a similar way to how planning is done for future power needs; i.e., we don't wait until we run out of power to build new generation.

It is estimated that there would be $1M in capital costs yearly to build the systems to create the continuously changing workarounds described above. Additionally, there would be an estimated $500K to $1M annual O&M costs to provide ongoing support resources for these multiple workarounds and systems.

OMS ADMS

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Avista tracks a large number of electric system reliability statistics (SAIDI, SAIFI, CAIDI, etc.) that can and will be used to benchmark and measure success of the project. The project team will work with key stakeholders to determine which reliability statistics would be directly or indirectly influenced by the increased capabilities and functionality of an ADMS and use those as one measure of the success for the project.

As mentioned in Section 1.2 there are a series of high customer value items enabled by the data provided to OMT/DMS from the AMI meters. Those metrics will inform the project requirements, and the project team will undertake efforts to try to maintain (or possibly improve) the values with the integrated ADMS capabilities. This includes functionality such as automatic "pings" of AMI meters to validate power has been restored.

Wildfire Resiliency is a key focus area for Avista. The ADMS project team will coordinate closely with the Wildfire Resiliency team and idenfity key metrics they are tracking to inform the planned fully digital damage assessment and restoration workflow solutions, while capturing necessary data as much as possible from the ADMS.

Program details for the Clean Energy Implementation Plan (CEIP) and metrics are still being developed, however, it's clear that the plan will include the need for additional grid automation, new Distributed Energy Resources, and new non-wires alternatives for customers such as time of use rates and energy efficiency. Many of these potential alternatives of being explored in the Connected Communities project which is planned to start in 2023 and run for five years. The results of the project will be used to determine which alternatives will move out to the larger customer base. The ADMS project Team will be coordinating with the Connected Communities team as both projects are underway.

In order to achieve these goals a future utility architecture that bridges use cases across Customer, Grid, Operations, and Utility Enterprise domains is required. This future will require a technology platform that enables the integration of these domains. The industry standard for this platform is an Advanced Distribution Management System (ADMS). As details of the CEIP and others become more well defined in the coming years, the ADMS team will work collaboratively with these teams to determine specific metrics that will be achieved via the capabilities of the ADMS.

OMS ADMS

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The ADMS project is scheduled to start in mid-2023 and estimated to have a four-year duration. Upon completion, the ADMS will fully replace both the existing Outage Management Tool and the Distribution Management System and provide additional Distributed Energy Resource Management (DERM) functionality in support of the CEIP and Connected Communities project. The investment is planned to be deployed in two phases. First phase is planned to be used and useful in 2025 and the second phase in late 2026. The project costs related to each phase would transfer to plant in those years.

Phase 0	Phase 1		Phase 2
Test ADMS in Avista's Lab	**Phase 1A**	**Phase 1B**	**OpenDSO Enhancements**
• Test ability of the selected system with real-world use cases and devices	**Go-live with the OMS only**	**Go-live with New DMS**	• Incorporate learning from Connected Communities and other initiatives at the lab
• Confirm design approach and inform the detailed design work	• Legacy DMS still used for operations and New DMS only for monitoring	• New DMS to Go-live after period of stability of OMS	• Begin with Connected Communities Feeders
• Results used to refine scope schedule and budget for the main project	• Requires a parallel path for DNP3 communication with RTUs	• Switch over RTUs to New DMS	• Strategically/expanded to other DMS enabled feeders
CIM Compliant model	• ICCP integration between legacy DMS and New DMS for parallel operation	• Decommission legacy DMS	• Implement DERMS functionality
• Prepare the CIM-compliant model to be available at the starting point of the ADMS project	• Configure all RTUs to provide a parallel data stream to the ADMS Front End		
• *Network model for a specified substation/feeders will be transferred via GIS CIM exporter (built by Avista)*	• Implement all ADMS integrations		
	• Establish CIM (GIS) and understand how to deliver data to ADMS		
	• Decommission legacy OMT		

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Project Schedule for Phase 1A as of April 2024, shown below. Please note TTP in Q2 2025.
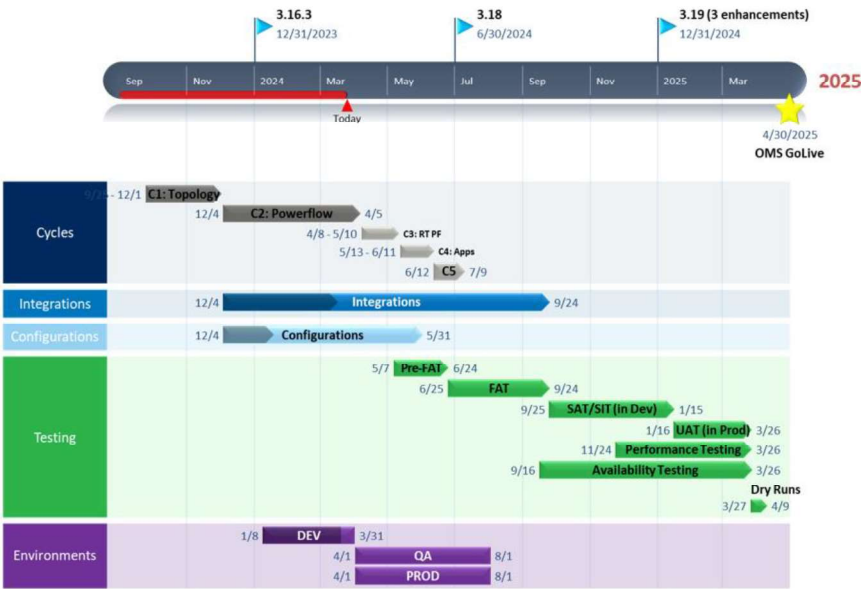
Phase 1B is initially scheduled to be completed end of 2025, and Phase 2 is initially scheduled to be completed end of 2026.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

This business case will have two levels of governance: The Executive Technology Steering Committee (ETSC), and Project Steering Committee that will be formed as part of the project initiation. The committees will review monthly project status reports, which identify project scope, schedule, and budget, as well as any risks and/or issues that the project team has identified.

Status reports to the steering committees will be used as the official review and approval process for prioritization and change requests. Risks, issues and change requests will be documented in project logs and kept as artifacts of each project within Enterprise Technology's project management software system.

OMS ADMS

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the *OMS/ADMS* Business Case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature: *Stephanie Myers*	Date: May-01-2024 | 11:03 AM PDT
Print Name: Stephanie Myers	
Title: Manager of Energy Delivery Technology Projects	
Role: Business Case Owner	

Signature: *Mike Magruder*	Date: May-01-2024 | 3:23 PM PDT
Print Name: Mike Magruder	
Title: Director of Transm Ops & System Planning	
Role: Business Case Sponsor	

OMS ADMS

Signature:	*Hossein Nikdel* DocuSigned by: E4E2D8C7EE4747F...		Date:	May-01-2024 | 3:24 PM PDT
Print Name:	Hossein Nikdel			
Title:	Director of Applications and Systems Planning			
Role:	Business Case Sponsor			

Basic Workplace Technology

EXECUTIVE SUMMARY

The Basic Workplace Technology (BWT) Program Business Case sponsors the tools and systems used by the technology teams to support business application. The Basic Workplace Technology business case delivers essential technology hardware and software productivity tools that end users need to perform day-to-day job functions. Generally, this includes personal computers, laptops, tablets, print/copy/scan systems, digital displays, monitors, mobile phones, and basic software productivity tools.

The Basic Workplace Technology (BWT) business case responds to five essential functions that equip our staff to optimize our business and be responsive to our customers. The five essential functions include: Employee Onboard; Contractor Onboard; Job Function Change; Off Cycle Exchange; and General Additions. Definitions further explaining these functions are identified below in section 1.2.

To ensure readiness for delivery, BWT maintains a reasonable inventory to meet business value timeframes. Inventory levels and demand for delivery determine the overall performance and capacity standards under the established budget allocations. Equipment purchases are realized through regular review of existing inventory, historical trends, reorder points, and planned requests. These reviews can result in calling for additional investment under this program from time-to-time for technology procurement trending behind planned requests. Not funding this program can result in delays in hiring, onboarding, job function changes, automation opportunities, etc.

The nature of basic workplace technology requests can vary, be either planned or unplanned and generally have short turnaround cycles. The short turnaround nature of the requests can cause chaos in the procurement processing of basic workplace technology, as the lag time from when a request is submitted to when it is fulfilled can exceed expected timeframes. Additionally, ad-hoc requests impact business value by un-batching technology orders, as well as reducing employee productivity and experience by submitting individual orders to meet requests. The business case is structured in such a way to handle both planned and unplanned short-cycle business demand to deliver basic technology items to all job functions and office areas.

The primary driver for this program is performance and capacity, whereby the Company balances the need to meet job function requirements and technology availability. To do so, it requires historical trend analyses, technology inventory management, and cost per unit control measures. The costs associated with each solution can vary by the type of solution and number deployed.

In order to deliver necessary technology items to workers, the recommended funding amount for this business case is $8,000,000 over the next five years, averaging $1,600,000 each year. Absent the Basic Workplace Technology deliverables, production is significantly impacted and becomes a blocking factor, as most job functions are extremely difficult to perform without digital productivity tools. For example, a new worker would not be able to adequately meet job function requirements in a customer call center without a personal computer and telephone. Thus, the ability to leverage productivity tools distributed through BWT directly impacts the Company's ability to deliver reliable and efficient service to customers.

Basic Workplace Technology

VERSION HISTORY

Version	Author	Description	Date
1.0	*Walter Roys*	*Initial draft of original business case*	*07/2019*
2.0	*Walter Roys*		*07/2020*
3.0	*Dave Husted*		*07/2022*
4.0	*Dave Husted*		*04/2023*
5.0	*Dave Husted*		*04/2024*
BCRT	*BCRT Team Member*	*Has been reviewed by BCRT and meets necessary requirements*	

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GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$1,600,000	$1,600,000
2026	$1,600,000	$1,600,000
2027	$1,600,000	$1,600,000
2028	$1,600,000	$1,600,000
2029	$1,600,000	$1,600,000

Project Life Span	*5 years*
Requesting Organization/Department	Enterprise Technology
Business Case Owner | Sponsor	Dave Husted | Alexis Alexander
Sponsor Organization/Department	Enterprise Technology
Phase	Monitor/Control
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1.   BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

BWT ensures that workers have the reliable, current, and necessary technology tools they need to fulfill their job duties. Technology enables workers to perform and communicate with greater efficiency and effectiveness. Without these tools, workers' productivity would decrease significantly, which would have an impact on their ability to support customers.

Basic workplace technology is required and allows Avista's workforce to perform office, call center, or field job functions. Technology assists the enablement and/or automation business processes that deliver gas and electric service to our customers. Regular job changes can occur in our workforce throughout our service territory as new employees or contractors are hired, leave, or retire, while others can change in job role or responsibilities. These planned or unplanned changes result in technology requests that can vary, and generally have short turnaround cycles of (2) two weeks or less to for fulfillment. Examples range from onboarding a cohort of customer service center staff, each requiring a technology suite to a change in job function requiring a completely different set of technology tools.

The short turnaround nature of the requests can cause challenges in processing procurement requests, which can result in lag time from when a request is submitted to when it is fulfilled and put worker productivity at risk of not having the technology to perform their new job assignment. Additionally, the ad-hoc nature of requests can impact business value by un-batching technology orders, as well as reduce employee productivity and experience by submitting individual orders to meet requests.

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1.2 Discuss the major drivers of the business case.

The Basic Workplace Technology Business case is to respond to technology requests that allow workers to meet performance expectations in their respective job functions within the capacity of in-portfolio technology at Avista. Therefore, the major driver for this business case is Performance & Capacity.

The business requests generally fit within these major categories:

- Employee Onboard: A request from leadership to deliver workspace technology for a new employee. The business case averages delivery on 160 Employee Onboard requests annually.
- Contractor Onboard: A request from leadership to deliver workplace technology for a new contractor. The business case averages delivery on 155 Contractor Onboard requests annually.
- Job Function Change: A request from leadership to add or change workplace technology to enable a job function change for an existing employee or contractor. The business case averages delivery on 90 Job Function Change requests annually.
- Off-Cycle Exchange: A request from leadership to exchange in service workplace technology, in a timeframe that does not align with a technology refresh cycle. The business case averages delivery on 50 Off-Cycle Exchange requests annually.
- General Additions: General requests from leadership for additional workplace technology. The business case averages delivery on 260 General Additions requests annually.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Assuring that each technology request is met within the expected timeframe for job additions or changes allows Avista's workforce to continue to provide gas and electric service to our customers across all our service territory. These timeframes for delivery are discovered by a combination of the type of request and an agreed upon completion date between the requestor and Coordinator team member. Priority of the request and team capacity are also considered as timeframes are determined.

Job role additions, and changes are not new and will not stop, as the utility workforce continues to evolve with many retiring from older roles, and new roles created to meet the changing nature of our industry. The risk of not approving this program will result in delay of technology fulfillment to Avista's workers who are requiring new technology due to a new job or change in job function.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

The technology investments under this business case program align with Avista's vision to deliver 'better energy for life' to our customers and in the area of 'Perform,' which calls for "our focus on performance today to serving our customers well and unlocking pathways to growth."

Tracking of each request is done to determine if each technology request is fulfilled within the (2) two-week timeframe, as the objective of this business case is to meet in-portfolio technology requests for employee and contractor onboarding, job function changes, off-cycle exchanges, and general additions.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

There are no specific studies to point to on the need for basic workplace technology since it is now an expected norm. Generally, all job functions require some form of basic technology equipment to perform day-to-day job assignments. From a computer with the right set of applications to a mobile radio that keeps field workers safe in remote and hard to reach locations. This program was designed to deliver on each of those requests based on the criteria mentioned above.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The basic workplace technology requests may generally include personal computers, tablets, print/copy/scan systems, television displays, monitors, telephones, etc., and the basic software productivity tools. They generally fall within these major categories and are therefore tracked accordingly: Employee Onboard; Contractor Onboard; Job Function Change; Off Cycle Exchange; and General Additions. This requires a need to keep a small amount of inventory to meet business value timeframes.

The technology solutions fall within the capacity of in-portfolio technology at Avista, and therefore the recommended solution is a funding level commensurate with historical technology requests for employee and contractor onboarding, job function changes, off-cycle exchanges, and general additions. This business case does not include planned technology refresh investments based on technology obsolescence.

The recommended solution allows the business case program to proactively plan for procurement intervals to maintain small batches of technology inventory in-house to meet the short-turnaround requests over the course of the year.

Historically, the business case has exceeded its initial capital funding level, referenced in the table below. The spending trend for 2024 predicts a forecast near $1,800,000. A greater initial funding level will ensure that the business case can continue fulfilling requests throughout the year without the administrative cost and delays occurred when making additional funding requests.

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

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BWT Historical Spend and Funding
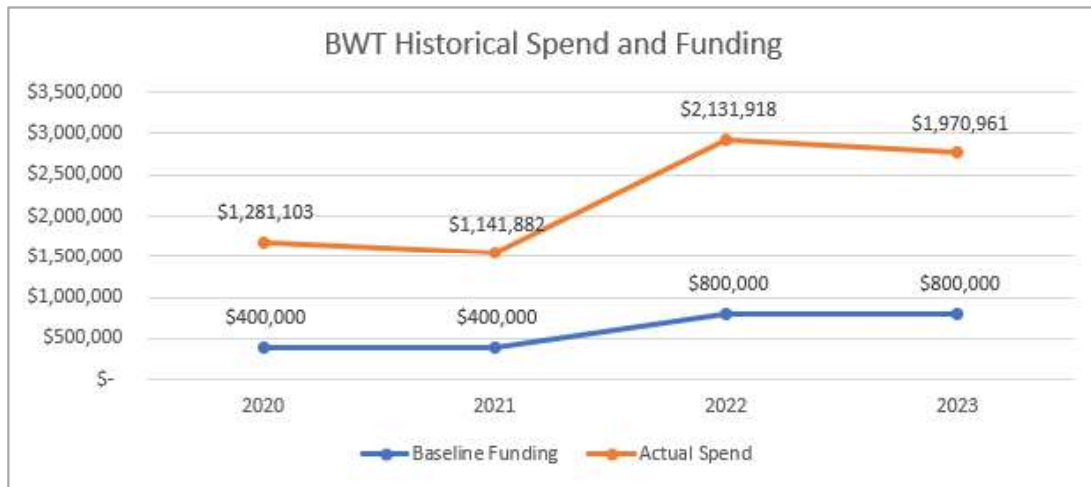
Option	Capital Cost	Start	Complete
Recommended Solution	$8,000,000	01/2025	12/2029
[Alternative #1] – 80% Funding Level	$6,400,000	01/2025	12/2029
[Alternative #2] – 70% Funding Level	$5,600,000	01/2025	12/2029

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

Due to the nature of unpredictability of job role additions or changes, a historical trend analysis is provided in the table below depicting request type counts by year. The historical spend by year is comprised of these requests.
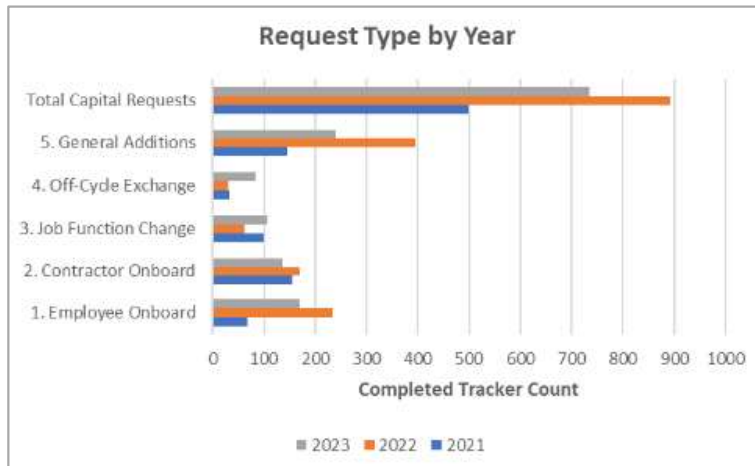
Request Type by Year

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

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2.3 Summarize in the table and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	N/A	N/A	N/A	N/A	N/A	N/A
O&M	N/A	N/A	N/A	N/A	N/A	N/A

There are no O&M reductions or offsets resulting from these investments, as this technology enables the Avista workforce to perform their day-to-day job functions in delivering gas and electric services to our customers.

2.4 Summarize in the table and describe below the INDIRECT offsets[4] (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	N/A	N/A	N/A	N/A	N/A	N/A
O&M	Operating Expenses	$100k-$10M	$100k-$10M	$100k-$10M	$100k-$10M	$100k-$10M

The basic technology tools that workers leverage daily are key to their performance and success. There was a time, of course, when the conveniences of technology productivity tools were not mainstream. As technology has been introduced and refined over the years, the value and benefit are certainly realized but perhaps taken for granted. In the current work environment, expectations and performance of workers are measured with the underlying assumption that they have technology at their side. Absent these tools, workers would flounder.

The funding requested under the Basic Workplace Technology business case will be invested in technology to fulfill business requests in the areas of employee and contractor onboarding, job function changes, off-cycle exchanges, and general additions.

New inventory levels are maintained to ensure that recipients are provided with technology equipment in a timely fashion. When an employee leaves their role a technology review and assessment is performed. Used technology that has not exceeded its useful lifespan is retained as spare inventory. Sparing levels are maintained and used primarily for like-replacement in break/fix scenarios. If spare inventory levels exceed our thresholds, they will be issued to new employees rather than purchasing new equipment. Used equipment that no longer has useful value is taken out of circulation and decommissioned.

Issuing equipment beyond its useful lifespan introduces the risk of productivity reduction by using inferior devices that are more prone to breakdown. The stability and reliability gained from the issuance of new equipment is realized as both indirect savings and productivity gain.

Roughly 1,500 people leverage BWT in their day-to-day job duties. Without proper technological equipment, productivity would be severely impacted, and staffing levels would need to significantly increase. The Company does not have a method to quantify such a broad indirect saving.

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

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Investment in these technologies can result in added O&M expenses from an increase in licenses from time to time. There are no O&M reductions or offsets resulting from these investments, as this technology enables the Avista workforce to perform their day-to-day job functions in delivering gas and electric services to our customers.

All Avista business functions requesting basic workplace technology due to a job addition or change, off-cycle exchange, or general addition are affected by this business case, as it enables everyday work activities and automated business processes.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Several options were considered and proposed. However, the 'Do Nothing' alternative was removed as an option, as it is not realistic. Below are the alternatives discussed in detail.

Alternative 1:

- A 'Do Nothing' option would not fund the basic technology items and become a blocking factor of productivity; job functions are extremely difficult to perform without digital productivity tools. For example, a new worker would not be able to adequately meet job function performance requirements in a customer call center without a personal computer and telephone.

Alternative 2:

- Alternative #2 is to fund 80% of the recommended solution and seek alternative ways to reduce deployment costs to deliver basic workplace technology and return during the year for additional funds to meet business demand, if not successful. If these additional funds are not fulfilled, the business case will not be able to deliver necessary technology items to workers, thereby rendering them unable to work effectively and efficiently.

Alternative 3:

- Alternative #3 is to fund 70% of the recommended solution and seek alternative ways to reduce deployment costs to deliver basic workplace technology and return during the year for additional funds to meet business demand, if not successful. If these additional funds are not fulfilled, the business case will not be able to deliver necessary technology items to workers, thereby rendering them unable to work effectively and efficiently.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

This business case is a program of blanket technology projects that transfers to plant monthly. Quarterly forecasts capture changes in transfers to plant based on trends of fulfillment requests.

Each investment under this business case program allows Avista to deliver electric and gas services to our customers.

Nearly all Avista's workforce interface with basic workplace technology business case, either as a leader requesting technology changes or a worker responding to job role and responsibility changes.

The technology deployed under this business case is in the existing technology portfolio, which is driven by engineering teams who are responsible for managing technology obsolescence and asset lifecycles.

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Basic Workplace Technology

The reason that the technology investment under the Basic Workplace Technology program business case is prudent is because the Avista workforce requires this technology every day to deliver gas and electric service to our customers either in an office, customer service center, or in the field.

Basic workplace technology deployments that fall under this business case are often in short notice, and minimum inventory quantities are maintained to meet business value timeframes. The business case is structured in such a way to handle both planned or unplanned short-cycle business demand to deliver basic technology items to all job functions and office areas.

Alternative funding levels are considered, yet not investing in it is not an option as basic workplace technology is a minimum requirement to perform day-to-day job functions to deliver gas and electric service to our customers, respond to compliance requirements, and conduct business operations and reporting.

Additionally, the existing governance structure overseeing this business case program meets regularly to oversee and make decisions on the ongoing needs, benefits, costs, and risks associated with basic workplace technology fulfillment requests.

Nearly all Avista's workforce interface with basic workplace technology business case, either as a leader requesting technology changes or a worker responding to job role and responsibility changes.

The technology deployed under this business case is in the existing technology portfolio, which is driven by engineering teams who are responsible for managing technology obsolescence and asset lifecycles.

2.7 Please provide the timeline of when this work is scheduled to commence and complete, if known.

This business case is a program of blanket technology projects that transfers to plant monthly. Quarterly forecasts capture changes in transfers to plant based on trends of fulfillment requests.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The Basic Workplace Technology Delivery governance team will act as the governance committee that oversees investment under this business case. The governance team consists of the Business Case Owner, Business Case Sponsor, and may include other key leadership stakeholders.

The governance team is accountable for the financial performance of this business case. The governance team will have regular monthly meetings to review the progress of the program and make decisions on the following topics:

- Prioritization of Business Drivers
- Funding Constraints
- Long-term Planning
- Scope of Workplace Technology
- Monitoring Workplace Technology Productivity

The governance structure under this business case program is responsible for decision-making, prioritization, and change requests. Through the regular Program Steering Committee Meetings, the team reviews and balances planned work versus unplanned work to determine prioritization, as well as pending project change requests. Any change request requiring either an increase or decrease of funds is reviewed at the upcoming Technology Planning Group meeting before it is submitted to the Capital Planning Group for consideration.

Business Case Justification Narrative Template Version: February 2023

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Basic Workplace Technology

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Basic Workplace Technology Business Case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature: *Dave Husted*

Date: Apr-29-2024 | 8:19 AM PDT

Print Name: Dave Husted

Title: Technology Services Manager

Role: Business Case Owner

Signature: *Alexis Alexander*

Date: May-03-2024 | 1:20 PM PDT

Print Name: Alexis Alexander

Title: Director, Information Technology

Role: Business Case Sponsor

Business Case Justification Narrative Template Version: February 2023
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Control and Safety Network Infrastructure

EXECUTIVE SUMMARY

The Control and Safety Network Infrastructure Program[1] Business Case administers multiple projects specifically scoped for the provisioning and expansion of network communications assets for Avista's generation, transmission, and distribution assets which support the safe and reliable energy delivery to Avista customers. Assets included in this business case have a finite lifecycle. And, given the pace of change in technology, constant threats from bad actors, growth of the Avista network and need to have suitable performance and capacity, the project work done within this program will help maintain a robust and reliable network. The Control and Safety Network Infrastructure enables the ability to remotely monitor, control, and operate critical business and safety systems. If this business case did not exist or receive funding, the network communications assets that enable data transmission in control and safety environments could fail, become vulnerable to cyber-attacks from bad actors, or could become obsolete which would result in a lack of real time communication for field crews, a lack of visibility into generation, transmission, and distribution status, or even a lack of control of field assets for safety events. This business case also serves to design and deploy new communication network assets for control and safety environments as Avista's service area and business functions expand.

For this business case, funding is being requested at $8,000,000 over five years to upgrade or replace network communication systems and assets within the control and safety environments. Collectively these assets & systems are tracked by lifecycle management, manufacturer warranty, maintenance, and support (contract) status, licensing, capacity, and replacement costs. Manufacturer lifecycles drive a considerable portion of the required work within this request. Concurrently, a sizable portion of work is also driven by the ongoing modernization and digitization of energy delivery infrastructure.

Avista customers across all jurisdictions will benefit from the projects in this program by having a robust network that has capacity and reliability to transport real-time data on system status and performance. Proactive updates to assets or timely placement of assets to locations will reduce possible service interruptions or delays. With reduced funding, risk increases by way of system failures that can interrupt services as it relates to the safe and reliable delivery of energy to customers across the Avista service territory.

Currently, there are no direct cost savings. Indirect offsets may be realized with fewer truck roles, staff efficiency, etc.

VERSION HISTORY

Version	Author	Description	Date
3.0	*Shawna Kiesbuy*	*Update content and new template*	*4/2023*
4.0	*Shawna Kiesbuy*	*Annual update*	*4/2024*
BCRT	*Heidi Evans*	*Has been reviewed by BCRT and meets necessary requirements*	*04/19/24*

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[1] [1] "A Program is defined as related projects, subsidiary programs, and program activities managed in a coordinated manner to obtain benefits not available from managing them individually. Managing projects, subsidiary programs, and program activities as a program enhances the delivery of benefits by ensuring that the strategies and work plans of program components are responsively adapted to component outcomes, or to changes in the direction or strategies of the sponsoring organization.," Project Management Institute Global Standard, The Standard for Program Management, Fourth Edition. Page 3 (Copyright 2017).

Control and Safety Network Infrastructure

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$1,200.000	$1,100,000
2026	$2,300,000	$3,100,000
2027	$1,500,000	$1,300,000
2028	$1,500,000	$1,300,000
2029	$1,500,000	$1,300,000

Project Life Span	*5 years+*
Requesting Organization/Department	Enterprise Technology/Network Systems
Business Case Owner | Sponsor	Shawna Kiesbuy | Alexis Alexander
Sponsor Organization/Department	Enterprise Technology/Network Systems
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

Assets included in this business case have a finite lifecycle. And, given the pace of change in technology, constant threats from bad actors, growth of the Avista network and need to have suitable performance and capacity, the project work done within this program will help maintain a robust and reliable network. This business case administers multiple projects specifically scoped for the provisioning, refresh and expansion of network communications systems and assets for Avista's generation, transmission, and distribution environments which deliver safe and reliable energy to Avista customers. The Control and Safety Network Infrastructure enables the ability to remotely monitor, control, and operate critical business and safety systems. These systems include those connecting users in an emergency or safety situation, controlling generation assets, maintaining, and expanding push-to-talk radio connectivity for field crews and other personnel, communication networks for protective relays, and supervisory control by providing data and control of transmission and distribution assets in the field. These network system examples, and many others, must be maintained based on a periodic upgrade schedule. If this business case did not exist or receive funding, the network communications assets could fail, become vulnerable to cyber-attacks from bad actors or the technology becomes obsolete which would result in a lack of communication and data for field crews, a lack of visibility into generation, transmission, and distribution status, or even a lack of control of field assets for safety events. This business case also serves to design and deploy new communication network assets for control and safety environments as Avista's service area and business functions expand.

Control and Safety Network Infrastructure

1.2 Discuss the major drivers of the business case.

The main driver for this business case is Performance and Capacity. The network communications infrastructure enables command-and-control applications within Avista's critical business and safety systems. Creating and managing this program business case is crucial to supporting the safe and reliable delivery of gas and electric services to our customers. Specifically, the Controls and Safety Network Infrastructure facilitates the ability to control electric generation, transmission, and distribution assets in addition to carrying voice communications to field and line crews working on outage events. With Performance and Capacity as the business case driver, the network communication assets are managed in alignment with technology lifecycles based on manufacturer product roadmaps and planned obsolesces to proactively reduce the business impact that failing assets serving critical operations systems, processes, and infrastructure reliability would deliver.

The network infrastructure investments in this business case are necessary to sustain our business by using technology to deliver real time data for control and safety operations. This business case specifically addresses network infrastructure requirements for energy control systems and systems necessary for the safety of our workforce and public. The business case considers business impact vs. likelihood/probability when sequencing and prioritizing resource allocations and responds to vendor-manufactured product obsolescence risks as well as cyber security risks.

The use cases supported in this business case include the network infrastructure requirements for Substation-to-Substation Communication, Substation SCADA (Supervisory Control and Data Acquisition), SCADA/EMS Control, Generation Control, and Land Mobile Radio. The key performance indicator for network availability and reliability is 99.9%, 24x7. Our investment sequencing is based on three drivers, 1) Compliance, 2) Initiatives, 3) Reliability. The Compliance driver should be regulation, Initiatives are executive sponsored (current example is a cybersecurity vulnerability risk on out-of-support assets), and the Reliability driver is often the highest volume of work.

The sequencing of the Reliability projects is driven first by the network asset end-of-support date for cybersecurity patching, then the performance and capacity to meet the business requirement, and lastly product obsolescence date.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

The network project work captured in this program business case enables the ability to control and operate core services at our generation, transmission, and distribution facilities. With Avista's vision of delivering better energy for life, this business case is key to enabling the gas and electric service delivery to our customers in a safe and reliable manner. The work is needed daily and is ongoing with a direct tie to our core operations.

The risks of not approving this business case at the level to which it can maintain the balance of meeting its asset management strategy and scale for future technology could result in unplanned failures and outages to our communication network system. The result is tied to the following risks: an increase in employee, contractor and/or public safety risks due to the inability to see and remotely operate the electric and gas systems. This risk has the potential to increase labor and non-labor costs tied to unplanned system scope changes, where delays to procurement can be realized to replace the failed asset, as well as downtime to the critical systems supported. This would also lead to additional exposure of outdated or unsupported devices to external cyber vulnerabilities.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

[Avista Strategic Goals](#)

Control and Safety Network Infrastructure

The network enables the ability to control and operate core services. These services include connecting users in an emergency or safety situation, controlling generation assets, maintaining, and expanding push-to-talk radio connectivity for field crews and other personnel, and supervisory control by providing data and control of distribution assets in the field. These network system examples, and many others, move and present data that drive operational decisions and controls, tying back to all four strategic goals affecting our customers, people, performance, and invention.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[2]

The Software Engineering Institute at Carnegie Mellon University in 2018 updated a collection of 2011 studies which establish the base structure of the "Smart Grid Maturity Model", and the sub architectures thereof. Several challenges are identified and discussed in the studies specifically around the interconnection and intersection of critical operational controls systems and modern communications technologies.

Avista network systems architects also engage in industry events hosted by, for example, the Utilities Technologies Council, which discusses these industry challenges.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

Executing and completing planned projects within this business case should refresh assets or install new instances of technology to increase reliability, performance, and capacity. If the fail rate associated with the network systems in the business case remains low, then the project work is adding value by proactively reducing the business impact and associated risk of failing assets affecting critical operations systems, processes, and infrastructure reliability. In addition, expanding network assets in advance of Avista adding services ensures uninterrupted business operations and reliable performance and capacity.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[3]

Each individual network infrastructure asset is tracked throughout its active presence using several systems. Collectively these systems track lifecycle, manufacturer warranty, maintenance, and support (contract) status, licensing, capacity, and replacement cost. Manufacturer lifecycles drive a considerable portion of the required work within this request. Concurrently, a sizable portion of work is driven by the ongoing modernization and digitization

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

[3] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

of energy delivery infrastructure. Subject Matter Experts in Energy Delivery are regularly consulted with in technical cadences so that a real-world, collaborative approach is taken to evaluate each asset's risk of failure, as well as the impact of a given failure. Capacity and performance planning activities occur in the same forum, the result of which is a robust controls and safety communications network that will enable the reliable and safe delivery of energy.

*Growth may not be capitalized in listed BC

**Accurate as of this writing and subject to change based on future manufacturer notifications

EoL= End of planned asset lifecycle

Communication Network Assets within the Controls and Safety Network Infrastructure solution portfolio are selected for a planned lifecycle of 10 years, with some exceptions.

2.3 Summarize in the table, and describe below the DIRECT offsets4 or savings (Capital and O&M) that result by undertaking this investment.

There are no direct savings related to this business case.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M		$0	$0	$0	$0	$0

2.4 Summarize in the table, and describe below the INDIRECT offsets5 (Capital and O&M) that result by undertaking this investment.

There are no indirect savings related to this business case.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M		$0	$0	$0	$0	$0

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:

Fund the business case at an amount which is less than the original request.

Funding of this business case at an amount less than the full request will reduce expansion of network communication systems to meet business needs in multiple control and safety areas of the business. This reduction in funding will also lessen the ability for a proactive approach refreshing systems to be upgraded prior to failure creating a loss of communications which increases the risk of failure or cyber security vulnerability because assets will no longer be supported by their manufacturers.

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4 Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

5 Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

Control and Safety Network Infrastructure

Alternative 2:

Do not fund the business case

Removing all funding for this business case would be catastrophic for Avista since this business case provides network communications to generation, substation, transmission, and distribution sites to support safe and reliable energy delivery. The network enables the ability to control and operate core services. If the projects in this business case cease to exist, there will be no funding to expand the backbone transport supporting future sites (substation and generation sites), on transmission or distribution poles, and the network systems that age beyond their vendor lifecycles will fail. These failures translate to a lack of visibility and control into critical systems that deliver gas and electric services.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Executing and completing planned projects within this business case should refresh assets or install new assets and systems to enhance and increase performance and capacity needs. If the fail rate associated with the network systems in the business case remains low, then the project work is adding value by proactively reducing the risk of failing assets affecting critical operations systems, processes, and infrastructure reliability. In addition, expanding network assets in advance of Avista adding services ensures business operations are not delayed and the system reliability is properly addressed with increased capacity.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The Control and Safety Network Infrastructure business case is managed as a program of projects planned yearly. Throughout the year, the business case's multiple projects are Initiated, Planned, Executed, and then Completed with a Transfer to Plant for the individual projects in this business case. Therefore, investments become used and useful on a project-by-project basis and happen frequently throughout the year. Additionally, the assets deployed are typically short-lived assets. Therefore, the work in this program is largely cyclical. Lifecycle management analysis and business risk criteria are consistently analyzed and considered.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

Steering Committee members are invaluable to the project and will provide approval on scope, schedule, and budget related changes. Additionally, they will provide approval on issues and risks pertaining to project deliverables outlined in this document, which also typically have an impact on the scope, schedule, or budget of a project. Steering Committee members will also provide approval on Change Requests, Go-Live, and the Approval to Close documents. For the Control and Safety Network Infrastructure business case, the Steering Committee will consist of the Directors and Managers within ET, Energy Delivery, GPSS and the Business Case Owner.

The Control and Safety Network Infrastructure Business Case has two levels of governance: The Program Steering Committee and the Project Steering Committee.

Program Steering Committee

> This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering

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Control and Safety Network Infrastructure

Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administered by an assigned Program Manager within the PMO. The project queue will be reviewed periodically to plan and sequence work to the levels of funding allocation received.

Project Steering Committee

Project Steering Committees function as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible for providing guidance and making decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the PMO.

Project prioritization is evaluated by the management team monthly. Each program and project steering committee meet regularly and oversee scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the Technology Planning Group (TPG) or Capital Planning Group (CPG) for decision-making around resource or funding constraints.

Any changes in funding or scope are documented at the Business Case level, via a Change Request document that is presented to the CPG monthly and evaluated by the CPG for approval.

Changes in scope, schedule, or budget are also documented through a 'Change Request' at the project level and reviewed and approved through a formal workflow process. All ET projects in this business case are managed through the PMO, which follows the Project Management Institute (PMI) standards. Projects initiate with a 'Charter' to begin the planning process. When planning is complete, a 'Project Management Plan (PMP)' is created and approved as the project baseline for scope, schedule, and budget. At the end of execution, an 'Approval to Go Live' is submitted and approved prior to implementation (Transfer to Plant). After the technology is in service and out of the warranty period, the Project Manager will hold a Lessons Learned, and subsequently submit an 'Approval to Close' prior to finishing the project. All Monitor and Control documentation and Change Requests are documented and stored to ensure a comprehensive audit trail.

Control and Safety Network Infrastructure

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Control and Safety Network Infrastructure business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*DocuSigned by:*
	3CD905A81B984C3...
Print Name:	Shawna Kiesbuy
Title:	Sr. Manager, Network Engineering
Role:	Business Case Owner

Date: May-06-2024 | 6:58 PM PDT

Signature:	*DocuSigned by:* Alexis Alexander
	EA27BABA767F467...
Print Name:	Alexis Alexander
Title:	Director, Information Technology
Role:	Business Case Sponsor

Date: May-07-2024 | 6:08 AM PDT

Signature:	N/A
Print Name:	
Title:	
Role:	Steering/Advisory Committee Review

Date:

Data Center Compute and Storage

EXECUTIVE SUMMARY

The Data Center Compute and Storage Program Business Case sponsors the tools and systems used by the technology teams to support business application hosting, data storage, and disaster recovery. Business processes require technology solutions to meet the ever-increasing need for data and information to automate business processes and support decision making by utility employees. All industries are reliant on the ability to produce, transmit, analyze, and store information to meet various business requirements. This digitalization is resulting in an ever-growing need for data processing and storage for on-demand requests and decision-making. Avista is no different. The Company produces, transmits, analyzes, and stores meter data, telemetry data, asset data, customer billing data, geographic information systems data, etc. Data processing and storage requires high reliability and is no different than our electric and gas grids supplying customers with power and gas. The Data Center Compute and Storage Systems business case is a program of investments in server and storage technology required to process and store massive amounts of data to automate and enable business processes that support our gas and electric customers across our service territory.

The technology solutions to meet performance standards and reliability requirements can vary from hardware and software upgrades in an on-premise data center, offsite storage, or service provider (cloud) facility, or in operating technology to optimize compute and storage capacity and reliability. Solution costs can also vary depending on the magnitude of the technology footprint or vendor licensing model(s). As an enabling technology, data center processing and storage investment benefits all Avista customers. It optimizes cost and productivity by not reverting to manual business processing, which would result in increased labor costs, human error, and overall processing delays. Because technology is evolving so quickly, this program undergoes regular review of the levels of investment and utilization needed to meet performance and capacity standards, and reliability requirements, while balancing against pre-established budget allocations. These reviews can result in calling for additional investment under this program for technology at risk of poor application system performance, system unavailability and risk of cyber and ransomware attacks.

In order to maintain these business tools and systems supported by this business case, the recommended funding amount is $16,655,470 over the next five years, averaging $3,331,094 each year.

VERSION HISTORY

Version	Author	Description	Date
1.0	Walter Roys	Initial BCJN Draft	6/2017
2.0	Walter Roys	Revision of BCJN to new template	7/2020
3.0	*Walter Roys*	*Revision of BCJN*	*8/2022*
4.0	*Walter Roys*	Revision of BCJN to new template	*4/2023*
5.0	*Walter Roys*	Revision of BCJN to new template and content update	*4/2024*
BCRT	*BCRT Team Member*	*Has been reviewed by BCRT and meets necessary requirements*	

Data Center Compute and Storage

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$2,695,377	$2,695,377
2026	$3,853,902	$3,853,902
2027	$3,396,700	$3,396,700
2028	$2,772,801	$2,772,801
2029	$3,936,690	$3,936,690

Project Life Span	*5 years*
Requesting Organization/Department	Enterprise Technology/Systems Engineering
**Business Case Owner	Sponsor**	Walter Roys	Alexis Alexander
Sponsor Organization/Department	Enterprise Technology/Systems Engineering
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1.   BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

Technology is not only subject to the traditional mortality rate or lifecycle, but it is compounded by planned obsolescence, also known as technology obsolescence. That is, whereby, the technology asset although within its functional lifespan is technologically flawed or no longer meets the need of users or customers, as expectations increase due to newer and more powerful technology that is available in the market. Data center compute and storage technology is no different which is why this business case is needed to stay up to date to perform at a high level and provide adequate capacity.

Additionally, with the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, to maintain security compliance, interoperability, and compatibility with other technologies. The Data Center Compute and Storage business case is essential to enabling the capabilities that align with our strategic goals of putting our customers' interests at the forefront of our decisions.

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Data Center Compute and Storage
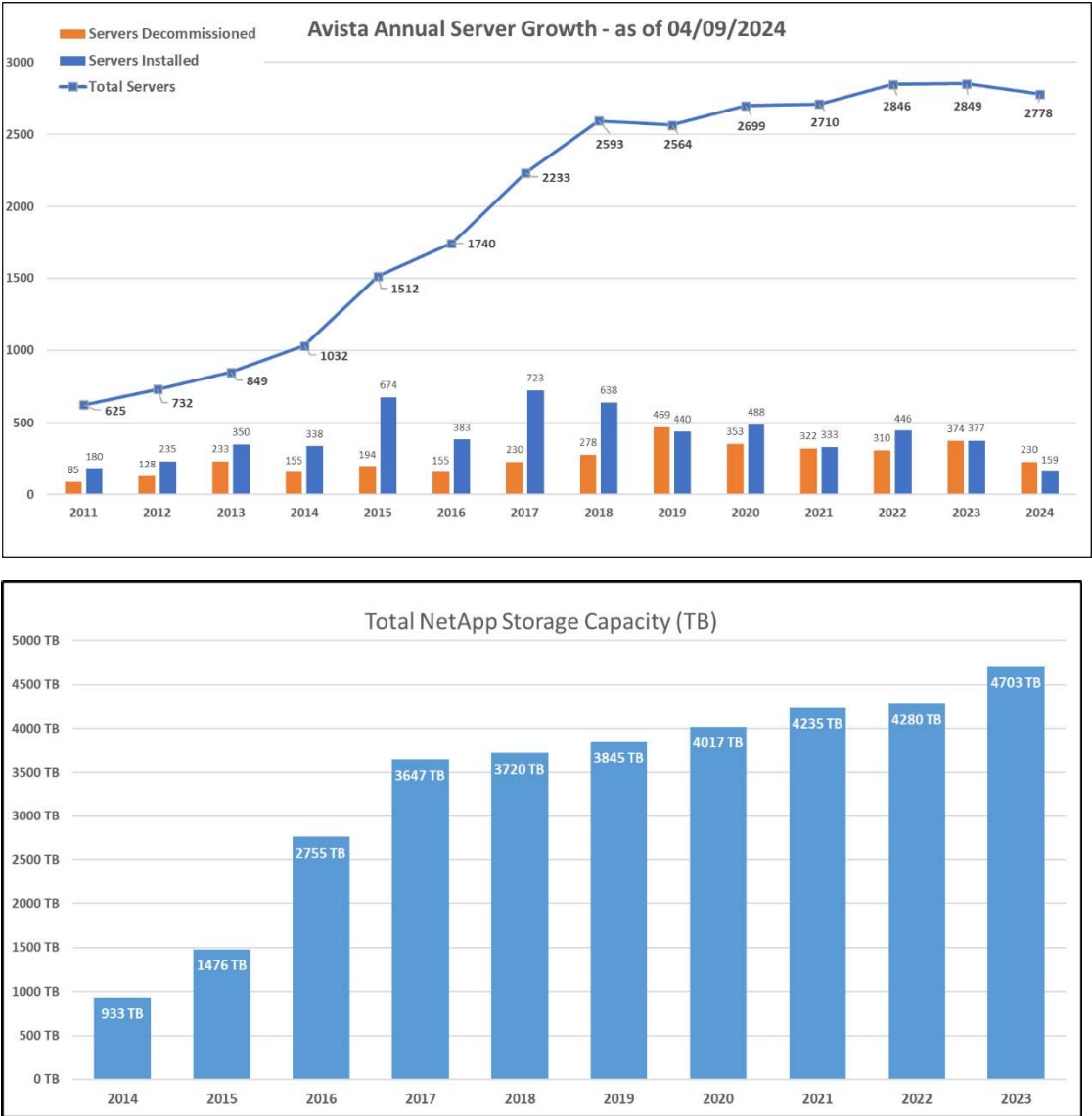
1.2 Discuss the major drivers of the business case.

The Data Center Compute and Storage Systems Business Case is driven by managing technology replacement according to manufacturer product roadmaps or changes in business requirements with an objective to maintain infrastructure performance and align infrastructure assets with business demand for capacity. Therefore, it falls under the Performance and Capacity investment driver.

All Avista customers benefit from maintaining data center compute and storage systems, as this technology enables the Avista workforce to perform their day-to-day job functions in delivering safe and reliable gas and electric service to our customers. Additionally, assets that fail due to not being replaced within their technology lifecycle are replaced by the Technology Failed Asset business case, which tracks technology asset failures, and is also used as a data point to inform the technology lifecycles under this business case.

Data Center Compute and Storage

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Avista's offices, call center, and field staff require on-demand information to meet customer expectations when providing gas and electric service to customers across our service territory. The information can be critical to prevent, reduce, affect, or optimize an outcome that benefits our customers.

Reliance on obsolete technology that stores and computes many of our on-premise business applications to automate business processes presents significant risk that in reality could not be solved with the reinstatement of manual processes. Continued operation of obsolete or End Of Life equipment increases the risk of cyber-attacks including ransomware that would pose a serious risk to the safe and reliable delivery of energy.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

Investments under this business case are to maintain performance and capacity standards in each respective data center compute and storage technology. For example, when the product manufacturer terminates maintenance and support for specific devices or solutions, an asset therefore becomes incompatible with other advancing technologies. This introduces the risk of cyber-attack and this business case will change or upgrade the asset.

The technology investments under this business case program align with Avista's vision to deliver 'better energy for life' to our customers and in the area of 'Perform', which calls for "our focus on performance today to serving our customers well and unlocking pathways to growth."

Each investment under this business case program allows Avista to deliver electric and gas services to our customers.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

The Enterprise Technology team references various technology vendor and third-party resources to stay informed and recommend decisions on the various technology investments. A few sample sources are included below:

Directions on Roadmaps, Independent IT Planning Information and Advisory Service focused exclusively on Microsoft enterprise software and services. Retrieved from https://www.directionsonmicrosoft.com/

Gartner Industry Research and Reference Material. Retrieved from https://www.gartner.com/en/information-technology

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Data Center Compute and Storage

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The data center compute and storage technology systems provide the infrastructure foundation for basically all automated business processes.

The recommended solution is to Address 100% of obsolete products and capacity constraints.

This is the optimal solution. This option fully addresses and minimizes the likelihood of technology impact to automated business process.

The funding requested under the Data Center Compute and Storage Business Case will be invested in technology, such as:

- Data center compute technology, which includes both on premise servers and cloud services
- Remote office compute and storage
- Application systems to manage compute and storage technology
- Server operating systems (OS)
- Data storage systems
- Data center racks and power distribution units (PDU)
- Backup and recovery systems

Investment in these technologies can increase or decrease O&M expenses. These can include licensing increases from time to time, or decreases in workload for O&M resources. However, not funding this business case may result in removing automated business functions, which will either cause delay in meeting business and customer demands or completely change whether we can even respond to business and customer demands. There are no O&M reductions or direct offsets resulting from these investments, as this technology enables the Avista workforce to perform their day-to-day job functions in delivering gas and electric service to our customers.

Reliance on obsolete technology for automated business process presents significant risk that may only be solved with the reinstatement of manual process. Sustaining automated business process by replacing automation with workforce would increase labor expense.

Additionally, with the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies. These upgrades can in turn drive subsequent system replacements, creating a cascading event of change. Therefore, vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure.

Option	Capital Cost	Start	Complete
Recommended: Address 100% obsolete products and capacity constraints (recommended)	$16,655,470	01 2025	12 2029
Alternative #1: Address 75% obsolete products and capacity constraints	$12,491,603	01 2025	12 2029
Alternative #2 Address 40% obsolete products and capacity constraints	$6,662,188	01 2025	12 2029

Data Center Compute and Storage

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

The funds request was based on a calculation of the performance and capacity associated with each technology asset, the scope of the technology footprint across our service territory, and historical project costs for technologies previously refreshed under this business case. Through regular reviews, the program balances the need to meet system performance and reliability standards for the various technologies under this program within annual budget allocations. These reviews can result in calling for additional investment under this program from time to time for technology either falling behind technology lifecycles or predetermined performance and reliability standards.

The Business Case Governance group, consisting of Technology Domain Architects and ET Management and Project Management Office, maintains technology roadmaps to inform the Business Case of investment demand. Investment demand is assessed against funding constraints each year and prioritized based on risk of technology impact to the business. Various data points inform the team's decisions and recommendations, which include, but are not limited to vendor-driven obsolescence, compute capacity and storage, historical project costs for similar type projects, etc.

2.3 Summarize in the table, and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		N/A	$1,950,000	N/A	N/A	N/A
O&M		$152K	$350K	$350K	$350K	$350K

The Capital offset of $1,950,000 is for Corporate Storage end of life refresh 2026.

The O&M offset is for Corporate Storage extended support required by not refreshing the end of life storage.

2.4 Summarize in the table, and describe below the INDIRECT offsets4 (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		N/A	N/A	N/A	N/A	N/A
O&M		$100k -$10M	$100k -$10M	$100k -$10M	$100k -$10M	$100k -$10M

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

Data Center Compute and Storage

In addition, when data center devices break down it can result in the inability of employees to access essential technology systems such as our meter data, customer billing and our mapping data. This can result in a productivity reduction across all areas of the business. Savings related to avoiding these down time issues could range from $100k -$10M a year representing at least 1 full time employee up to 100 full time employees needed to implement manual processes.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:

Address 75% of obsolete products and capacity constraints (Recommended).

This will introduce risk associated with technology systems reliability, interoperability and capacity. The investment required to address obsolete technology products is deferred to subsequent years, increasing risk in subsequent years and thet likelihood of technology impact to business is increased. To minimize the impact of this risk, the Program Steering Committee will manage project sequence according to the investment priority documented in section 3.2.

Alternative 2:

Address 40% of obsolete products and capacity constraints

This will introduce risk associated with technology systems reliability, interoperability and capacity. The investment required to address obsolete technology products is deferred to subsequent years. The likelihood of technology impact to business is increased. Interoperability constraints may force unplanned funding requests. Multi-year, complex projects are at risk of completion prior to product obsolescence. This option impacts the workforce.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure. Ongoing reviews of vendor roadmap and technology asset lifecycle alignment provide necessary information to track how much of our investment in technology is lagging behind the vendor roadmap, and thereby introducing risk.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

This business case is a program that transfers to plant the total cost of each sub-project at the completion of every project, which can straddle calendar years. Quarterly forecasts capture changes in transfers to plant based on project status.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The Data Center Compute & Storage Systems Business Case has two levels of governance; The Program Steering Committee and the Project Steering Committee.

Program Steering Committee

Data Center Compute and Storage

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the Enterprise Technology (ET) Project Management Office (PMO) Department. The project queue will be reviewed periodically and will consist of projects needed to maintain the reliability and performance of all Data Center Compute & Storage Systems.

Technology product roadmaps identify investment demand that is generally not fully funded. Technology product investments are prioritized in this manner:

1) Safety Systems
2) Control Systems
3) Customer Facing Systems
4) Back Office Systems

Project Steering Committee

Project Steering Committees act as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible to provide guidance and make decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the ET PMO Department.

The governance structure under this business case program is responsible for decision-making, prioritization, and change requests. Through the regular Program Steering Committee Meetings, the team reviews and balances planned work versus unplanned work to determine prioritization, as well as pending project change requests. Any change request requiring either an increase or decrease of funds is reviewed at the upcoming Technology Planning Group meeting before it is submitted to the Capital Planning Group for consideration.

Data Center Compute and Storage

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Data Center Compute and Storage Business Case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Walter Roys* 28978793A9C64D0...	Date: Apr-29-2024 | 10:45 AM PDT
Print Name:	Walter Roys	
Title:	Sr Manager System Engineering	
Role:	Business Case Owner	

Signature:	*Alexis Alexander* EA27BABA767F467...	Date: May-02-2024 | 3:46 PM PDT
Print Name:	Alexis Alexander	
Title:	Director, Information Technology	
Role:	Business Case Sponsor	

Digital Grid Networks

EXECUTIVE SUMMARY

The Digital Grid Networks (DGN) Program[1] Business Case includes network communications technology that establishes a reliable, secure, and supportable mix of private and third-party solutions that compose the FAN (Field Area Network), including mesh devices using unlicensed wireless bands installed throughout the service territory and devices that leverage commercial LTE (Long Term Evolution) communications systems. With increased utility use cases such as Wildfire prevention, ADMS (Advanced Distribution Management System), and EV (Electric Vehicle) charging, having a multi-tiered field area network solution allows for better support of the utility demand across the entire geographic service territory. The current mix of private and third-party wide area wireless services relies too heavily on leased external services which may result in degraded security, performance, and overall reliability because 1) the assigned TTR (time to restoration) is outside of Avista's control, and 2) the commercial leased service providers are generally in the business of growing subscribers, not delivering reliable service that meets utility service level criteria in support of the essential services we deliver to our customers 24/7/365. Overreliance on these commercial systems presents a risk to the stability of critical core services, therefore Avista's control and safety field area communication networks are being moved to utility-grade leased or private services.

For this business case, funding is being requested for $23,300,000 over five years to upgrade or replace identified network communication systems within the field area network. Analysis of current traffic profiles and future use-cases is reconciled to reliability metrics and supportability requirements to generate the desired mix of private and leased services to support the Field Area Networks. Additionally the Advanced Meter Infrastructure (AMI) Connected Grid Router (CGR) refresh work along with AMI Washington support and expansion projects have added to the business case. In the later years, the design and build of a private LTE network has been included as that buildout is now being planned. The risks of not approving this business case at the level to which it can maintain the balance of meeting vendor and/or Network asset management strategies and scale for future technology could result in unplanned failures and unplanned outages across the field area network communication system meaning data and communications may not be received in a timely manner.

Avista customers across select jurisdictions will benefit from the projects in this program by having a robust network that has capacity and reliability to transport real time data on system status and performance. Proactive updates to assets or timely placement of assets to locations will reduce possible service interruptions or delays.

Currently, there are no direct cost savings. Indirect offsets may be realized with fewer truck roles, staff efficiency, etc.

VERSION HISTORY

Version	Author	Description	Date

Digital Grid Networks

3.0	Shawna Kiesbuy	Update content and new template	4/2023
4.0	Shawna Kiesbuy	Update content and new template	4/2024
BCRT	BCRT Team Member	Has been reviewed by BCRT and meets necessary requirements	

Digital Grid Networks

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$2,800,000	$2,000,000
2026	$5,500,000	$3,500,000
2027	$5,000,000	$3,500,000
2028	$5,000,000	$3,500,000
2029	$5,000,000	$3,500,000

Project Life Span	*5 years+*
Requesting Organization/Department	Enterprise Technology/Network Systems
Business Case Owner | Sponsor	Shawna Kiesbuy | Alexis Alexander
Sponsor Organization/Department	Enterprise Technology/Network Systems
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1.   BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

This business case includes network communications technology that establishes a reliable, secure, and supportable mix of private and third-party solutions that compose the FAN (Field Area Network), including mesh devices using unlicensed wireless bands installed throughout the service territory and devices that leverage commercial LTE communications systems. With increased utility use cases such as Wildfire prevention, ADMS (Advanced Distribution Management System), and EV (Electric Vehicle) charging, having a multi-tiered field area network solution allows for better support of the utility demand across the entire geographic service territory.

The current mix of private and third-party wide area wireless services relies too heavily on leased external services which can result in degraded security, performance, and overall reliability because 1) the assigned TTR (time to restoration) is outside of Avista's control, and 2) the commercial leased service providers are generally in the business of growing subscribers, not delivering reliable service that meets utility service level criteria in support of the essential services we deliver to our customers 24/7/365. Overreliance on these commercial systems presents a risk to the stability of critical core services, therefore Avista's control and safety field area communication networks are being moved to utility-grade leased or private services.

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1.2 Discuss the major drivers of the business case.

The main driver for this business case is Performance and Capacity. Since the field area network wireless transport systems support both back office and critical infrastructure, creating and managing the business case is crucial to building a field area network transport system that protects and provides the performance and capacity needed by all end users. Specifically, allowing for the monitoring and protection of utility assets in high wildfire prone areas, supporting the build out of an EV communications network across the service territory, supporting ADMS functions including the automation of outage restoration and optimizing the performance of the distribution grid and in delivery of AMI (Advanced Metering Infrastructure) data. With Performance and Capacity, the network communication assets are managed in alignment with technology lifecycles that are based on manufacturer product roadmaps and planned obsolesces to proactively reduce the risk of failing assets affecting critical operations systems, back-office processes, and infrastructure reliability.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

The network project work captured in this business case establishes a more reliable, secure, and supportable mix of private and third-party solutions for wireless transport systems. With Avista's vision of delivering better energy for life, this business case is key to enabling the gas and electric service delivery to our customers in a safe and reliable manner by providing pathways for sending and receiving operational data. The project work is performed based on schedules that meet priority ranking and resource availability throughout the calendar year.

The risks of not approving this business case at the level to which it can maintain the balance of meeting its asset management strategy and scale for future technology could result in unplanned failures and unplanned outages across the field area network communication system. The result is tied to the following risks: an increase in employee, contractor and/or public safety risks due to the inability to see and remotely operate the electric and gas systems. This has the potential to increase labor and non-labor costs tied to unplanned system scope changes, where delays to procurement can be realized to replace the failed asset, as well as downtime to the critical systems supported. This would also lead to additional exposure of outdated or unsupported devices to external cyber vulnerabilities.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

The Digital Grid Network (DGN) business case investments align with Avista's commitment to invest in its infrastructure to achieve optimal lifecycle performance – safety, reliability, and at a fair price. Network technologies that allow for communication with field area assets and workforce in the field are critical in support of the bulk electric system. The implementation of these network technologies will continue to enable and support these critical communications for all workers and at all locations across Avista.

Digital Grid Networks

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

Reference materials that support the needed changes in Network technology are maintained by Technology Domain Architects within each respective technology area. These materials are located within the department shared file and/or Teams location and available upon asking.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

DGN exists to develop, deploy, and maintain a portfolio of Field Area Network (FAN) backhaul technologies to serve wide-area, remote and/or isolated utility data communication use cases. Use cases include Advanced Meter Infrastructure (AMI), AMR, Supervisory Control and Data Acquisition (SCADA), and Wildfire. DGN solutions must be secure and reliable. The business case must strive toward private solutions where possible while curating a selective mix of carrier services such as LTE in an evolving technological market. DGN plans for future convergence of services over a single multi-technology FAN architecture in alignment with current utility industry trend toward distributed resource and machine-to-machine communications.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

Each individual network infrastructure asset is tracked throughout its active presence using several systems. Collectively these systems track lifecycle, manufacturer warranty, maintenance, and support (contract) status, licensing, capacity, and replacement cost. For assets connected to third party wireless services, such as commercial LTE, tracking of carrier orientation, usage, and cost are also maintained for each individual asset. Analysis of current traffic profiles and future use-cases is reconciled to reliability metrics and supportability requirements to generate the desired mix of private and leased services to support the Field Area Networks. Capacity and performance planning is conducted based on industry trends, disruptors, and expected customer growth, the result of which is a robust, converged, field area network that will enable Avista to efficiently and effectively deliver timely information and

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

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2.3 Summarize in the table, and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

There are no direct savings related to this business case.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M		$0	$0	$0	$0	$0

2.4 Summarize in the table, and describe below the INDIRECT offsets4 (Capital and O&M) that result by undertaking this investment.

There are no indirect savings related to this business case.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M		$0	$0	$0	$0	$0

*According to the Company Enterprise Risk Register, under the "Loss of Communication or Network Technologies" and the "Cyber Intrusion" risks the probability of this failure has an income statement score of 3, which equates to a $10-$20 million avoided cost over a period of 2-3 years.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:

Fund the business case at an amount which is less than the original request

Funding of this business case at an amount less than the full request will reduce expansion of the field area network transport systems to meet business needs in multiple areas of the business. This reduction in projects will also lessen the ability for a proactive approach refreshing devices prior to failure creating a loss of communications which increases the risk of failure or cyber security vulnerability because assets will no longer be supported by their manufacturers.

Alternative 2:

Do not fund the business case

Removing all funding for this business case would result in a lack of wireless network access (this can occur due to lack of coverage or failure due to end of life or breakage) for our field devices such as Connected Grid Routers (CGR's) supporting Advanced Metering Infrastructure (AMI), Service Aggregation Routers-Hardened Mobile Cellular (SAR-HMC) supporting midline devices and Wildfire efforts, 700Mhz supporting metering usage data and rural substation communications. A lack of access and/or a lack of optimization and capacity management,

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

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minimizing network capacity reducing the ability to communicate with field devices. Manual interventions and field visits would be required, increasing expense costs and degrading trust between teams regarding real time data that used to be available when device communications were present.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

The projects in this business case establish a more reliable, secure, and supportable mix of private and third-party solutions for wireless transport systems. The projects are dependent on length of construction season and other geographically similar but unrelated work being performed at impacted substations. Planning for these projects is done in partnership with other Avista departments to ensure an alignment of technical needs is accounted for in this business case, including the requirements, risks, and effects of the project work. Many times, this work will be aligned with a previously scheduled outage window to gain efficiency and reduce the amount of downtime experienced by operators at the sites. Specific business functions and processes affected are determined project by project. Through those projects, business functions and processes might be impacted but the technology upgrades being made at the varied locations throughout Avista's service territory should strive to increase performance and capacity for employees in their daily work life.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The Digital Grid Network business case is managed as a program of projects planned yearly. All individual projects are managed through the Project Management Office (PMO), which follows the Project Management Institute (PMI) standards. Throughout the year, the business case's projects are Initiated, Planned, Executed, and then Completed with a Transfer to Plant for the scope requests which over the course of a calendar year equates to the funded budget allocation.

The network infrastructure investments in this business case sustain our business by using network systems and assets to deliver data in support of critical system operations. This business case specifically addresses network infrastructure required for our distribution digital grid. The business case considers business impact vs. likelihood/probability when sequencing work and allocating resources and responds to vendor-manufactured product obsolescence risk as well as cyber security risks.

The use cases served by this business case include field area network transport infrastructure for distribution automation devices, automated meter reading, advanced metering infrastructure, and other field area network applications. The key performance indicator for network availability and reliability is 99.9%, 24x7. Our investment sequencing is based on three drivers, 1) Compliance, 2) Initiatives, 3) Reliability. The Compliance driver should be regulation, Initiatives are executive sponsored (current example is a cybersecurity vulnerability risk on out-of-support assets), and the Reliability driver is often the highest volume of work.

The sequencing of the Reliability projects is driven first by the network asset end-of-support date for cybersecurity patching, then the performance and capacity to meet the business requirement, and lastly product obsolescence date.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

Steering Committee members are invaluable to the project and will provide approval on scope, schedule, and budget related changes. Additionally, they will provide approval on issues and risks pertaining to project deliverables outlined in this document, which also typically have an

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impact on the scope, schedule, or budget of a project. Steering Committee members will also provide approval on Change Requests, Go-Live, and the Approval to Close documents. For the Digital Grid Network business case, the Steering Committee will consist of the Directors and Managers within ET, Energy Delivery, GPSS and the Business Case Owner.

The Digital Grid Network Business Case has two levels of governance: the Program Steering Committee and the Project Steering Committee.

Program Steering Committee

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the PMO. The project queue will be reviewed periodically to plan and sequence work to the levels of funding allocation received.

Project Steering Committee

Project Steering Committees function as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible for providing guidance and making decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the PMO.

Project prioritization is evaluated by the management team monthly. Each program and project steering committee meet regularly and oversee scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the Technology Planning Group (TPG) or Capital Planning Group (CPG) for decision-making around resource or funding constraints.

Any changes in funding or scope are documented at the Business Case level, via a Change Request document that is presented to the CPG monthly and evaluated by the CPG for approval.

Changes in scope, schedule, or budget are also documented through a 'Change Request' at the project level and reviewed and approved through a formal workflow process. All ET projects in this business case are managed through the PMO, which follows the Project Management Institute (PMI) standards. Projects initiate with a 'Charter' to begin the planning process. When planning is complete, a 'Project Management Plan (PMP)' is created and approved as the project baseline for scope, schedule, and budget. At the end of execution, an 'Approval to Go Live' is submitted and approved prior to implementation (Transfer to Plant). After the technology is in service and out of the warranty period, the Project Manager will hold a Lessons Learned, and subsequently submit an 'Approval to Close' prior to finishing the project. All Monitor and

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Control documentation and Change Requests are documented and stored to ensure a comprehensive audit trail.

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3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Digital Grid Networks business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Shawna Kiesbuy*	Date:	Apr-29-2024 | 3:16 PM PDT
Print Name:	Shawna Kiesbuy		
Title:	Sr Manager Network Engineering		
Role:	Business Case Owner		

Signature:	*Alexis Alexander*	Date:	May-02-2024 | 10:33 AM PDT
Print Name:	Alexis Alexander		
Title:	Director Information Technology		
Role:	Business Case Sponsor		

Business Case Justification Narrative   Template Version: February 2023

Page 10 of 10
Exhibit No. 12
Case Nos. AVU-E-25-01/AVU-G-25-01
W. Manuel, Avista
Schedule 1, Page 182 of 351

COMMENT HISTORY

DocuSign®

Complete with DocuSign: BCJN_Digital Grid Networks_2024

Sender:	Leianne Raymond
Envelope Id:	2e55cc8c-01c9-4c5d-83e7-a89ebee139e8
Time Zone:	(UTC-08:00) Pacific Time (US & Canada)
Date Sent:	4/29/2024 | 2:31:57 PM
Date Completed:	5/2/2024 | 10:33:58 AM

All Recipients

Alexis Alexander -5/2/2024 | 10:33:12 AM
Alexis.Alexander@avistacorp.com

We will need to identify additional funding alternatives with risks included for each.

Dynamic Infrastructure Platform Enhancements

EXECUTIVE SUMMARY

Avista has been rapidly expanding its technology portfolio to automate and enable business processes throughout various areas of the business. The technology department is required to support this technology found throughout our service territory, in office buildings, call centers, fleet vehicles, and mountain tops. To do so, the technology department requires tools and standardized tasks to support the various systems. Similarly, the technology department will develop routine maintenance activities to keep systems healthy and proactively prevent system degradation. In technology terms, reduce the likelihood of an unplanned outage, which can impact employee productivity and potentially affect services used by our customers, such as our website or IVR Phone System. In the event of an outage, these automation tools and methodologies will reduce recovery time, whether it is identifying root cause or redeploying previously known good configurations, ensuring minimal disruption to our services and enhancing customer experience.

As a result of increasing demands for data and connectedness, Avista has thousands of devices both at our facilities and in the field. They range from network devices to servers to endpoints used by employees. The number of technology devices and the complexity to provision, operate/maintain, and monitor these devices has presented challenges that are not scalable with the technology department's manual tasks. This can in turn cause delay in response times to system reliability issues, as the backlog of system routine maintenance can outpace the technology team's ability to accomplish. An alternative is to add additional resources to the technology team to keep up with the pace of technology. However, this approach is not a scalable solution, as it requires continuous training of a growing team, increases the probability of human error with more and more people, and can lead to diminishing returns, as only so many people can log into a particular system, etc.

The Dynamic Infrastructure Platform Enhancements business case is a program to invest in and maintain the necessary products and skills to facilitate the discipline of infrastructure automation within the Infrastructure Technology organization[1]. This investment will allow the technology department to manage and support the growing technology infrastructure footprint and their complexity without a rapid growth of our staff. This solution will benefit our customers across all jurisdictions as it will drive an increase in system performance and reliability. This business case is requesting $7.5M over 5 years and if it is not funded, the tools and automation programs created under the Dynamic Infrastructure Platform productivity business case will not be maintained. In addition, the existing technology footprint will continue to outpace the technology team's ability

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[1] A Program is defined as related projects, subsidiary programs, and program activities managed in a coordinated manner to obtain benefits not available from managing them individually. Managing projects, subsidiary programs, and program activities as a program enhances the delivery of benefits by ensuring that the strategies and work plans of program components are responsively adapted to component outcomes, or to changes in the direction or strategies of the sponsoring organization.", Project Management Institute Global Standard, *The Standard for Program Management, Fourth Edition. Page 3* (Copyright 2017)

to maintain and respond to system issues or failures, as well as the opportunity to manage our infrastructure more efficiently and effectively.

VERSION HISTORY

Version	Author	Description	Date
1.0	*Mike Beil*	*Initial draft of DIP business case*	*8/2020*
2.0	*Kaitlyn Richardson*	*Initial draft of original business case*	*4/2023*
3.0	*Mike Beil*	*Updated template and content for new planning period*	*4/2024*
BCRT	*BCRT Team Member*	*Has been reviewed by BCRT and meets necessary requirements*	*Jeff Holter 4/24*

Dynamic Infrastructure Platform Enhancements

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$1,030,000	$1,030,000
2026	$1,350,000	$1,350,000
2027	$1,800,000	$1,800,000
2028	$2,000,000	$2,000,000
2029	$1,350,000	$1,350,000

Project Life Span	*5 years*
Requesting Organization/Department	Enterprise Technology
Business Case Owner | Sponsor	Mike Beil | Alexis Alexander
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

Dynamic Infrastructure Platform Enhancements

1. BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

Considerable effort has been made to expand Enterprise Technology's (ET's) technology portfolio to enable business automation within the company. As part of this process, we have seen a pattern of increase in both system complexity and exponential technology growth to meet business needs. The exponential growth in technology complexity is driven by advancements in computing power, increased interconnectivity, and the need to process large volumes of data. This trend is likely to continue as technology continues to evolve. The application of a technology management model consisting of primarily manual tasks is not scalable with the rapid growth of our technology systems. It results in an outpacing of the technology team's ability to maintain and respond to technology system issues and associated workloads . Infrastructure Automation is necessary to reduce the number of manual tasks. The productivity business case that implemented the dynamic infrastructure platform has and will continue to reduce the number of manual task hours performed by infrastructure operations and delivery teams through 2025 (see chart below).

Hours Saved

Year	Hours Saved
2021	2000
2022	10016
2023	15679
2024	22304
2025	2660
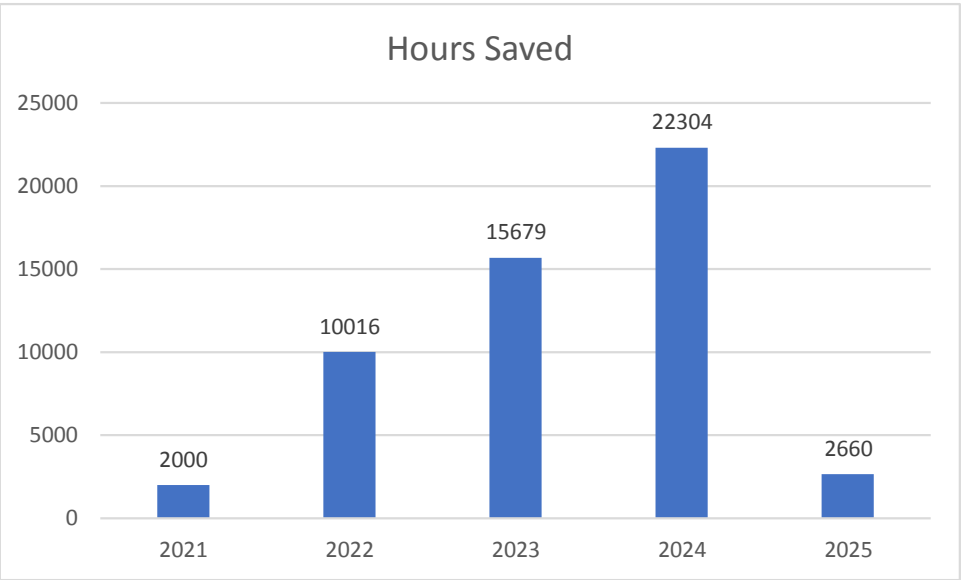
Dynamic Infrastructure Platform Enhancements

1.2 Discuss the major drivers of the business case.

The Dynamic Infrastructure Platform Enhancements Business Case is driven by our need to manage our growing and increasingly complex infrastructure technology portfolio. The approach of manually managing these devices is not scalable and susceptible to human error,and infrastructure automation is crucial to maintaining system performance, consistency, reliability. Tools like the Ansible Automation Platform will help automation engineers create and standardize automation workflows to reduce manual tasks currently needed to support infrastructure technologies. Therefore, the major driver for this business case is Performance & Capacity. This solution will benefit our customers across all jurisdictions as it will drive an increase in system performance and reliability.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

As our technology portfolio continues to grow, enabling business processes, the technology department's workload of managing this new technology has reached an unsustainable level. It is critical that we leverage infrastructure automation technology such as the Ansible Automation Platform to build and maintain a dynamic infrastructure platform that allows the automation of manual tasks to reduce the workload of managing these systems, as well as reduce the risk of human error related outages. The Dynamic Infrastructure Platform Enhancements program also provides a more proactive approach to system capacity and performance issues. This Data Analytics capability will not only shorten the recovery time during system outages, but it will also minimize service interruptions, ensuring a smoother and more reliable experience for our users. This is achieved by quickly identifying and addressing system issues and anomalies, thereby reducing the overall impact and duration of any potential service disruptions.. If this business case is not funded, the existing technology footprint will continue to outpace the technology team's ability to maintain and respond to system issues or failures, as well as the opportunity to manage our infrastructure more efficiently and effectively (See outpacing performance in graph below).

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

The technology investments under this business case program align with Avista's vision to deliver 'better energy for life' to our customers and in the area of 'Perform', which calls for "our focus on performance today to serving our customers well and unlocking pathways to growth." The Dynamic Infrastructure Platform Enhancements program aligns with Avista's culture of Innovation and allows us to more efficiently manage our technology systems with a higher level of reliability.

Dynamic Infrastructure Platform Enhancements

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[2]

The technology department has consistently been able to capture and define infrastructure automation use cases based on historic work patterns in our work management system. Those use cases formed the basis of the productivity business case and resulted in the hours saved noted in the graph in section 1.1. Based on that data, a strategy for the productivity business case was established by leveraging several sources of information, including industry white papers, conversations with other utilities, and advisory firms such as Gartner. This business case will continue to build on that established strategy but further refining use cases and developing new ones. Success can be measured by the implementation of automation use-cases and the reduction in the amount of manual tasks required to manage the environment. Additionally, we should expect to see less human caused outages, as well as shorter MTTR when troubleshooting system outages.

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The business case will be split into a series of projects and work packages that will deliver on automation use cases at a regular semiannual interval. These work packages will enhance the dynamic infrastructure platform's functionality by implementing defined automation use cases on the platform. In addition, this business case will fund the periodic upgrades to the dynamic infrastructure platform itself so that the technology remains current and in line with industry standards for performance and cyber security. Investment in these technologies can result in added O&M expenses from increases in licenses from time to time. However, not funding this business case may result in a greater increase in O&M as we will need to hire more staff to perform manual tasks to support the environment.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[3]

The Infrastructure Technology team continues to capture and define infrastructure automation use cases based on historic work patterns in our work management system. Based on that data, a strategy was established by leveraging several sources of information, including industry white papers, conversations with other utilities, and advisory firms such as Gartner.

The Dynamic Infrastructure Platform Enhancements program is split into the following areas of opportunity:

Labor Automation (Automate Manual Tasks)

The automation of tasks that are currently performed manually. This data is based on historic work tasks and the amount of labor spent on each task.

Incident Avoidance

Leverage Data Analytics to avoid incidents, and the corresponding effort of managing them. It provides alerts to conditions that indicate a problem is coming, dashboards that provide visual representations of system health, and automated root cause analyses.

Accelerate Investigation of System Incidents

Leverage Data Analytics to move away from pulling system logs and searching them manually. It involves storing the data in one location, and results in a single source of

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[3] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

truth for machine data. Through simplified analysis and automated correlation, determining root cause is significantly faster and more consistent than current methods.

Streamline System Problem Management

Problem Management includes the activities required to diagnose the root cause of production incidents, and to determine a definitive resolution to those problems so they don't reoccur. Data Analytics helps with this process by providing complete and accurate information about the systems associated with an incident, which allows faster closure of problem records.

Optimize Compute Capacity

Data Analytics helps gain greater visibility by analyzing infrastructure data, application data, and usage trends. This leads to improved allocation of unused system resources and greater confidence of running the environment without overprovisioning.

The Dynamic Infrastructure Platform productivity business case was started in 2021 and was expected to meet a 20% IRR. This business case will also continue to track IRR overall to ensure that new use cases developed are of value to Avista and it's customers.

2.3 Summarize in the table, and describe below the DIRECT offsets[4] or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M		$0	$0	$0	$0	$0

There is no expected direct offsets in this business case.

2.4 Summarize in the table, and describe below the INDIRECT offsets5 (Capital and O&M) that result by undertaking this investment.

The Dynamic Infrastructure Platform productivity business case was started in 2021 and was expected to meet a 20% IRR. This business case will also continue to track IRR overall to ensure that new use cases developed are of value to Avista and it's customers. However, as automation requests are incoming it is not possible to accurately anticipate the split between Capital and O&M. Thus, the numbers below are an even split of a calculated 20% IRR of the requested funding amount.

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[4] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[5] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

Dynamic Infrastructure Platform Enhancements

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	Automation of manual Capital work	$500,000	$1,200,000	$1,200,000	$1,200,000	$1,200,000
O&M	Automation of manual O&M work	$500,000	$1,200,000	$1,200,000	$1,200,000	$1,200,000

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:

Increase headcount to accommodate new work

The alternative is to not fund this initiative and continue to grow O&M costs through increasing labor required to support the platforms. We will also not be able to maintain the capacity management and reliability improvements that were achieved as part of the DIP Productivity business case. System outages related to either lack of operational data analytics, or human error during manual changes, has a severe impact on Avista's workforce and their ability to deliver gas and electric service to our customers either in an office, customer service center, or in the field.

Alternative 2:

Do nothing

This alternative adds significant risk to the company and as a result our customers because the technology team will not be able to keep up with the pace of the large technology portfolio that Avista relies on to deliver electricity and natural gas to our customers.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Each use case defined by the infrastructure technology team will be scored using a prioritization method defined by the DIP business case. They will be evaluated against an estimated time to develop and approved by the governance committee to determine if work on the use case should proceed. Internal Rate of Return metrics will be tracked each year to ensure the business case continues to provide the expected value.

Dynamic Infrastructure Platform Enhancements

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The business case will break the identified automation use cases into semi-annual work packages that will close and transfer to plant every 6 months. These monthly forecasts capture changes in transfers to plant based on project status.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

Program Steering Committee

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk

- Approving business case funding requests

- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the Enterprise Technology (ET) Project Management Office (PMO) Department. The project queue will be reviewed periodically and will consist of projects needed to maintain the reliability and performance of all endpoint compute & productivity systems.

Project Steering Committee

Project Steering Committees act as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible to provide guidance and make decisions on key issues that affect the following topics:

- Scope

- Schedule

- Budget

- Project Issues

- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the ET PMO Department.

Dynamic Infrastructure Platform Enhancements

The governance structure under this business case program is responsible for decision-making, prioritization, and change requests. Through the regular Program Steering Committee Meetings, the team reviews and balances planned work versus unplanned work to determine prioritization, as well as pending project change requests. Any change request requiring either an increase or decrease of funds is reviewed at the upcoming Technology Planning Group meeting before it is submitted to the Capital Planning Group for consideration.

Dynamic Infrastructure Platform Enhancements

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the *Dynamic Infrastructure Platform Enhancements Business Case* and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Mike Beil*	Date: May-02-2024 | 8:01 AM PDT
Print Name:	Mike Beil	
Title:	Manager System Engineering	
Role:	Business Case Owner	

Signature:	*Alexis Alexander*	Date: May-06-2024 | 6:07 PM PDT
Print Name:	Alexis Alexander	
Title:	Director IT Infrastructure	
Role:	Business Case Sponsor	

Signature:		Date:
Print Name:		
Title:		
Role:	Steering/Advisory Committee Review	

Endpoint Compute and Productivity Systems

EXECUTIVE SUMMARY

The Endpoint Compute and Productivity Program Business Case sponsors the tools and systems used by the technology teams to support business application automation. Business processes require automated technology solutions to meet the overwhelming need for data and information to make decisions. All industries, including the utility industry, are reliant on the ability to produce, transmit, analyze, and store information to meet various business requirements. Avista's office, call center, and field staff require on-demand information to meet customer expectations when providing gas and electric service to customers across our service territory. The information can be critical to prevent, reduce, affect, or optimize an outcome that benefits our customers. Technology investments in the Endpoint Compute and Productivity Systems business case enable our staff with information to optimize our business and be responsive to our customers.

The primary driver of this business case is performance and capacity, whereby the Company balances the need to meet performance standards and system reliability for the various technologies under this program with annual budget allocations, and their respective technology lifecycles. This is a true balancing act that requires historical trend analyses, technology road-mapping, and cost-control measures.

Technology solutions under this program include, but are not limited to, technology required day-to-day to automate and enable business processes, such as Personal Computer (PC) hardware and their operating systems, various handheld devices, printers, configuration and management systems for all endpoints and productivity tools (e.g., Office 365, etc.). The costs associated with each solution can vary by the scale of the solution deployed, as well as vendor licensing models. Therefore, each technology under this program undergoes regular review of the levels of utilization and performance to determine if it is meeting the expected performance standards and capacity requirements to maintain system reliability under the established budget constraints. These reviews can result in calling for additional investment under this program from time to time for technology either falling behind technology lifecycles or predetermined performance standards, which can pose cyber-attack risk, and risk to computing system reliability that may only be resolved with the reinstatement of manual processes replacing automation with workforce, thereby increase labor costs, human error, and overall processing delays.

In order to maintain these business tools and systems supported by this business case, the recommended funding amount is $27,613,061 over the next five years, averaging $5,522,612 each year.

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Endpoint Compute and Productivity Systems

VERSION HISTORY

Version	Author	Description	Date
1.0	Walter Roys	Initial BCJN Draft	6/2017
1.1	Walter Roys	Update Investment Driver	7/2019
2.0	Walter Roys	Revision of BCJN to new template	7/2020
3.0	Walter Roys	Revision of BCJN	8/2022
4.0	Walter Roys	Revision of BCJN to new template	4/2023
5.0	Walter Roys	Updated template and content review for new years	4/2024
BCRT	BCRT Team Member	Has been reviewed by BCRT and meets necessary requirements	

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$6,153,029	$6,153,029
2026	$5,874,146	$5,874,146
2027	$3,354,115	$3,354,115
2028	$5,938,449	$5,938,449
2029	$6,293,322	$6,293,322

Project Life Span	*5 years*
Requesting Organization/Department	Enterprise Technology/Systems Engineering
Business Case Owner | Sponsor	Walter Roys | Alexis Alexander
Sponsor Organization/Department	Enterprise Technology/Systems Engineering
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

Investment Drivers

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

Endpoint compute and productivity technology is not only subject to the traditional mortality rate or lifecycle, but it is compounded by planned obsolescence, also known as technology obsolescence. That is, whereby, the technology asset although within its functional lifespan is technologically flawed or no longer meets the need of users or customers, as expectations increase due to newer and more powerful technology (with greater performance and capacity) that is available in the market.

Additionally, with the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies.

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Endpoint Compute and Productivity Systems

1.2 Discuss the major drivers of the business case.

The Endpoint Compute and Productivity Systems Business Case is driven by managing technology replacement according to manufacturer product roadmaps or changes in business requirements with an objective to maintain infrastructure performance and align infrastructure assets with business demand for capacity. Therefore, the major driver for this business case is Performance & Capacity.

All Avista customers benefit from maintaining endpoint compute and productivity systems, as this technology enables the Avista workforce to perform their day-to-day job functions in delivering gas and electric service to our customers.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Avista's office, call center, and field staff require on-demand information to meet customer expectations when providing gas and electric service to customers across our service territory. The information can be critical to prevent, reduce, affect, or optimize an outcome that benefits our customers. Additionally, the endpoint compute and productivity technology are necessary to enable the capabilities that align with our strategic goals of putting our customers at the center.

Reliance on obsolete technology for automated business processes presents significant risk that may only be solved with the reinstatement of manual processes. Sustaining automated business processes by replacing automation with workforce would increase labor expenses, and delay response times to meet customer needs. Therefore, staying as current as possible in the most timely way benefits the Company and customers.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

The technology investments under this business case program align with Avista's vision to deliver 'better energy for life' to our customers and in the area of 'Perform', which calls for "our focus on performance today to serving our customers well and unlocking pathways to growth."

Each investment under this business case program allows Avista to deliver electric and gas services to our customers.

Vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure. Ongoing reviews of vendor roadmap and technology asset lifecycle alignment provide necessary information to track how much of our investment in technology is lagging the vendor roadmap, and thereby introducing risk. Additionally, assets that fail due to not being replaced within their technology lifecycle are replaced by the Technology Failed Asset business case, which tracks technology asset failures, and is also used as a data point to inform the technology lifecycles under this business case.

Endpoint Compute and Productivity Systems

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

The Enterprise Technology team references various technology vendors and third-party resources to stay informed and recommend decisions on the various technology investments. A few sample sources are included below:

Directions on Roadmaps, Independent IT Planning Information and Advisory Service focused exclusively on Microsoft enterprise software and services. Retrieved from https://www.directionsonmicrosoft.com/

Gartner Industry Research and Reference Material. Retrieved from https://www.gartner.com/en/information-technology

Investments under this business case are to maintain performance and capacity standards in each respective endpoint compute and productivity technology. For example, when the product manufacturer terminates maintenance and support for specific devices or solutions, an asset therefore becomes incompatible with other advancing technologies. This introduces the risk of cyber-attack, and this business case will change or upgrade the asset.

2. PROPOSAL AND RECOMMENDED SOLUTION – *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

This program will manage technology replacement according to manufacturer product roadmaps with an objective to maintain infrastructure performance and align infrastructure assets with business demand for capacity.

Address 100% of obsolete products and capacity constraints

This is the optimal solution. This option fully addresses and minimizes the likelihood of technology impact to automated business process.

The funding requested under the Endpoint Compute and Productivity Business Case will be invested in, but not limited to, technology, such as:

- o Personal Computer (PC) systems
- o Vehicle PC mounting systems
- o Tablets
- o Print, Scan, & Fax systems
- o Global Positioning Systems (GPS)
- o Digital scale systems
- o Uninterruptable Power Supplies (UPS)
- o Other endpoint computer systems
- o PC Operating Systems (OS)
- o Virtual PC Systems
- o Virtualized application systems
- o End user PC productivity tools
- o Remote PC management systems

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

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Endpoint Compute and Productivity Systems

- o Configuration management systems
- o Mobile computing systems

Investment in these technologies can increase or decrease O&M expenses. These can include licensing increases from time to time or decreases in workload for O&M resources. However, not funding this business case may result in removing automated business functions, which will either cause delay in meeting business and customer demands or completely change whether we can even respond to business and customer demands. There are no O&M reductions or direct offsets resulting from these investments, as this technology enables the Avista workforce to perform their day-to-day job functions in delivering gas and electric service to our customers.

Reliance on obsolete technology for automated business processes presents significant risk that may only be solved with the reinstatement of manual processes. Sustaining automated business processes by replacing automation with workforce would increase labor expenses.

Additionally, with the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies. These upgrades can in turn drive subsequent system replacements, creating a cascading event of change. Therefore, vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure.

2.2   Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

The funds request was based on a calculation of the performance and capacity associated with each technology asset, the scope of the technology footprint across our service territory, and historical project costs for technologies previously refreshed under this business case. Through regular reviews, the program balances the need to meet system performance and reliability standards for the various technologies under this program within annual budget allocations. These reviews can result in calling for additional investment under this program from time to time for technology either falling behind technology lifecycles or predetermined performance and reliability standards.

The Business Case Governance group, consisting of Technology Domain Architects and ET Management and Project Management Office, maintains technology roadmaps to inform the Business Case of investment demand. Investment demand is assessed against funding constraints each year and prioritized based on risk of technology impact to the business. Various data points inform the team's decisions and recommendations, which include, but are not limited to vendor-driven obsolescence, compute capacity and storage, historical project costs for similar type projects, etc.

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Endpoint Compute and Productivity Systems

2.3 Summarize in the table and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

There are no direct offsets of this Business Case.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$ N/A	$ N/A	$ N/A	$ N/A	$ N/A
O&M		$ N/A	$ N/A	$ N/A	$ N/A	$ N/A

2.4 Summarize in the table and describe below the INDIRECT offsets[4] (Capital and O&M) that result by undertaking this investment.

When endpoint devices break down it can result in the inability of an employee to access essential technology systems such as our meter data, customer billing and our mapping data. This can result in a productivity reduction across all areas of the business. Savings related to avoiding these downtime issues could range from $100k -$10M a year representing at least 1 full-time employee up to 100 full-time employees needed to implement manual processes.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$ N/A	$ N/A	$ N/A	$ N/A	$ N/A
O&M		$100k -$10M	$100k -$10M	$100k - $10M	$100k -$10M	$100k -$10M

2.5 DESCRIBE IN DETAIL THE ALTERNATIVES, INCLUDING PROPOSED COST FOR EACH ALTERNATIVE, THAT WERE CONSIDERED, AND WHY THOSE ALTERNATIVES DID NOT PROVIDE THE SAME BENEFIT AS THE CHOSEN SOLUTION. INCLUDE THOSE ADDITIONAL RISKS TO AVISTA THAT MAY OCCUR IF AN ALTERNATIVE IS SELECTED.

Option	Capital Cost	Start	Complete
Recommended Solution – Address 100% of obsolete products and capacity constraints (recommended)	$27,613,061	01 2025	12 2029
Alternative #1 – Address 75% obsolete products and capacity constraints	$20,709,796	01 2025	12 2029
Alternative #2 – Address 50% obsolete products and capacity constraints	$13,806,531	01 2025	12 2029

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

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Endpoint Compute and Productivity Systems

Alternative 1:

Address 100% of obsolete products and capacity constraints

This option assumes the assets would be replaced upon end of life and would be removed from service due to product incompatibility, business risk or safety risk.

The basis for measuring the business impact of not funding this business case is realizing the loss of business process automation. As products reach the manufacturer-defined planned obsolescence, business process automation is jeopardized, and business risk is increased as manufacturers cease product maintenance and support. This condition would drive action. The alternative could lead to a mitigation plan of having to re-instate manual business process or eliminate the business process.

Alternative 2:

Address 50% of obsolete products and capacity constraints

This will introduce risk associated with technology systems reliability, interoperability, and capacity. The investment required to address obsolete technology products is deferred to subsequent years. The likelihood of technology impact to business is increased. Interoperability constraints may force unplanned funding requests. Multi-year, complex projects are at risk of completion prior to product obsolescence. This option impacts the workforce

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

The reason that the technology investment under this program business case is prudent is because the Avista workforce requires this technology every day to deliver gas and electric service to our customers either in an office, customer service center or in the field. Alternatives to each technology are considered, yet not investing in it is not an option as automated business process would either stop or be removed, thereby crippling our workforce's ability to deliver gas and electric service to our customers, respond to compliance requirements, and conduct business operations and reporting. Additionally, a two-tiered governance structure overseeing this business case program meets regularly to oversee and make decisions on the needs, benefits, costs, and risks of each investment.

2.7 Please provide the timeline of when this work is scheduled to commence and complete, if known.

This business case is a program that transfers to plant the total cost of each project at the completion of every project, which can straddle calendar years. Quarterly forecasts capture changes in transfers to plant based on project status.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The Endpoint Compute & Productivity Systems Business Case has two levels of governance: The Program Steering Committee and the Project Steering Committee.

Program Steering Committee

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial

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Endpoint Compute and Productivity Systems

performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the Enterprise Technology (ET) Project Management Office (PMO) Department. The project queue will be reviewed periodically and will consist of projects needed to maintain the reliability and performance of all endpoint compute & productivity systems.

Technology product roadmaps identify investment demand that is generally not fully funded. Technology product investments are prioritized in this manner:

1. Safety Systems
2. Control Systems
3. Customer Facing Systems
4. Back Office Systems

Project Steering Committee

Project Steering Committees act as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible to provide guidance and make decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the ET PMO Department.

The governance structure under this business case program is responsible for decision-making, prioritization, and change requests. Through the regular Program Steering Committee Meetings, the team reviews and balances planned work versus unplanned work to determine prioritization, as well as pending project change requests. Any change request requiring either an increase or decrease of funds is reviewed at the upcoming Technology Planning Group meeting before it is submitted to the Capital Planning Group for consideration

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Endpoint Compute and Productivity Systems

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Endpoint Compute and Productivity Systems Business Case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Walter Roys*	Date: Apr-29-2024 | 10:44 AM PDT
Print Name:	Walter Roys	
Title:	Sr Manager System Engineering	
Role:	Business Case Owner	

Signature:	*Alexis Alexander*	Date: May-02-2024 | 10:51 AM PDT
Print Name:	Alexis Alexander	
Title:	Director Information Technology	
Role:	Business Case Sponsor	

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Enterprise Communication Systems

EXECUTIVE SUMMARY

The Enterprise Communication Program Business Case sponsors the tools and systems used by all areas of the company to support business operations and delivery of safe and reliable energy. Communication is of the very essence of human interaction, and thus a pillar of business processes. Communication enables business processes across systems that communicate and exchange data in near-real time, such as phone calls, chats, presence indicators, work location, contact information, meetings, video calls, organization structure, job titles, and emails all accessible regardless of location.

The primary driver for the Enterprise Communication Systems business case is performance and capacity, whereby the Company balances the need to meet performance standards and system reliability for the various technologies under this program with annual budget allocations, and their respective technology lifecycles.

Being no different than most businesses, Avista requires continuous communication among our staff and customers throughout our service territory. However, to do it effectively, we require communication technology for greater agility, flexibility, and scalability to enable many business processes, such as 24 x 7 x 365 communication with our gas and electric customers by telephone, fax, or email. Additionally, email, instant messaging, text, and collaboration platforms support a digital workforce that has the ability to work from any location.

In order to maintain these business tools and systems supported by this business case, the recommended funding amount is $11,487,025 over the next five years, averaging $2,297,405 each year. The costs associated with each solution can vary by the scale of the solution deployed, as well as vendor licensing models. Therefore, each technology under this program undergoes regular review of the levels of utilization and performance to determine if it is meeting the expected performance standards and capacity requirements to maintain system reliability under the established budget allocations. These reviews can result in calling for additional investment under this program from time to time for technology either falling behind technology lifecycles or predetermined performance standards, which can pose risk to communication system reliability and cyber-attacks or degradation that may delay communication channels and result overall processing delays.

VERSION HISTORY

Version	Author	Description	Date
1.0	Walter Roys	Initial draft of original business case	6/2017
1.1	Walter Roys	Update Investment Driver	7/2019
2.0	Walter Roys	Revision of BCJN to new template	7/2020
3.0	Walter Roys	Revision of BCJN	7/2022
4.0	Walter Roys	Revision of BCJN	4/2023
5.0	Walter Roys	Updated template and content	4/2024
BCRT	BCRT Team Member	Has been reviewed by BCRT and meets necessary requirements	

Enterprise Communication Systems

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$2,414,205	$2,414,205
2026	$2,299,205	$2,299,205
2027	$2,354,205	$2,354,205
2028	$2,185,205	$2,185,205
2029	$2,234,205	$2,234,205

Project Life Span	*5 years*
Requesting Organization/Department	Enterprise Technology/System Engineering
Business Case Owner | Sponsor	Walter Roys | Alexis Alexander
Sponsor Organization/Department	Enterprise Technology/ System Engineering
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

This business case funds Communication technology that enables business processes beyond people exchanging information, but across systems that communicate with one another to exchange data in near-real time. Cell phones, desk phones, and Microsoft Teams voice are examples of the many technologies supported by this business case.

Communications technology is not only subject to the traditional mortality rate or lifecycle, but it is compounded by planned obsolescence, also known as technology obsolescence. Technology obsolescence is defined as when the technology asset, although within its functional lifespan, is technologically flawed or no longer meets the need of users or customers, as expectations increase due to newer and more powerful technology (with greater performance or capacity) that is available in the market.

Additionally, with the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies.

1.2 Discuss the major drivers of the business case.

The Enterprise Communications Systems Business Case is driven by managing technology replacement according to manufacturer product roadmaps or changes in business requirements with an objective to maintain infrastructure performance and align infrastructure assets with

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business demand for capacity. Therefore, the major driver for this business case is Performance & Capacity.

All Avista customers benefit from maintaining communication systems, as this technology enables the Avista workforce to perform their day-to-day job functions in delivering gas and electric service to our customers.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

All Avista customers benefit from maintaining communication systems, as this technology enables the Avista workforce to perform their day-to-day job functions in delivering gas and electric service to our customers.

Investments under this business case are to maintain performance and capacity standards in each respective enterprise communications technology. For example, when the product manufacturer terminates maintenance and support for specific devices or solutions, an asset therefore becomes incompatible with other advancing technologies. This introduces the risk of cyber-attack, and this business case will change or upgrade the asset.

All Avista business functions are affected by this business case, as it enables all day-to-day work activities and automated business processes around communications. From service center to call center to field work, every worker requires communications systems technology to perform their business function and deliver gas and electric service to our customers. Communications technology has been critical in keeping our workforce connected, while many of our staff have the ability to work remotely or are in the field.

Reliance on obsolete communications technology for automated business process presents significant risk that may only be solved with the reinstatement of manual processes, which can result in delayed response times to meet business demands and customer needs. Additionally, in some cases there is no manual solution that can replace automated communication systems that provide near-real time communication solutions.

Vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure. Ongoing reviews of vendor roadmap and technology asset lifecycle alignment provide necessary information to track how much of our investment in technology is lagging behind the vendor roadmap, and thereby introducing risk.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

[Avista Strategic Goals]

The technology investments under this business case program align with Avista's vision to deliver 'better energy for life' to our customers and in the area of 'Perform,' which calls for "our focus on performance today to serving our customers well and unlocking pathways to growth."

Each investment under this business case program allows Avista to deliver electric and gas services to our customers.

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1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

The Enterprise Technology team references various technology vendors and third-party resources to stay informed and recommend decisions on the various technology investments. A few sample sources are included below:

Directions on Roadmaps, Independent IT Planning Information and Advisory Service focused exclusively on Microsoft enterprise software and services. Retrieved from https://www.directionsonmicrosoft.com/

Gartner Industry Research and Reference Material. Retrieved from https://www.gartner.com/en/information-technology

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

This program will manage technology replacement according to manufacturer product roadmaps with an objective to maintain infrastructure performance and align infrastructure assets with business demand for capacity.

The recommended solution is to address 100% of obsolete products and capacity constraints

This is the optimal solution. This option fully addresses and minimizes the likelihood of technology impact to automated business process.

Option	Capital Cost	Start	Complete
Recommended Solution - Address 100% technology that no longer meets performance and capacity requirements	$11,487,025	01/2025	12/2029
Alternative #1 – Address ~75% of technology that no longer meets performance and capacity requirements	$8,615,269	01/2025	12/2029
Alternative #2 - Address 50% of technology that no longer meets performance and capacity requirements	$5,743,513	01/2025	12/2029

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

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2.2 **Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]**

The funds request was based on a calculation of the performance and capacity associated with each technology asset, the scope of the technology footprint across our service territory, and historical project costs for technologies previously refreshed under this business case. Through regular reviews, the program balances the need to meet system performance and reliability standards for the various technologies under this program within annual budget allocations. These reviews can result in calling for additional investment under this program from time to time for technology either falling behind technology lifecycles or predetermined performance and reliability standards.

The Business Case Governance group, consisting of Technology Domain Architects and ET Management and Project Management Office, maintains technology roadmaps to inform the Business Case of investment demand. Investment demand is assessed against funding constraints each year and prioritized based on risk of technology impact to the business. Various data points inform the team's decisions and recommendations, which include, but are not limited to vendor-driven obsolescence, compute capacity and storage, historical project costs for similar type projects, etc.

2.3 **Summarize in the table and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.**

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	N/A	N/A	N/A	N/A	N/A	N/A
O&M	N/A	N/A	N/A	N/A	N/A	N/A

The funding requested under the Enterprise Communication Systems Business Case will be invested in, but not limited to, the following technologies:

- Instant messaging systems
- Contact Center automatic call distribution system
- Contact Center scheduling and QA systems
- Voice recording systems
- Electronic mail and calendar system
- Voicemail system
- Telephone systems
- Teleconferencing systems
- Video conferencing systems
- Conference room technology
- Media Walls
- Enhanced 911 emergency services

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

Enterprise Communication Systems

- Electronic fax systems
- Paging systems
- Application systems to manage enterprise communication technology

Investment in these technologies can increase or decrease O&M expenses. These can include licensing increases from time to time or decreases in workload for O&M resources. However, not funding this business case may result in removing automated business functions, which will either cause delay in meeting business and customer demands or completely change whether we can even respond to business and customer demands. There are no O&M reductions or direct offsets resulting from these investments, as this technology enables the Avista workforce to perform their day-to-day job functions in delivering gas and electric service to our customers.

Reliance on obsolete technology for automated business processes presents significant risk that may only be solved with the reinstatement of manual processes. Sustaining automated business processes by replacing automation with workforce would increase labor expenses.

In addition, when endpoint devices break down it can result in the inability of an employee to access essential technology systems such as our meter data, customer billing and our mapping data. This can result in a productivity reduction across all areas of the business. Savings related to avoiding these downtime issues could range from $100k -$10M a year representing at least 1 full-time employee and up to 100 full-time employees needed to implement manual processes.

Additionally, with the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies. These upgrades can in turn drive subsequent system replacements, creating a cascading event of change. Therefore, vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure.

All Avista business functions are affected by this business case, as it enables all day-to-day work and communications activities and automated business processes. From service center to call center to field work, every worker requires enterprise communication technology to perform their business function and deliver gas and electric service to our customers. This technology is even more important in a work from home environment to keep employees and departments connected while minimizing risk to essential employees.

2.4 Summarize in the table and describe below the INDIRECT offsets[4] (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	N/A	N/A	N/A	N/A	N/A	N/A
O&M	Operating Expenses	$100k-$10M	$100k-$10M	$100k-$10M	$100k-$10M	$100k-$10M

Savings related to avoiding these downtime issues could range from $100k -$10M a year representing at least 1 full-time employee and up to 100 full-time employees needed to implement manual processes.

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[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

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Enterprise Communication Systems

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:

Address 100% of obsolete products and capacity constraints (Recommended)

This option assumes the assets would be replaced upon end of life and be removed from service due to product incompatibility, business risk or safety risk.

The basis for measuring the business impact of not funding this business case is realizing the loss of business process automation. As products reach the manufacturer-defined planned obsolescence, business process automation is jeopardized, and business risk is increased as manufacturers cease product maintenance and support. This condition would drive action. The alternative could lead to a mitigation plan of having to re-instate manual business process or eliminate the business process.

Alternative 2:

Address approximately 75% of obsolete products and capacity constraints.

This will introduce risk associated with technology systems reliability, interoperability, and capacity. The investment required to address obsolete technology products is deferred to subsequent years. The likelihood of technology impacting business is increased. To minimize the impact of this risk, the Program Steering Committee will manage project sequence according to the investment priority documented in section 2.8

Alternative 3:

Address 50% of obsolete products and capacity constraints

This will introduce risk associated with technology systems reliability, interoperability, and capacity. The investment required to address obsolete technology products is deferred to subsequent years. The likelihood of technology impacting business is increased. Interoperability constraints may force unplanned funding requests. Multi-year, complex projects are at risk of completion prior to product obsolescence. This option impacts the workforce.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

The reason that the technology investment under this program business case is prudent is because communication is at the very essence of human interaction, and thus a pillar of business processes. As such, the Avista workforce requires this technology every day to deliver gas and electric service to our customers either in an office, customer service center or in the field. Alternatives to each technology are considered, yet not investing in it is not an option as automated business process would either stop or be removed, thereby crippling our workforce's ability to deliver gas and electric service to our customers, respond to compliance requirements, and conduct business operations and reporting. Additionally, a two-tiered governance structure overseeing this business case program meets regularly to oversee and make decisions on the needs, benefits, costs, and risks of each investment.

Nearly all Avista's workforce interface with the technology investments under this business case. Selected leaders in organizational business units, known as technology stakeholders, work closely with the technology teams to help with business roadmaps, use case definition, gather non-functional requirements, test design, and deployment approaches to inform technology investments.

Enterprise Communication Systems

The technology investment under this business case requires deployment and use of outputs from other business cases, specifically delivery on personal computers and servers, connecting to a virtual private network or cloud service, security updates and patching, etc.

2.7 Please provide the timeline of when this work is scheduled to commence and complete, if known.

This business case is a program that transfers to plant the total cost of each project at the completion of every project, which can straddle calendar years. Quarterly forecasts capture changes in transfers to plant based on project status.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The Enterprise Communication Systems Business Case has two levels of governance: The Program Steering Committee and the Project Steering Committee.

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the Enterprise Technology (ET) Project Management Office (PMO) Department. The project queue will be reviewed periodically and will consist of projects needed to maintain the reliability and performance of all enterprise communication systems.

Technology product roadmaps identify investment demand that is generally not fully funded. Technology product investments are prioritized in this manner:

1. Safety Systems
2. Control Systems
3. Customer Facing Systems
4. Back Office Systems

Project Steering Committee

Project Steering Committees act as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible to provide guidance and make decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the ET PMO Department.

The governance structure under this business case program is responsible for decision-making, prioritization, and change requests. Through the regular Program Steering Committee Meetings,

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Enterprise Communication Systems

the team reviews and balances planned work versus unplanned work to determine prioritization, as well as pending project change requests. Any change request requiring either an increase or decrease of funds is reviewed at the upcoming Technology Planning Group meeting before it is submitted to the Capital Planning Group for consideration.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Enterprise Communication Systems Business Case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Walter Roys*	Date:	Apr-29-2024 | 10:43 AM PDT
Print Name:	Walter Roys		
Title:	Sr. Manager System Engineering		
Role:	Business Case Owner		

Signature:	*Alexis Alexander*	Date:	May-02-2024 | 9:49 AM PDT
Print Name:	Alexis Alexander		
Title:	Director Information Technology		
Role:	Business Case Sponsor		

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Enterprise Network Infrastructure

EXECUTIVE SUMMARY

The Enterprise Network Infrastructure Program[1] Business Case provides back office and customer-facing communication network access and infrastructure investments for all enterprise-wide business productivity applications and corporate systems. The network services in this technology area ensure secure and reliable access to the systems needed daily to support customer billing and call center activities, in addition to internal enterprise systems that support the delivery of electric and gas services. In the last few years, changes in technologies have shown us the criticality of business continuity as we transform how and where we get work done. Secure and reliable enterprise network access, along with management of network communications capacity, is maintained through this business case and directly affects business productivity. Without these investments, the employee and customer experience would be negatively affected as the data required to perform everyday ordinary and necessary tasks might not reach employees or customers.

For this business case, funding is being requested for $12,500,000 over five years to upgrade or replace network communication systems within the enterprise environment. Each individual network infrastructure asset is tracked throughout its active presence using several systems. Collectively these systems track lifecycle, manufacturer warranty, maintenance, and support (contract) status, licensing, capacity, and replacement cost. Manufacturer lifecycles drive a considerable portion of the required work within this request. Concurrently, a sizable portion of work is driven by the ongoing technological advancement of business solutions and the need for resilient and reliable access to the Internet.

Avista customers across all jurisdictions will benefit from the projects in this program by having a robust network that has capacity and reliability to transport real-time data on system status and performance. Proactive updates to assets or timely placement of assets to locations will reduce possible service interruptions or delays. This translates to the safe and reliable delivery of energy to customers across the Avista service territory.

Currently, there are no direct cost savings. Indirect offsets may be realized with fewer truck roles, staff efficiency, etc.

VERSION HISTORY

Version	Author	Description	Date
3.0	Shawna Kiesbuy	Update content and new template	4/2023
4.0	Shawna Kiesbuy	Update content and new template	4/2024
BCRT	Heide Evans	Has been reviewed by BCRT and meets necessary requirements	4/30/24

Enterprise Network Infrastructure

## GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$2,500,000	$2,500,000
2026	$2,500,000	$1,500,000
2027	$2,500,000	$1,500,000
2028	$2,500,000	$1,500,000
2029	$2,500,000	$1,500,000

Project Life Span	*5 years+*
Requesting Organization/Department	Enterprise Technology/Network Services
Business Case Owner　｜　Sponsor	Shawna Kiesbuy　｜　Alexis Alexander
Sponsor Organization/Department	Enterprise Technology/Network Services
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.* ⌨

1.1 What is the current or potential problem that is being addressed?

Assets included in this business case have a finite lifecycle. And, given the pace of change in technology, constant threats from bad actors, growth of the Avista network and need to have suitable performance and capacity, the project work done within this program will help maintain a robust and reliable network. This business case provides back office and customer-facing communication network access and infrastructure investments for all enterprise-wide business productivity applications and corporate systems. These systems include investments required to access and move data across email, Teams, myavista.com, AFM (Avista Facilities Management), OMT (Outage Management Tool), CC&B (Customer Care & Billing), Maximo, and EIM (Energy Imbalance Market), to name a few, along with secure and reliable access to the Internet wherever our people might be working. The network services in this technology area ensure secure and reliable access to the systems needed daily to deliver electric and gas services to customers.

In the last few years, changes in technologies have highlighted the criticality of business continuity as we transform how and where we get work done. Secure and reliable enterprise network access, along with management of network communications capacity, is maintained through this business case and directly affects business productivity. Without these investments, the employee and customer experience would be negatively affected because the data required to perform everyday ordinary and necessary tasks might not reach employees or customers. Depending on the affected asset, this could result in limited or no email, limited or no ability to

Enterprise Network Infrastructure

take in customer phone calls, no ability to buy or sell power, no ability to reach offices or other sites away from HQ, limited or no ability to inform customers via our MyAvista website, etc.

1.2 Discuss the major drivers of the business case.

The main driver for this business case is Performance and Capacity. Since the enterprise network communication assets are tied to employee and customer systems within Avista's infrastructure, creating and managing this business case is important to supporting the employee and customer experience. Specifically, allowing for timely network communications between core business productivity application systems and back-office functions, such as the data center(s), cloud services, the internet, and remote service offices, along with giving customers accurate and timely information about their utility services including outage management. With Performance and Capacity, the network communication assets are managed in alignment with technology lifecycles that are based on manufacturer product roadmaps and planned obsolesces to proactively reduce the risk of failing assets affecting enterprise systems, processes, and infrastructure reliability.

The network infrastructure investments in this business case are necessary to sustain our business by using technology to automate business processes. This business case specifically addresses network infrastructure requirements for the back office and customer channels. The business case considers business impact vs. likelihood/probability when sequencing and prioritizing resource allocations and responds to vendor-manufactured product obsolescence risks as well as cyber security risks.

This business case catalog of use cases includes the network infrastructure requirements for customer contact centers, customer mobile and web site contact, all office functions, field workforce functions, fleet systems, dispatch operations, EIM functions, and security systems. The key performance indicator for network availability and reliability is 99.9%, 24x7. The investment sequencing is based on three drivers, 1) Compliance, 2) Initiatives, 3) Reliability. The Compliance driver should be regulation, Initiatives are executive sponsored (current example is a cybersecurity vulnerability risk on out-of-support assets), and the Reliability driver is often the highest volume of work.

The sequencing of the Reliability projects is driven first by the network asset end-of-support date for cybersecurity patching, then the performance and capacity to meet the business requirement, and lastly product obsolescence date.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

The project work captured in this business case enables network communications for all corporate systems. With Avista's vision of delivering better energy for life, this business case is key to supporting the gas and electric service delivery to our customers in a safe and reliable manner by allowing access to core customer and employee systems. The work is needed daily and is ongoing with a direct tie to customer satisfaction.

The risks of not approving this business case could result in unplanned failures, inability to expand services and cyber vulnerabilities. The result is tied to the following risks: an increase in employee and customer system outages, unplanned labor and non-labor costs, risk of delay to procure and replace the failed asset as well as downtime to the core enterprise systems and exposure of outdated or unsupported devices to external cyber vulnerabilities.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

Enterprise Network Infrastructure

This business case provides network communications for all corporate systems. These systems include email, Microsoft Teams, myavista.com, AFM (Avista Facilities Management), OMT (Outage Management Tool), CC&B (Customer Care & Billing), Maximo, and EIM (Energy Imbalance Market), to name a few, along with secure access to the Internet wherever our people might be working. These network system examples, and many others, move and present data that drive operational decisions and support customer account management, tying back to all four strategic goals affecting our customers, people, performance, and invention with the customer being the most important.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

Gartner is an industry leader in Enterprise Technology providing valuable insights, guidance, tools, and consulting opportunities that Avista's technical architects use regularly. OEMs (Original Equipment Manufacturer) also provide valuable information about industry trends and the evolution of technology. Avista uses these tools to accurately project growth and develop strategies for scaling new use cases.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The projects within this business case should refresh assets or install new instances of technology to enhance and increase performance and capacity needs. If the failure rate associated with the network systems in the business case remains low, then the project work is adding value by proactively reducing the risk of failing assets affecting critical operations systems, processes, and infrastructure reliability. In addition, expanding network assets in advance of Avista adding services ensures business operations are not delayed and the system is proactively increasing capacity.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

Each individual network infrastructure asset is tracked throughout its active presence using several systems. Collectively these systems track lifecycle, manufacturer warranty, maintenance, and support (contract) status, licensing, capacity, and replacement cost. Manufacturer lifecycles drive a considerable portion of the required work within this request. Concurrently, a sizable portion of work is driven by the ongoing technological advancement of business solutions and the need for resilient and reliable access to the Internet. Subject Matter

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Enterprise Network Infrastructure

Experts in Enterprise Technology are regularly consulted with in technical cadences so that a real-world, collaborative approach is taken to evaluate each asset's risk of failure, as well as the impact of a given failure. Capacity and performance planning activities occur in the same forum, the result of which is a robust enterprise communications network that will enable Avista to efficiently and effectively deliver timely information and services to customers.

2.3 Summarize in the table and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

There are no direct savings related to this business case.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M		$0	$0	$0	$0	$0

2.4 Summarize in the table and describe below the INDIRECT offsets4 (Capital and O&M) that result by undertaking this investment.

There are no direct savings related to this business case.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$	$	$	$
O&M		$	$	$	$	$

2.5 Describe in detail the alternatives, **including proposed cost for each alternative**, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those **additional risks** to Avista that may occur if an alternative is selected.

Alternative 1:

Fund the business case at an amount which is less than the original request

Funding of this business case at an amount less than the full request will reduce expansion of enterprise network communication systems to meet business needs in multiple offices, ensuring secure and reliable access to the systems needed daily to support customer billing and call center activities, in addition to internal enterprise systems that support the delivery of electric and gas services. This reduction in projects will also lessen the ability for a proactive approach refreshing devices prior to failure creating a loss of communications which increases the risk of failure of critical customer systems or cyber security vulnerability because assets will no longer be supported by their manufacturers.

Alternative 2:

Do not fund the business case

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

Enterprise Network Infrastructure

Removing all funding for this business case would be challenging for Avista since this business case provides enterprise network communications to offices ensuring secure and reliable access to the systems needed daily to support customer billing and call center activities, in addition to internal enterprise systems that support the delivery of electric and gas services., If the projects in this business case cease to exist, there will be no funding to proactively upgrade or refresh enterprise network communications devices prior to a loss of communications at new offices, These failures translate to a lack of access and support to back-office and customer systems that support the delivery of gas and electric services.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Executing and completing planned projects within this business case should refresh assets or install new instances of technology to enhance and increase performance and capacity needs. If the fail rate associated with the enterprise network systems in the business case remains low, then the project work is adding value by proactively reducing the risk of failing assets affecting critical operations systems, employee and customer processes, and infrastructure reliability. In addition, expanding enterprise network assets in advance of Avista adding services ensures business operations are not delayed and the system impacted with increased capacity.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The project work captured in this business case enables network communications for all corporate systems. With Avista's vision of delivering better energy for life, this business case is key to supporting the gas and electric service delivery to our customers in a safe and reliable manner by allowing access to core customer and employee systems. The projects occur throughout the year in a cadence based on priority and resource availability.

The risks of not approving this business case could result in unplanned failures, inability to expand services and cyber vulnerabilities. The result is tied to the following risks: an increase in employee and customer system outages, unplanned labor and non-labor costs tied to system scope changes not clearly defined, risk of delay to procure and replace the failed asset as well as downtime to the core enterprise systems and exposure of outdated or unsupported devices to external cyber vulnerabilities.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

Steering Committee members are invaluable to the project and will provide approval on scope, schedule, and budget related changes. Additionally, they will provide approval on issues and risks pertaining to project deliverables outlined in this document, which also typically have an impact on the scope, schedule, or budget of a project. Steering Committee members will also provide approval on Change Requests, Go-Live, and the Approval to Close documents. For the Enterprise Network Infrastructure business case, the Steering Committee will consist of the Directors and Managers within ET, Energy Delivery, GPSS, Customer Solutions, and the Business Case Owner.

The Enterprise Network Infrastructure Business Case has two levels of governance: The Program Steering Committee and the Project Steering Committee.

Program Steering Committee

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial

Enterprise Network Infrastructure

performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the PMO. The project queue will be reviewed periodically to plan and sequence work to the levels of funding allocation received.

Project Steering Committee

Project Steering Committees function as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible for providing guidance and making decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the PMO.

Project prioritization is evaluated by the management team monthly. Each program and project steering committee meet regularly and oversee scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the Technology Planning Group (TPG) or Capital Planning Group (CPG) for decision-making around resource or funding constraints.

Any changes in funding or scope are documented at the Business Case level, via a Change Request document that is presented to the CPG monthly and evaluated by the CPG for approval.

Changes in scope, schedule, or budget are also documented through a 'Change Request' at the project level and reviewed and approved through a formal workflow process. All ET projects in this business case are managed through the PMO, which follows the Project Management Institute (PMI) standards. Projects initiate with a 'Charter' to begin the planning process. When planning is complete, a 'Project Management Plan (PMP)' is created and approved as the project baseline for scope, schedule, and budget. At the end of execution, an 'Approval to Go Live' is submitted and approved prior to implementation (Transfer to Plant). After the technology is in service and out of the warranty period, the Project Manager will hold a Lessons Learned, and subsequently submit an 'Approval to Close' prior to finishing the project. All Monitor and Control documentation and Change Requests are documented and stored to ensure a comprehensive audit trail.

Enterprise Network Infrastructure

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Enterprise Network Infrastructure business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature: _____ Date: May-02-2024 | 6:22 AM PDT

Print Name: Shawna Kiesbuy

Title: Sr. Manager, Network Engineering

Role: Business Case Owner

Signature: _____ Date: May-06-2024 | 3:42 PM PDT

Print Name: Alexis Alexander

Title: Director Information Technology

Role: Business Case Sponsor

Environmental Control and Monitoring Systems

EXECUTIVE SUMMARY

Technology that enables Avista's safety, control, customer-facing, and backoffice systems is critical to the operations that serve our gas and electric customers. It is found in many different environments from office locations to mountaintop sites to call centers across our service area to Substations and Generation Plants. Managing the facility and power environments to optimally run the systems housed in these locations is extremely important, as environmental condition changes can adversely affect them. The parameters monitored and controlled include but are not limited to temperature, humidity, fire protection, and backup power supply systems. If these parameters should fall outside of the device specification levels, it can cause damage to the technology equipment impacting business automation processes.

The technology solutions under the Environmental Control & Monitoring Systems business case will vary by site location and systems supported in each facility or environment. They may include uninterrupted power sources to allow systems to continue operating while waiting for an auxiliary power source to come online, such as an emergency generator. In fact, on a mountain top, heated and cooled enclosures are critical to assuring technology housed in that facility is maintained at the proper temperature despite changes in outside weather. The cost of each solution will vary with the type of solution identified for each site. However, location can also affect cost based on the remoteness and extreme conditions affecting that particular location. Avista and its customers can experience the benefits through ongoing system reliability.

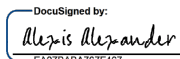The main driver behind this program is asset condition aligned with asset management strategies driven by technology lifecycles that are based on manufacturer product roadmaps, which can compound planned obsolescence. The asset management strategy is critical to optimize the overall lifecycle value of the product and reduce potential for failure or unplanned outages. The technology solutions under this program undergo regular review to balance the asset management strategy within the predetermined budget allocations. The risks of not approving this business case at the level to which it can maintain the balance of meeting its asset management strategy can result in unplanned failures, which result in unplanned labor and non-labor costs, risk of delay to procure and replace the failed asset, increase safety risk to send field staff in extreme weather conditions to remote locations, as well as downtime to the critical operations and safety systems that it supports. The likelihood of these assets failing is exponentially more likely when they are allowed to run pasted their life cycle. They contain components that wear out and are not replaceable without replacing the entire asset. This program will plan to normalize replacements by replacing an equal number of assets by asset type a year. This may increase the risk of failures but provides a normalized annual funding level requirement. Engineering, Technicians, and Management will annually review the portfolio of assets, and their current condition, against this program to ensure optimization of funding and risk of failures.

This program will need a minimum funding level of $950,000 per year for a total of $4,750,000 over the 5 years to maintain the business risk of these assets failing and impacting safety and control systems our Operations personal rely on to support our Customers.

Environmental Control and Monitoring Systems

VERSION HISTORY

Version	Author	Description	Date
1.0	Michael Busby	Original business case request	7/2017
1.1	Michael Beil	Updated investment driver	7/2019
2.0	Michael Busby	Narrative added to new template	7/2020
3.0	Michael Busby	Update to new template	5/2022
4.0	Michael Busby/Mike Lang	Update to new template, CPG short description	4/2023
5.0	Shawna Kiesbuy	Update to new template and revised financial data	4/2024
BCRT	BCRT Team Member	Has been reviewed by BCRT and meets necessary requirements	4/2024

Environmental Control and Monitoring Systems

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$950,000	$950,000
2026	$950,000	$950,000
2027	$950,000	$950,000
2028	$950,000	$950,000
2029	$950,000	$950,000

Project Life Span	*5 years*
Requesting Organization/Department	Enterprise Technology
Business Case Owner | Sponsor	Shawna Kiesbuy | Alexis Alexander
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

Investment Drivers

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

Technology that enables Avista's safety, control, customer-facing, and back office systems are critical to the operations that serve our gas and electric customers. It is found in many different environments from office locations to mountaintop sites to call centers across our service area. Managing the facility and power environments to optimally run the systems housed in these locations is extremely important, as environmental condition changes can adversely affect them. The parameters monitored and controlled include, but are not limited to temperature, humidity, fire protection, and backup power supply systems. If these parameters should fall outside of the device specification levels, it can cause damage to the technology equipment impacting business automation processes.

1.2 Discuss the major drivers of the business case.

The main driver behind this program is asset condition aligned with asset management strategies driven by technology lifecycles that are based on manufacturer product roadmaps, which can compound planned obsolescence. The asset management strategy is critical to optimize the overall lifecycle value of the product and reduce potential for failure or unplanned outages.

Environmental Control and Monitoring Systems

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

The technology solutions under this program undergo regular review to balance the asset management strategy within the predetermined budget allocations. The risks of not approving this business case at the level to which it can maintain the balance of meeting its asset management strategy can result in unplanned failures, which result in unplanned labor and non-labor costs, risk of delay to procure and replace the failed asset, increase safety risk to send field staff in extreme weather conditions to remote locations, as well as downtime to the critical operations and safety systems that it supports.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

This is a program with discrete projects that align with Avista's vision, mission, and strategic objectives:

To provide Better Energy for Life, you need systems that function at an optimal level to deliver electricity and gas in a safe and reliable manner. The team supporting the environmental control and monitoring systems is highly skilled and responsive to the needs of these systems so critical business services continue to be delivered without interruption.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

EMERGENCY GENERATORS (EGEN)

Emergency Generator assets are at facilities where critical technologies are located. We currently have 24 generators in portfolio. They have a 30-year life cycle. Average cost of replacement is estimated around $150k per generator system. This estimate doesn't take into account any unique environmental constraints some site may have. We will plan to replace 1 per year, if the generator is having reliability issues or at significant risk of failure.

Age	Count
0-5 Yrs.	3
5-10 Yrs.	9
10-15 Yrs.	6
15-20 Yrs.	0
20-25 Yrs.	3
25-30 Yrs.	1
> 30 Yrs.	2
Total	**24**

We have 2 generators that are past their end of life and need to be refreshed. We have 1 generators that will reach their end of life over the next 5 years. As of 5/2022, over the next 5

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Environmental Control and Monitoring Systems

years we are planning on replacing these 3 generators that will be past their end of life, as well as 1 generator that is having reliability and maintenance issues.

UNINTERRUPTIBLE POWER SYSTEMS (UPS)

Uninterruptible power systems used to provide AC or DC power voltages to equipment during the loss of utility power events and/or during emergency generator startup. We currently have 60 UPS systems in portfolio. They have a 5-year life cycle. Average cost of replacement is estimated around $25k per UPS system. This estimate doesn't take into account any unique environmental constraints some site may have. We will plan to replace 12 per year, if the UPS is having reliability issues or at significant risk of failure.

Age	Count
0-1 Yrs.	0
1-2 Yrs.	8
2-3 Yrs.	7
3-4 Yrs.	11
4-5 Yrs.	6
> 5 Yrs.	28
Total	**60**

We have 28 UPS systems beyond their end of life. If we get funding to replace 12 a year for the next 5 years, we can significant reduce the risk of UPS failures.

DC RECTIFIERS

DC Rectifier systems are used to convert AC power to DC power. Some of Avista's technology assets have DC power supply requirements. We have 78 DC Rectifiers in portfolio. They have a 15-year life cycle. Average cost of replacement is estimated around $70k per DC system. This estimate doesn't take into account any unique environmental constraints some site may have. We will plan to replace 5 per year, if the DC System is having reliability issues or at significant risk of failure.

Age	Count
0-3 Yrs.	7
3-6 Yrs.	10
6-9 Yrs.	9
9-12 Yrs.	28
12-15 Yrs.	1
> 15 Yrs.	23
Total	**78**

We have 23 DC Systems beyond their end of life. We will have 26 more DC Systems reach their end of life within the next 5 years. If we get funding to replace 5 systems a year for the next 15 years, we can significantly reduce the risk of DC System failures.

DC BATTERIES

DC Batteries store electrical energy used to provide power to technology equipment during loss of AC power event. We have 2 types of DC batteries in our portfolio. A "Standard Life" and a "Long Life" Valve Regulated Lead Acid (VRLA) battery. The Standard VRLA battery has a 10-year life cycle. The "Long Life" VRLA battery has a 15-year life cycle and will be replaced with the DC Plant replacement project. We currently have 11 "Long Life" DC Battery systems and 66 "Standard Life" DC Battery systems. The "Standard Life" DC Battery systems will be replaced if they fail performance testing during maintenance activities. Average cost of replacement for

Environmental Control and Monitoring Systems

"Standard Life" battery systems is estimated to be around $7.5k per DC system. We will plan to replace 6 "Standard Life" DC battery systems per year, if the system is having reliability issues or at significant risk of failure.

| 10 Year Lifespan ||
Age	Count
0-2 Yrs.	29
2-4 Yrs.	14
4-6 Yrs.	9
6-8 Yrs.	8
8-10 Yrs.	1
> 10 Yrs.	5
Total	**66**

5 of the "Standard Life" DC Battery systems are beyond their end of life. We will replace the DC Batteries when we replace the DC Rectifier system. If we see DC Batteries not passing performance testing during maintenance activities, we will plan to replace the DC Battery system before replacing the whole rectifier system.

HVAC SYSTEMS

HVAC Systems monitor and control the environment's temperature and/or humidity. Avista's technology assets may experience physical damage if operated in temperatures and/or humidify outside of their specifications. We have 23 HVAC systems in our portfolio. They have a 20-year life cycle. The average cost of replacement is estimated around $55k per HVAC system. This estimate doesn't take into account any unique environmental constraints some site may have. We will plan to replace 1 per year, if the HVAC System is having reliability issues or at significant risk of failure.

Age	Count
0-5 Yrs.	7
5-10 Yrs.	9
10-15 Yrs.	4
15-20 Yrs.	0
> 20 Yrs.	3
Total	**23**

We have 3 HVAC Systems beyond their end of life. If we get funding to replace 1 HVAC system a year, we can manage and maintain the risk of HVAC system failures.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

Option	Capital Cost	Start	Complete
Optimized Asset Replacement (Proposed Solution)	*$4,750,000*	*01 2024*	*01 2028*
Asset Replacement when Obsolete	*$6,162,500*	*01 2024*	*01 2028*
Asset Replacement upon Failure	*$4,621,875*	*01 2024*	*01 2028*

Environmental Control and Monitoring Systems

The proposed solution would maintain an even and manageable replacement program to maintain Avista's ability to monitor and control various environments where other technology systems are deployed. This solution will maintain the reliability of the technology systems used to automate our business.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

The assets managed in this business case are manufactured with components that wear out. As the assets age, they will start to degrade and fail. We strive to replace the asset before they start to fail and cause outages to the technology that runs automation for the business.

2.3 Summarize in the table, and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

There are no offsets to report at this time.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$	$	$	$	$
O&M		$	$	$	$	$

2.4 Summarize in the table, and describe below the INDIRECT offsets4 (Capital and O&M) that result by undertaking this investment.

There are no offsets to report at this time.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$	$	$	$	$
O&M		$	$	$	$	$

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:

Asset Replacement When Obsolete

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

This alternative maintains all Environmental Control and Monitoring systems in alignment with product lifecycles. This is not the recommended option because it would result in high variability in funding and staffing levels throughout the 5-year plan.

Alternative 2:

Asset Replacement Upon Failure

This alternative replaces equipment only upon failure. This option introduces high risk to the company because failed assets will create significant loss of automated business processes. Mitigating this loss will result in increased asset management costs to maintain spare inventory. These costs are not accounted for in the estimate. This option assumes;

- 50% of all obsolete assets will fail or become incompatible.
- 50% of the project costs is Labor
- Labor would be 200% more expensive due to the urgency to replace a failed asset

These costs would be refected in the IT Failed Assets Business case. The IT Failed Assets business case would not forecast these costs.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

The Environmental Control and Monitoring Systems business case can measure the failure rates of these assets. If the failure rates increase or decrease, we can re-evaluate the frequency at which we plan to replace them. This business case can also measure the number of assets that are replaced each year to see if goals are met.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The Environmental Control and Monitoring Systems business case is managed as a program of projects planned yearly which align with asset lifecycles that are based on manufacturer product roadmaps. All individual projects are managed through the PMO, which follows the Project Management Institute (PMI) standards. Throughout the year, the business case's projects are Initiated, Planned, Executed, and then Completed with a Transfer to Plant for the installed assets which over the course of a calendar year equates to the funded budget. Within this business case, there is one blanket project for battery refreshes which Transfers to Plant on a monthly basis.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The Environmental Control and Monitoring systems Business Case has two levels of governance; The Program Steering Committee and the Project Steering Committee.

Program Steering Committee

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

Environmental Control and Monitoring Systems

The Program will be facilitated and administered by an assigned Program Manager within the Enterprise Technology (ET) Project Management Office (PMO) Department. The project queue will be reviewed periodically and will consist of projects needed to maintain the reliability and performance of all Environmental Control and Monitoring systems.

Product roadmaps identify investment demand that is generally not fully funded. Product investments are prioritized in this manner:

1. Safety Systems
2. Control Systems
3. Customer Facing Systems
4. Back Office Systems

Project Steering Committee

Project Steering Committees act as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible to provide guidance and make decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the ET PMO Department.

Environmental Control and Monitoring Systems

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Environmental Control and Monitoring Systems business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Shawna Kiesbuy* 3CD905A81B984C3...	Date: Apr-29-2024 | 5:34 PM PDT
Print Name:	Shawna Kiesbuy	
Title:	Sr. Manager Network Engineering	
Role:	Business Case Owner	

Signature:	*Alexis Alexander* EA27BABA767F467...	Date: May-02-2024 | 10:19 AM PDT
Print Name:	Alexis Alexander	
Title:	Director Information Technology	
Role:	Business Case Sponsor	

EXECUTIVE SUMMARY

The Enterprise Technology Modernization and Operational Efficiency (ETMOE) Program[1] Business Case sponsors the tools and systems used by the technology teams to support business application implementation, development, operations, support, automation, and data to deliver solutions to the rest of the organization. Avista's Enterprise technology systems like those listed below, are a necessity, as they provide essential functionality to our employees and customers throughout all service territories. Employees benefit from greater efficiency and automation and customers benefit indirectly from this as well. These vital systems require systematic upgrades and enhancements to maintain reliability, compatibility, and reduce security vulnerabilities. Examples of these systems include:

- Service Now, a workflow and asset management software
- Azure DevOps, used for code version control, testing and release management and work tracking
- Various other integration and reporting systems used to help improve workflow productivity and report visualization
- Clarity, a project and portfolio management software

In order to maintain these business processes and systems supported by this Program, the historical annual funding has been approximately $1.6M/year. The proposed costs are approximately $4.4M for 2025 and $3.8M for 2026. This level is higher in these years primarily due to the inclusion of the larger IT Service Management Project as well as license renewals. Overall, this funding level will provide the appropriate technology and development to meet the periodic upgrades and enhancements prioritized by the ET Modernization Governance Committee. This funding level also considers the development staff required to maintain these core technology solutions.

As the utility industry undergoes transformation into digitalization, the growth of business application technology continues to enable automation and manual business processes to strengthen our ability to perform, which impacts our capacity to achieve stated financial objectives and affordably operate and maintain safe, and reliable generation and energy delivery infrastructure. This growth in business application technology creates an intricate tapestry that requires ancillary tools and systems to deliver and support company-wide solutions. Essentially, business application technology requires shared platforms and management tools to increase the quality, stability, and velocity to meet business goals and customers' expectations.

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[1] "A Program is defined as related projects, subsidiary programs, and program activities managed in a coordinated manner to obtain benefits not available from managing them individually. Managing projects, subsidiary programs, and program activities as a program enhances the delivery of benefits by ensuring that the strategies and work plans of program components are responsively adapted to component outcomes, or to changes in the direction or strategies of the sponsoring organization.", Project Management Institute Global Standard, *The Standard for Program Management, Fourth Edition. Page 3* (Copyright 2017)

The cost of these solutions varies by scale of footprint and vendor licensing models. The technology under this program undergoes regular utilization and performance reviews to determine expected standards and capacity requirements to maintain system reliability under the established budget allocations and respective technology lifecycles. These reviews can result in periodic supplementary investment demands as a result of technology lagging behind its lifecycle or predetermined performance standards. The technology, tools, and systems under this program benefit all Avista customers, as they support company-wide business application systems that empower employees to perform at a more strategic level. An example of this includes Adobe acrobat and Tableau applications which all employees have access to, to be able to work more efficiently.

Failure to approve the recommended funding would cause the deferment of upgrades and enhancements, resulting in unsupported applications, security liability, non-compliance, and significantly higher costs. It would also risk the reduction of skilled resources that support these systems, resulting in the loss of institutional business process and technology skillset in an exceptionally competitive market. Investments in these technology upgrades, enhancements and licenses provide indirect savings by quantifying the efficiencies based on assumptions on minutes of efficiency, percent of users, etc. The amount of estimated indirect savings will vary from year to year given this is a program with many different projects happening each year. The estimated annual savings are expected to range from $382,000 to $632,000 over the next 5 years.

VERSION HISTORY

Version	Author	Description	Date
1.0	L. Raymond	*Initial draft of original business case (post BCRT review)*	*04.06.2023*
1.1	K.. Schuh	*Updates*	*04.30.2023*
2.0	K. Schuh	*Template and content update for new planning cycle*	*4/2024*
BCRT	*Jeff Holter*	*Has been reviewed by BCRT and meets necessary requirements*	*3/2024*

ET Modernization and Operational Efficiency

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$4,420,000	$4,320,000
2026	$3,830,000	$3,660,000
2027	$1,710,000	$1,540,000
2028	$1,315,000	$1,730,000
2029	$3,245,000	$3,245,000

Project Life Span	*Program Business Case*
Requesting Organization/Department	Enterprise Technology
Business Case Owner | Sponsor	Karen Schuh | Wayne Manuel
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

What is the current or potential problem that is being addressed?

The growth in business application technology, as part of the digital transformation of the utility industry, requires ancillary tools and systems, such as API and workflow management systems, to deliver and support company-wide technology solutions. Essentially, business application technology requires shared platforms and management tools to increase the quality, stability, and velocity to meet business goals and expectations from our customers. These platforms and tools fit into two categories, those shared across the entire Avista Organization and those specific to the needs of the Enterprise Technology (ET) department as tools to support business applications.

Discuss the major drivers of the business case.

The Enterprise Technology Modernization and Operational Efficiency (ETMOE) Business Case is primarily driven by Performance and Capacity to support business application implementation, development, operations, support, delivery automation, and data delivery. This business case focuses on the tools and systems used by the technology teams to deliver solutions to the rest of the organization and is mainly comprised of product licenses, hardware, upgrades, and enhancements. The technology tools and systems under this program benefit all Avista customers, as they support business application systems throughout the Company that produce indirect savings and/or productivity gains. Employees having access to updated and efficient systems can result in customers who are provided more timely support and resolution for their issues, as well as information and data that is less prone to errors.

Some examples of those components are as follows: The funding requested under the ETMOE Business Case will be invested in technology, such as:

o Content and Workflow Platforms – Enhancement and upgrades for platforms that allow for content storage and sharing, such as ECM (Enterprise Content Management), as well as organizational workflows.

o Non-production Environment & Data Management – Enhancements and new system implementations required to support continuous integration, Quality Assurance (QA) and , and new development environments (which improves developer efficiency and overall systems security).

o ET Portfolio Management – Ongoing enhancements to portfolio and project management systems to support the evolving needs of technology investment planning and delivery, while capturing contemporaneous project artifacts that document governance.

o Application Lifecycle Management Tools – Ongoing enhancements to the systems and platforms that support application development, delivery, and integration for consistent deployment and delivery of changes and upgrades on a multitude of business application systems that enable business processes across the organization.

o Shared Systems and Tooling – Ongoing enhancements to and expansion of automation and tracking tools (such as AppDynamics) that provide Operations and Software Development teams with insight into application usage, issues, network connectivity, and more. Also includes integration of systems across Avista utilizing Microsoft Biztalk to assist in process and information sharing for platforms supported by other business cases such as CC&B (Customer Care & Billing) and Maximo.

o Managed File Transfer – Ongoing enhancements to and expansion of Avista's managed file transfer system (GlobalScape), which allows for the secure transfer of data from one location to another, both internally and externally. This can include transactions with sensitive and highly sensitive information.

Reliance on obsolete technology for automated business processes presents significant risk that may only be solved with the reinstatement of manual processes. In some cases, reinstating manual processes is not even an option, as technology has completely introduced system requirements in information storage, access, and transactions among systems greater and faster than any human being is able to store, access, or transact. Sustaining automated business processes by replacing automation with workforce would increase labor expenses in the few areas where removing business process automation is possible.

Additionally, with the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies. These upgrades can in turn drive subsequent system replacements. Therefore, vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure.

Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

If the investments under this business case are not approved, it would result in technology platforms and tools falling behind their required upgrades. This would hinder support for business applications used daily for investment planning and delivery, managed file transfers, pre-production testing, and technology lifecycle management. The technology teams would be hindered in their ability to assist or repair business applications and their respective information storage and workflows when they become unresponsive or inoperable, especially for reoccurring issues where root cause analysis is necessary to prevent future events or incidents.

Upgrading to the recommended or latest software versions is important to maintain the overall health of our technology. There are many reasons that upgrades are necessary, from enhanced security, to increases in employee productivity (and lower costs). Upgrading business software is an economical decision compared to the cost of maintaining outdated software that suffer breakdowns and places a massive burden on Operations (and the budget).

Upgrades exist to avoid common risks, such as:

- Security - Outdated or unpatched software increases the risk of vulnerabilities or security exploits.

- Incompatibilities - Outdated software can disrupt workflow or fail to work with other (duly updated) software.

- Degradation - Software can experience a slow deterioration of quality over time or diminished responsiveness that could eventually become faulty or unusable, if not upgraded.

- Deficiencies - No matter how well the software is tested, many times it is deployed with defects that need to be remediated.

- Obsolescence - Software updates do not always solely address security issues or deficiencies. Sometimes they are there to add necessary functionality or optimize existing features, such as new regulatory requirements or industry guidelines. There is a heightened risk of losing vendor support from choosing not to install software updates and the latest improvements.

ET Modernization and Operational Efficiency

Software enhancements are just as critical, as demands change so rapidly, we must look for ways to extend functionality of our software investment rather than go through full replacement cycles. The Software Development Life Cycle (SDLC) describes the process of planning, analysis, design, build, test and implementation, but it does not stop there. It has further steps into maintenance, enhancement, and progression. Software enhancements help to improve system efficiency, anomalies, and better cross-platform compatibility. There are also unavoidable governance and compliance changes that may drive the need for software optimization, thus why continuous delivery and continuous integration are common practices within the SDLC.

Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

[Avista Strategic Goals](#)

Avista Focus Areas		
☐	**Our Customers**	• Mature our customer experience, both internal & external • Support affordability, equity, and economic vitality • Understand and address the evolving customer needs by offering products, services, & solutions
☐	**Our People**	• Evolve our employee experience with a focus on engagement, development, resiliency & well-being • Improve safety & training systems to reduce injuries, expand learning & understand risks • Strengthen equity, inclusion, & diversity within systems, practices, & behaviors
☒	**Perform**	• Affordably operate & maintain safe, clean, reliable generation & energy delivery infrastructure • Achieve stated financial objectives
☐	**Invent**	• Foster & apply an innovation culture to benefit employees, customers, communities, & shareholders • Create the utility of the future with our stakeholders, optimizing for cost, carbon, & reliability

This is a program with discrete projects and packages that align with Avista's vision, mission and strategic objectives. Specific Focus Areas include:

Our People: Technology plays a critical role in how employees feel about their day to day experience. Employees that are more productive and efficient by using technology, allows them to focus on more strategic objectives that help to propel the company forward. These types of activities naturally promote more resilient, engaged employees that are more performance and results driven.

1.1 Perform: The technology in this business case provide increased employee efficiency through the reduction of steps required to complete a task and make better use of Avista resources. They shift efforts from inefficient processes to more value-driven activities by leveraging technology to meet business needs. The efficiency and reduction of steps creates a cost savings from automating manual processes and utilizing tools that can be utilized across the enterprise. The majority of our ET applications are also used by other business areas or support the department specific tools. The ability to consolidate applications to meet multiple business needs avoids the incremental costs of licensing, contracting, training, delivery, support, etc. These back office applications are necessary to achieve our stated financial objectives and impact our ability to affordably operate and maintain generation and energy delivery.

ET Modernization and Operational Efficiency

1.2   Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[2]

Vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements for existing technology under the ETMOE program, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure. Ongoing reviews of vendor roadmap and technology asset lifecycle alignment provide necessary information to track how much of our investment in technology is lagging behind the vendor roadmap, and thereby introducing risk to supporting business application systems and their corresponding and respective automated business processes.

ET Modernization and Operational Efficiency Monthly Stakeholder and Steering Committee teams references various technology vendor and third-party resources to stay informed and recommend decisions on the various technology investments. A few sample sources are included below:

• Vendor roadmaps for specific platforms and tools, such as Opentext (for Enterprise Content Management) Biztalk (for Enterprise Service Bus, ServiceNow (for IT Service Management) are examples of vendor roadmaps regularly referenced.

• ET utilizes Gartner for Information Technology insights, analysis, research and reference materials. Gartner is an industry leader in IT research, benchmarking, and consulting practices and provides Avista the ability to understand market trends, best practices and make more informed technology decisions. For example, Gartner's 'Magic Quadrant', provides a graphical positioning of technology providers in the market, with the ability to home in on critical capabilities based on requirements and specific use cases. This capability alone significantly reduces the time and effort of researching, evaluating, and reference checking.

Some examples of recent Gartner references include:

• ServiceNow / IT Service Management – Evaluation of IT Service Management tools, vendors, System Implementors, and licensing models.

• Clarity PPM – Evaluating Project, Portfolio Management systems to determine the benefit of upgrading vs. replacement.

Link: Gartner for Information Technology (IT) Leaders.

1.   PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

Please summarize the proposed solution and how it helps to solve the business problem identified above.

As the utility industry undergoes transformation into digitalization, the growth of business application technology continues to enable automation and manual business processes to strengthen our ability to perform. Business application technology requires shared platforms and management tools to increase the quality, stability, and velocity to meet business goals and customers' expectations. In order to maintain the business processes and

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

systems supported by this business case, the recommended funding is necessary to deliver the technology and development to maintain application lifecycle support, security risks, compliance requirements, and cost savings. The cost of these solutions varies by scale of footprint and vendor licensing models. These reviews can result in periodic supplementary investment demands as a result of technology lagging behind its lifecycle or predetermined performance standards.

The proposed solution would upgrade, replace, or enhance the technology that is used by all areas of the organization, or tools used by the technology team to support other business application systems. The business functions or processes that may be impacted to solve the business problem(s) include, but are not limited to:

- Workflow management - used daily for Accounts Payable invoice processing and approvals.
- Investment planning and delivery for technology investments across the organizations, including project management and artifact storage and approval workflows.
- Near real time transaction of data from enterprise systems, such as our customer care billing and asset management system.
- Managed file transfers for internal and external movement of information among systems and third parties.
- Root cause analysis is a tool to identify the cause for faster operational remediation.
- Information storage for technology lifecycle management, and
- Workflow processes for technology incident management and change approval.

Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[3]

Impacts to O&M can occur and be both positive and negative as a result of multi-year, pre-pay license agreements that are capitalized under this business case. However, these changes can vary from year to year depending on the system or tool for license renewal and the licensing model being offered by the technology vendor. This makes forecasting product license renewal costs quite challenging. The following are examples of indirect benefits based on projects that will transfer to plant in 2025:

- Service Now – the Service Now platform will streamline the ET Approval process, a known pain point in our current ET workflow system Tracker. The project team estimates an annual indirect labor offset of $225,000 as a result of this. The project is expected to bring in additional labor to support this new product though, which will have a $60,000 annual increase in capital and $240,000 annual increase in expense. However, this project is still in the planning phase and additional workflow efficiencies and labor offsets could be discovered which would further offset the expected increase of the support team.
- MuleSoft API (Application Programming Interface) Licenses – The annual indirect labor offset is estimated at $132,000. MuleSoft is our Application Programming Interface (API) service provider. An API is a type of software interface that allows

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[3] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

communication between computers in a more simplified fashion. It only exposes objects or actions the developer needs. An API would provide the ability for a developer to use a function that copies a file from one location to another without requiring the developer to understand the file system operations occurring behind the scenes. It provides a much more efficient process for creating an interface without having to fully migrate into the ecosystem. Offsets or efficiencies gained would have been realized upon the initial installation of the software. App Dynamics – The Company calculated the potential indirect offsets of the upgrade to App Dynamics and represents an avoided cost should the system be abandoned and go back to manual processes of approximately $750,000. AppDynamics is a technology solution that provides system monitoring, root cause analysis automation and provides end-to-end business transaction-centric management of complex and distributed applications. When AppDynamics was originally implemented, it was deemed to allow the Operations team to maintain the current level of service to the enterprise, and improve it, due to the ability to quickly isolate and resolve production performance issues. In addition to tangible operations benefits, the implementation of this software allows for an internal rate of return (IRR) range of 23.22% to 143.17%, as well as significant Operation & Maintenance (O&M) savings. These savings were realized upon the initial implementation of App Dynamics and would not be realized again for this upgrade.

- Clarity Upgrade – In 2023 the company started a project to upgrade the current on-premise version of Clarity to a cloud version of Clarity with less customizations. The project team calculated the potential indirect offsets for items like improved resource planning and automation for items like status reports and timecards to be approximately $500,000 per year. Direct savings of hardware and support costs are estimated to be between $35,000-$45,000 per year.

In summary, investments in these technology upgrades, enhancements and licenses provide indirect savings by quantifying the efficiencies based on assumptions on minutes of efficiency, percent of users, etc. noted in the above projects. The above projects do not include all the projects included in this business case; these were provided as a sample of indirect savings that represent the entire business case. Therefore, these are high-level estimates, and the Company does not have a way to track if these estimates will be realized.

These estimates were derived from calculated employee and contract labor costs for the primary teams working in this business case area, as well as historical trends, product roadmaps and high-level industry estimates for technology products. High level estimates are collected by the business level subject matter expert(s), technology domain architect(s), and delivery management team(s). Upstream investment in enhancements and upgrades to these platforms can result in savings by not incurring downstream costs when applications break, or simply stated, avoid costs associated with system inoperability that can hinder worker productivity. Non-production systems (such as Azure DevOps) allow the organization to test enhancements, upgrades, and new implementations prior to deployment in production. This results in reduced errors in production systems, which could also affect employees and customers negatively, from untested changes or upgrades.

Summarize in the table, and describe below the DIRECT offsets[4] or savings (Capital and O&M) that result by undertaking this investment.

The upgrade of Clarity from on-premise to a cloud application is expected to result in approximately $35,000 in hardware (server) and vendor support costs per year.

Offsets	Offset Description	2025	2026	2027	2028	2029

[4] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

Capital		$	$	$	$	$
O&M		$35,000	$35,000	$35,000	$35,000	$35,000

Summarize in the table, and describe below the INDIRECT offsets[5] (Capital and O&M) that result by undertaking this investment.

The following table represents examples of projects that will have indirect offsets. These types of offsets occur in this business case annually. There are no capital offsets for this program.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	Clarity	$500,000	$500,000	$500,000	$500,000	$500,000
O&M	IT Asset Management System	$250,000	$500,000	$$500,000	$$500,000	$$500,000
O&M	Mulesoft API Licenses	$132,000				

DESCRIBE IN DETAIL THE ALTERNATIVES, INCLUDING PROPOSED COST FOR EACH ALTERNATIVE, THAT WERE CONSIDERED, AND WHY THOSE ALTERNATIVES DID NOT PROVIDE THE SAME BENEFIT AS THE CHOSEN SOLUTION. INCLUDE THOSE ADDITIONAL RISKS TO AVISTA THAT MAY OCCUR IF AN ALTERNATIVE IS SELECTED.

Option	Capital Cost
Recommended Solution – Maintain application lifecycle support, security risks, compliance requirements, and cost savings at the requested funding level	$14,520,000
Alternative 1 **–** Fund at a reduced level by removing future phases of ITSM.	$10,075,000
Alternative 2 **–** Partially funding the Program (or Lifecycle Management)	$7,900,000
Alternative 3 – change in license renewal pattern	No reduction overall but less to 2025 and 2026

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[5] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

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Alternative 1: This alternative solution would require future phases of the ITSM project to be delayed or eliminated from the funding. Future phases of this project are planned to bring in the Software and Hardware Asset Management systems (two items that are currently being tracked manually in spreadsheets) as well as Facilities management and IT Operations workflows. If this work is deferred, we will continue to exacerbate the risks associated with custom and antiquated technology and delay the efficiency gains expected of this investment. We have deferred this project for many years already, and it has become evident that we must address the business problems at this time.

Alternative 2: Failure to approve funding at the recommended level would cause the deferment of upgrades and enhancements, resulting in unsupported applications, security liability, non-compliance, and significantly higher costs. It would also risk the reduction of skilled resources resulting in the loss of institutional business process and technology skillset in an exceptionally competitive market. Investments in these technology upgrades, enhancements and licenses provide indirect savings by quantifying the efficiencies based on assumptions on minutes of efficiency, percent of users, etc.

Alternative 3: The Software License Analyst team is constantly searching for ways to reduce the impact of license renewal costs. Changes to patterns of license renewal could be made. They would likely not provide a reduction in the overall funding need of the program, but they could lessen the impact to certain years that have a high amount of license costs.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements for existing technology under the ETMOE program, while meeting business value and strategic alignment within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure. Ongoing reviews of vendor roadmap and technology asset lifecycle alignment provide necessary information to track how much of our investment in technology is lagging behind the vendor roadmap, and thereby introducing risk to supporting business application systems and their corresponding and respective automated business processes.

These technology platforms and tools provide functional enhancements that address ongoing changes in the workplace, provide increased employee efficiency through the reduction of steps required to complete a task, and make better use of Avista resources. They shift efforts to more value-driven activities by leveraging technology to meet both planned and unplanned business needs. Larger projects, such as Clarity and ITSM, will measure stakeholder satisfaction with these efforts by surveying end users at project completion.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

This Business Case is a program with approximately 25-30 discrete projects and product packages for applications that typically run annually and Transfer to Plant at different times within that same year. There are times that a project may start in Q3/Q4 of one year and Transfer to Plant the following year. Typically, application projects will Transfer to Plant about 60 days prior to the project completion date (due to the post implementation warranty period and to capture the trailing charges). Quarterly forecasts capture changes in transfers to plant based on project status. The goal is to break out large/complex projects into smaller projects (phases) to avoid scope creep, budget overages, and ensure the work can be properly prioritized. The first phase of every project would be scoped at the Minimum Viable Product (MVP), and subsequent phases would be scoped accordingly, based on the next highest priority after MVP. This also allows for more accurate Transfer to Plant forecasts.

Work related to products that are similar in nature will be grouped into "packages" that can run up to 5 years, or until a major contract ends. A regular transfer to plant schedule (annually, monthly or quarterly) will be determined for these packages with Project Accounting and the value delivered in these packages will be documented on an annual basis.

Examples of application projects included in this business case can be found in section 2.2 where offsets are discussed. Please see section 2.8 for the prudency review that takes place during the Business Case Program Steering Committee meetings.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The ET Modernization and Operational Efficiency Business Case has four levels of governance: The Executive Technology Steering Committee (ETSC); Technology Planning Group (TPG) of Directors; Integrated Oversight Committee (IOC) of Managers, and Program/Project Steering Committees that includes stakeholders to the individual projects. Applicable stakeholders and disciplines meet regularly to govern the business case and subsequent programs and projects. The TPG sets priority across the technology investment portfolio, balancing: strategic alignment, business value, and customer benefits, as driven by the strategic initiatives established by the ETSC. The Capital Planning Group (CPG), an independent body of Directors, establishes funding allocations for each Business Case across the enterprise. The IOC evaluates and compares all the application portfolio project priorities, utilizing risk, capacity, and other situational factors to ensure each planned project is meeting critical milestones. The ETSC, TPG and IOC all have charters detailing their mission and governance structure, etc.

The Business Case is largely limited by the funding allocation and resource capacity (staff) to meet its goals. The funding is generally established at the Business Case level by the CPG. The resource capacity constraint is generally managed by the TPG and the Business Case owner. Once the two constrains are established, the Business Case owner will work with steering committee(s) to set project priority and sequence over a five-year planning period, subject to additional funding changes as directed by the CPG

Project prioritization is evaluated by the management team on a weekly basis by the IOC. Each program and project steering committee meets monthly (at a minimum) and oversees scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the TPG or CPG for decision-making around resource or funding constraints.

Any changes in funding or scope are documented at the Business Case level, via Change Request document that is presented to the CPG on a monthly basis and evaluated by the CPG for approval.

Changes in scope, schedule, or budget are also documented through a 'Change Request' at the project level and reviewed and approved through a formal workflow process. All Enterprise technology projects in this business case are managed through the Project Management Office (PMO), which follows the Project Management Institute (PMI) standards. Projects initiate with a 'Charter' to begin the planning process. When planning is complete, a 'Project Management Plan (PMP)' is created and approved as the projects baseline for scope, schedule and budget. At the end of execution, an 'Approval to Go Live' is submitted and approved prior to implementation. After the technology is in service and out of the warranty period, the Project Manager will hold a Lessons Learned, and subsequently submit an 'Approval to Close' prior to finishing the project. All Monitor and Control documentation and Change Requests are documented and stored to ensure a comprehensive audit trail.

ET Modernization and Operational Efficiency

2. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the *ET Modernization and Operational Efficiency* and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature: *Karen Schuh* Date: May-07-2024 | 9:31 AM PDT
Print Name: Karen Schuh
Title: Manager, ET PMO
Role: Business Case Owner

Signature: *Wayne Manuel* Date: May-07-2024 | 10:05 AM PDT
Print Name: Wayne Manuel
Title: VP, Chief Information & Security Officer
Role: Business Case Sponsor

Signature: *Hossein Nikdel* Date: May-07-2024 | 10:22 AM PDT
Print Name: Hossein Nikdel
Title: Director, Applications & System Planning
Role: Steering/Advisory Committee Review

Signature: *Alexis Alexander* Date: May-07-2024 | 9:34 AM PDT
Print Name: Alexis Alexander
Title: Director, IT Infrastructure
Role: Steering/Advisory Committee Review

Signature: *Clay Storey* Date: May-10-2024 | 6:03 AM PDT
Print Name: Clay Storey
Title: Director, Enterprise Security
Role: Steering/Advisory Committee Review

Fiber Network Leased Service Replacement

EXECUTIVE SUMMARY

The Fiber Network Leased Service Replacement Program[1] Business Case is focused on transitioning Avista's control and safety network off of leased fiber optic cable lines onto privately owned fiber optic cable. Avista utilizes leased fiber optic cable to transport primarily safety and control data between offices, substations, and generation facilities. The leased fiber incurs an operating expense with lease rates that were established during the sale of an Avista Communication's subsidiary. An Indefeasible Right to Use (IRU) was established to benefit Avista Utilities with rates well below market value. The IRU expires in 2027 with an option to renew for an additional five years, through 2032. Currently, Avista is planning to renew the IRU for the additional five years, at no additional cost, which will ultimately expire in 2032.

For this business case, the project work includes 37 fiber optic backbone segments and a total of approximately 78 miles of leased fiber left to be replaced with Avista-owned private fiber no later than 2032. By owning the fiber backbone, Avista can align maintenance activities with the overall bulk electric system outage schedule and eliminate any conflicts. Since Avista is an energy utility, it is positioned well to build a fiber network and leverage assets already o wned like poles, panel houses, and vaults so leasing a service should be the last resort.

For this business case, funding is being requested for $7,500,000 over five years to remain on track to complete the installation of Avista fiber by 2032. Transitioning Avista's safety and control network data from leased network services to private network infrastructure aligns with the long-term network strategy and will reduce risk to the company of having control and safety data on a leased network along with O&M (Operating & Maintenance) costs to the utility. When these services traverse a leased network, Avista is at risk of outages out of our control, scheduled vendor maintenance affecting Avista operations, and significant increases in monthly lease costs, based on an estimate from 2020 which could be refreshed, once the IRU expires.

Avista customers across Washington, Idaho and Montana will benefit from the projects in this program by having a robust network that has capacity and reliability to transport real time data on system status and performance. Having privately owned fiber will reduce O&M cost and remove reliance on third parties to maintain and operate critical fiber segments Avista relies on for control and safety.

Currently, there are no direct or indirect cost savings until the IRU leased segments are replaced by Avista fiber and the leases terminated.

VERSION HISTORY

Version	Author	Description	Date
5.0	Shawna Kiesbuy	Annual Update and new Template	4/2023
6.0	Shawna Kiesbuy	Annual Update	4/2024

BCRT	*BCRT Team Member*	*Has been reviewed by BCRT and meets necessary requirements*	

Fiber Network Leased Service Replacement

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$1,500,000	$1,400,000
2026	$1,500,000	$1,000,000
2027	$1,500,000	$1,600,000
2028	$1,500,000	$1,000,000
2029	$1,500,000	$1,500,000

Project Life Span	*5 years*
Requesting Organization/Department	Enterprise Technology/Network Services
Business Case Owner | Sponsor	Shawna Kiesbuy | Alexis Alexander
Sponsor Organization/Department	Enterprise Technology/Network Services
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

Investment Drivers

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

Avista utilizes leased fiber optic cable to transport primarily safety and control data between offices, substations, and generation facilities. The leased fiber incurs an operating expense with lease rates that were established during the sale of an Avista Communication's subsidiary. An Indefeasible Right to Use (IRU) was established to benefit Avista Utilities with rates well below market value. The IRU expires in 2027 with an option to renew for an additional five years, through 2032.

This business case is a program to transition Avista's safety and control network data from leased network services to private network infrastructure and aligns with the long-term network strategy and will reduce risk to the company of having control and safety data on a leased network along with O&M (Operating & Maintenance) costs to the utility. When these services traverse a leased network, Avista is at risk of outages out of our control, scheduled vendor maintenance affecting Avista operations, and significant increases in monthly lease costs once the IRU expires.

For this business case, the project work started in 2018 and identified at least 51 segments and a total of approximately 115 miles of leased fiber to be replaced with Avista-owned private fiber. To date, approximately 24 miles of fiber has been replaced equating to 14 segments being transferred to Avista. This equates to approximately 78 (recently reduced) miles and 37 segments of fiber remaining to be installed. The anticipated complexity associated with right of ways, permitting, construction and coordination with other parties such as city/county planning

Fiber Network Leased Service Replacement

departments, contractors and internal Avista departments, or to partner with complementary projects, will influence the pace of work to complete the transition to private fiber ahead of the 2032 deadline.

1.2 Discuss the major drivers of the business case.

The main driver for this business case is Performance and Capacity. Investment in private network transport and technology to service and support safety and control communication systems is an established industry standard. The technology improvements invested under this business case benefits all customers across our service territory by investing in privately-owned fiber optic cable segments thereby mitigating the potential of increased O&M costs for leased fiber in the future. By owning the fiber, Avista will be able to better maintain it since they will be the only ones using the strands versus joint-use of the fiber through a leased-based contract. Since Avista is an Energy Utility, it is positioned well to build a fiber network and leverage assets already owned like poles, panel houses, and vaults so leasing a service should be the last resort. Owning fiber is also cheaper in the long run and will ultimately keep Avista rates lower for our customers.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

The work to move from leased fiber to private fiber is timebound by the expiration of lease agreements all of which are due to end by 2027. As noted above, any delays in executing this work would risk the ability to finalize work by 2027. A contract extension is available through 2032, but any extension beyond 2032 would increase leased costs of this aging infrastructure. Also as noted above, there is benefit to the company by having full control over fiber segments for these critical communication paths. Full control allows Avista to schedule maintenance and support activities in conjunction with other maintenance activities across the organization, such as in GPSS, and System Operations. With leased fiber assets, we are at the mercy of the provider's own schedule of maintenance & support activities which may come at inopportune times for Avista business process and the potential interruption of system operations

While the current agreements may allow for extension of the lease terms, there are increased O&M costs associated with any extensions. Avista is proactively working to prevent any additional O&M costs by implementing privately owned fiber prior to having to execute on any lease extensions.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

[Avista Strategic Goals](#)

The FNLSR business case investments align with Avista's commitment to invest in its infrastructure to achieve optimal lifecycle performance – safety, reliability, and at a fair price. Data communications that monitor and control Avista systems are critical in the support of energy delivery. The move from leased to privately owned fiber will continue to enable and support critical communications in a manner that increases reliability and manages costs. Network technologies that allow for communication with field area assets and workforce in the field are critical in support of the bulk electric system. The implementation of these network technologies will continue to enable and support these critical communications in a manner that is much safer for all workers and at all locations across Avista.

Fiber Network Leased Service Replacement

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

The leased fiber terms detail costs associated with the expiration date.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

These projects replace segments of leased fiber with Avista owned private fiber infrastructure per the business problem addressed in Section 1.1.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

The requested amount of $7,500,000 reflects the total estimated cost of implementing Avista privately owned fiber optic cable for all applicable IRU miles through the year 2027 with the option to extend through 2032. Yearly allocation and project prioritization are set based on the output of annual budget planning activities. These activities consider estimated completion dates of in-flight work, areas of elevated risk, and length of the construction season. Adjustments are requested and approved by the Steering Committee throughout each calendar year to accommodate any changes to the plan.

2.3 Summarize in the table, and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M		$0	$0	$0	$0	$0

Direct Savings - This program is currently scheduled to be completed in 2032 which means the current $60,000 per year cost will continue. At the end of 2032, we do have an option to renew the contract, with a large up-front cost estimated to be $3M as of a Zayo renegotiation

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

Fiber Network Leased Service Replacement

conversation in June of 2021. This $3M is for the existing, aging leased fiber optic segments and does not include any new assets.

2.4 Summarize in the table, and describe below the INDIRECT offsets4 (Capital and O&M) that result by undertaking this investment.

No indirect offsets for this business case.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M		$0	$0	$0	$0	$0

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:

Fund the business case at an amount which is less than the original request

Funding the FNLSR business case minimally each year would result in missing the 2032 target date to be off the IRU leased cable and ad-hoc funding requests to the Capital Planning Group (CPG) for work approved outside of the 5-year capital planning process. Risks related to the FNLSR work, such as proactively working to reduce O&M costs and providing the private fiber to carry safety and control communications, would be mitigated at a much slower pace than if the program were funded as requested, and may result in higher unplanned O&M annual costs if the 2027 deadline is missed.

Alternative 2:

Do not fund the business case

Removing all funding for this business case would result in all projects being halted and no new projects starting to move from leased fiber to privately owned fiber. The impact would be an increase in O&M which equates to $60,000 in annual IRU lease payments lease costs on those fiber segments.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Timely implementation and transfer to plant such that all segments are completed prior to an IRU, or segment lease expiration will determine success. The completion and transfer to plant will occur over time as each segment/project is completed.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The work to move from leased fiber to private fiber is timebound by the expiration of lease agreements all of which are due to end by 2027 with the aforementioned extension through

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4 Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

Fiber Network Leased Service Replacement

2032. As noted above, any delays in executing this work would risk the ability to finalize work by 2027. A contract extension is available through 2032, but any extension beyond 2032 would increase leased costs of this aging infrastructure. Also as noted above, there is benefit to the company by having full control over fiber segments for these critical communication paths. Full control allows Avista to schedule maintenance and support activities in conjunction with other maintenance activities across the organization, such as in GPSS, and System Operations. With leased fiber assets, we are at the mercy of the provider's own schedule of maintenance & support activities which may come at inopportune times for Avista business process and the potential interruption of system operations

While the current agreements may allow for extension of the lease terms, there are increased O&M costs associated with any extensions. Avista is proactively working to prevent any additional O&M costs by implementing privately owned fiber prior to having to execute on any lease extensions.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

Steering Committee members are invaluable to the project and will provide approval on scope, schedule, and budget related changes. Additionally, they will provide approval on issues and risks pertaining to project deliverables outlined in this document, which also typically have an impact on the scope, schedule, or budget of a project. Steering Committee members will also provide approval on Change Requests, Go-Live, and the Approval to Close documents. For the FNLSR business case, the Steering Committee will consist of the Directors and Managers within ET, Energy Delivery, GPSS (Generation Production and Substation Support) and the Business Case Owner.

The FNLSR Business Case has two levels of governance: The Program Steering Committee and the Project Steering Committee.

Program Steering Committee

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the PMO. The project queue will be reviewed periodically to plan and sequence work to the levels of funding allocation received.

Project Steering Committee

Project Steering Committees function as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible for providing guidance and making decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

Fiber Network Leased Service Replacement

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the PMO.

Project prioritization is evaluated by the management team monthly. Each program and project steering committee meet regularly and oversee scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the Technology Planning Group (TPG) or Capital Planning Group (CPG) for decision-making around resource or funding constraints.

Any changes in funding or scope are documented at the Business Case level, via a Change Request document that is presented to the CPG monthly and evaluated by the CPG for approval.

Changes in scope, schedule, or budget are also documented through a 'Change Request' at the project level and reviewed and approved through a formal workflow process. All ET projects in this business case are managed through the PMO, which follows the Project Management Institute (PMI) standards. Projects initiate with a 'Charter' to begin the planning process. When planning is complete, a 'Project Management Plan (PMP)' is created and approved as the project baseline for scope, schedule, and budget. At the end of execution, an 'Approval to Go Live' is submitted and approved prior to implementation (Transfer to Plant). After the technology is in service and out of the warranty period, the Project Manager will hold a Lessons Learned, and subsequently submit an 'Approval to Close' prior to finishing the project. All Monitor and Control documentation and Change Requests are documented and stored to ensure a comprehensive audit trail.

Fiber Network Leased Service Replacement

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the *<Business Case Name>* and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*DocuSigned by:* Shawna Kiesbuy — 3CD905A81B984C3...	Date: Apr-29-2024 | 3:17 PM PDT
Print Name:	Shawna Kiesbuy	
Title:	Sr. Manager, Network Engineering	
Role:	Business Case Owner	

Signature:	*DocuSigned by:* alexis alexander — EA27BABA767F467...	Date: May-03-2024 | 11:09 AM PDT
Print Name:	Alexis Alexander	
Title:	Director Information Technology	
Role:	Business Case Sponsor	

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Land Mobile Radio & Real Time Communication Systems

EXECUTIVE SUMMARY

The Land Mobile Radio & Real Time Communication Systems Program Business Case sponsors the tools and systems used by gas and electric crews to communicate. This communication is with Dispatch and System operations as well as direct communication between crews. Avista's service territory consists of urban and rural environments with topologically difficult to reach areas. The remoteness of some locations, along with the temperature variances through the annual seasons can present additional challenges to field staff required to work under those conditions. Additionally, commercial cellular or telecommunication services are not offered in some of these locations, as they are not cost effective for commercial vendors to deploy. Finally, during unplanned emergency events, commercial telecommunication services are overloaded with the public reaching friends and family members affected by the event, thereby exacerbating the need for a separate land mobile radio and real-time communication system, much like those used by emergency service personnel.

As a Company that maintains critical infrastructure for gas and electric systems, we are required to do it safely and reliably to provide essential services to our customers. This requires that our staff communicate with one another in real time across our service territory to establish situational awareness and reduce the risk of a safety incident. The Land Mobile Radio & Real Time Communications System business case consists of mobile radio and communication technology solutions that enable our staff to communicate with each other in the field and office in real time. The investments under this program provide the communication technology that enables real time 24 x 7 x 365 communication with our gas and electric field staff in ever changing conditions. The Land Mobile Radio (LMR) program deploys several solutions depending on the application. Deployments supporting a large geographical area require Microwave site development, while vehicle deployments require a mobile radio solution or a construction office or Operation dispatch center requires a console radio deployment. Due to the remoteness and topology of our service territory, some of the technology investments in field radio sites on mountain tops can be costly yet provide a valuable service to our customers in unplanned weather events, and most importantly bring safety to our field staff. Not investing in increasing radio coverage across our service territory can result in 'dead zones' with no radio coverage that may increase the safety risks of our field staff who rely on radio communication to perform their jobs.

To support the above work, this business case is requesting a total of $10,000,000 for the five year period. Funding at a lessor amount will result in delays to providing new coverage areas putting crews and assets at risk but also introduce the possibility of system failures due to aging equipment.

There are no direct offsets however, there is potential indirect offsets anywhere between $100k-$10M due to employee productive gains or ability to communicate during outages to get systems back up and in service much faster.

Land Mobile Radio & Real Time Communication Systems

VERSION HISTORY

Version	Author	Description	Date
1.0	Walter Roys	Initial draft of original business case	6/2017
1.1	Walter Roys	Updated Investment Driver	7/2019
2.0	Walter Roys	Revision of BCJN to new template	7/2020
2.1	Walter Roys	Error in calculation of Alt. #2	8/2020
3.0	Walter Roys	Updated BCJN	8/2022
4.0	Walter Roys	Updated BCJN	4/2023
5.0	*Shawn Kiesbuy*	*Update narrative and add funding for 2025-2029*	*4/2024*
BCRT	*BCRT Team Member*	*Has been reviewed by BCRT and meets necessary requirements*	

Land Mobile Radio & Real Time Communication Systems

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$2,000,000	$2,500,000
2026	$2,000,000	$2,000,000
2027	$2,000,000	$2,000,000
2028	$2,000,000	$2,000,000
2029	$2,000,000	$2,000,000

Project Life Span	*5 years+*
Requesting Organization/Department	Enterprise Technology/
Business Case Owner | Sponsor	Shawna Kiesbuy | Alexis Alexander
Sponsor Organization/Department	Enterprise Technology/System Engineering
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

   ## 1.1 What is the current or potential problem that is being addressed?

   Avista's service territory is approximately 30,000 square miles across four northwestern states with nearly 7,800 miles of natural gas distribution mains, 19,000 miles of electric distribution lines, and 2,750 miles of electric transmission lines. Although many of these miles of gas and electric infrastructure run through urban and suburban areas to heat and power homes and businesses, some infrastructure travels across remote and hard to reach locations, such as steep canyons and mountain tops. As a pacific northwest region with four seasons, some of these remote locations can be even more difficult to reach in harsh weather conditions yet must be maintained safely and reliably. To add to it, commercial cellular or telecommunication services are not offered in these remote locations, thereby leaving communication service gaps. In other words, if there were commercial offerings, during an unplanned emergency event, the services could be overloaded with customers trying to reach friends or family members affected by the event and resulting in communication latency or unavailability.

   The lack of radio communication coverage in these remote locations presents risk to our field workers who are required to respond to events throughout the year and must communicate with one another in real time across our service territory to establish situational awareness and reduce the risk of a safety incident.

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Land Mobile Radio & Real Time Communication Systems

1.2 Discuss the major drivers of the business case.

The Land Mobile Radio & Real Time Communications Systems Business Case funds manage technology replacements according to manufacturer product roadmaps or expand coverage in areas with limited or no coverage in our service territories allowing for the safe and reliable delivery of Electric and Gas services.

All Avista customers benefit from maintaining communication systems, as this technology enables the Avista workforce to perform their day-to-day job functions in delivering gas and electric service to our customers. Additionally, assets that fail due to not being replaced within their technology lifecycle are replaced by the Technology Failed Asset business case, which tracks technology asset failures, and is also used as a data point to inform the technology lifecycles under this business case.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Mobile radio coverage is an essential safety requirement for field staff working throughout our service territory to maintain a safe and reliable gas and electric infrastructure, and even more so in remote and hard to reach locations. Every day that goes by of lacking radio coverage can result in a safety incident, whereby field staff requiring emergency assistance could not communicate with either dispatch, a nearby co-worker, or emergency services. In some of these hard-to-reach locations, small logging roads can be buried in deep snow a few miles in from a paved road, thereby extensively prolonging any response should an emergency incident occur. Deferring the investments under this program puts field staff's lives at risk by lacking radio coverage in high-risk areas.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

This investment aligns with our strategy of delivering safe and reliable energy. Critical crew communications are key to ensuring timely resolution of outages and safe operations. Vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure. Ongoing reviews of vendor roadmap and technology asset lifecycle alignment provide necessary information to track how much of our investment in technology is lagging the vendor roadmap, and thereby introducing risk.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

The Enterprise Technology team references various technology vendor and third-party resources to stay informed and recommend decisions on the various technology investments. A few sample sources are included below:

Gartner Industry Research and Reference Material. Retrieved from https://www.gartner.com/en/information-technology

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Land Mobile Radio & Real Time Communication Systems

Investments under this business case are to maintain performance and capacity standards in each respective land mobile radio technology. For example, when the product manufacturer terminates maintenance and support for specific devices or solutions, an asset therefore becomes incompatible with other advancing technologies. This introduces the risk of cyber-attack, and this business case will change or upgrade the asset.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The Land Mobile Radio & Real Time Communications Systems business case will represent projects that are driven by performance and capacity for the following technology systems:

- Private 2-way Land Mobile Radio (LMR) System for field operations; and
- Radio Telephone Command and Control System (RTCCS) used by Dispatch and System Operations to perform critical radio and telephone communication to field personnel.

The Land Mobile Radio (LMR) system facilitates critical communication between field personnel, dispatch, system operations, and other end users. This radio system is used for normal day to day operation work, coordinating responses to outage events, switching, and tagging procedures, communication with external agencies including Public Safety entities, and several other uses. It is a business-critical system used to maintain day to day operations and respond to emergency situations.

This program is in place to provide reliable LMR functionality at all times throughout Avista's service territory. The system contributes to the health and safety of employees, contractors, and the public.

The funds request was based on a calculation of the performance and capacity associated with each technology asset, the scope and scale of the technology, and the project costs for technologies previously refreshed under this business case. Additionally, funds requested include coverage expansion costs for additional radio sites based on coverage analyses, and historical site acquisition costs.

Through regular reviews, the program balances the need to provide radio coverage across our service territory and maintain performance and reliability standards for the various technologies under this program within annual budget allocations, which can result in calling for additional investment under this program from time to time for technology either falling behind technology lifecycles or predetermined performance, coverage, and reliability standards.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

The funding requested under the Land Mobile Radio & Real Time Communications Systems business case provides communications between our Operations Centers, Remote offices and

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Land Mobile Radio & Real Time Communication Systems

field personnel for the safe delivery of Gas and Electric services including the operation of the bulk Electric system.

Investment in these technologies can increase or decrease O&M expenses. These can include licensing increases from time to time or decreases in workload for O&M resources. However, not funding this business case will place field workers at risk by not having radio communications across our service territory. There are no O&M reductions or direct offsets resulting from these investments, as this technology enables the Avista workforce to perform their day-to-day job functions in delivering gas and electric service to our customers.

Reliance on obsolete technology for automated business processes presents significant risk, and in this case cannot be achieved manually. For example, when land mobile radio devices break down it can result in the inability of an employee to communicate with the dispatch and system operations teams. This could potentially put crews and the public at risk. In addition, when endpoint devices break down it can result in the inability of an employee to access essential technology systems such as our meter data, customer billing and our mapping data. This can result in a productivity reduction across all areas of the business. Savings related to avoiding these downtime issues could range from $100k -$10M a year representing at least 1 full-time employee up to 100 full-time employees needed to implement manual processes.

Additionally, with the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies. These upgrades can in turn drive subsequent system replacements, creating a cascading event of change. Therefore, vendor roadmaps and technology asset lifecycles are data points that inform on how best to plan replacements, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure.

All Avista field operations, dispatch, and system operations are affected by the technology invested under this business case program, as it is a critical tool that is heavily relied on for communication across our service territory.

2.3 Summarize in the table, and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

There are no direct offsets at this time.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	N/A	N/A	N/A	N/A	N/A	N/A
O&M	N/A	N/A	N/A	N/A	N/A	N/A

2.4 Summarize in the table, and describe below the INDIRECT offsets4 (Capital and O&M) that result by undertaking this investment.

Indirect offsets include the following and are based on savings related to avoiding these downtime issues could range from $100k -$10M a year representing at least 1 full-time employee up to 100 full-time employees needed to implement manual processes.

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

Land Mobile Radio & Real Time Communication Systems

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	N/A	N/A	N/A	N/A	N/A	N/A
O&M	Operating Expenses	$100k-$10M	$100k-$10M	$100k-$10M	$100k-$10M	$100k-$10M

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:

Funding the Land Mobile Radio business case at the requested level fully addresses and minimizes the likelihood of technology failure and impact to automated business process. It also expands the radio coverage area, adding value for employees, contractors, and the public by enabling safe and reliable radio communications throughout the Avista gas and electric service territory.

Alternative 2:

Funding the business case at an amount less than the full request will increase the likelihood of technology failure and impact the ability to communicate with workers in the field and introduces risk to employees, contractors, and the public in areas where radio communications are unavailable.

Alternative 3:

Removing all funding for this business case would result in critical communications systems not being available when needed between our Operations & Dispatch centers, Remote offices and field workers to support safe and reliable energy delivery to generation, substation, transmission, and distribution sites.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

The technology investments under this business case program align with Avista's vision to deliver 'better energy for life' to our customers and in the area of 'Perform', which calls for "our focus on performance today to serving our customers well and unlocking pathways to growth."

Each investment under this business case program allows Avista to deliver electric and gas services to our customers.

The reason that the technology investment under this program business case is prudent is because the Avista workforce requires this technology every day to deliver gas and electric service to our customers either in dispatch and system operations, and in the field. Alternatives to each technology are considered, yet not investing in it is not an option as automated business process, such as radio communication could not be replicated manually, thereby crippling our workforce's ability to deliver gas and electric service to our customers in a safe and reliable way. Additionally, a two-tiered governance structure overseeing this business case program meets regularly to oversee and make decisions on the needs, benefits, costs, and risks of each investment.

Land Mobile Radio & Real Time Communication Systems

Nearly all operations and field staff interface with the Land Mobile Radio (LMR) system, which facilitates critical communication between field personnel, dispatch, system operations, and other end users.

There are no related business cases associated with this business case.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

This business case is a program that transfers to plant the total cost of each project at the completion of every project, which can straddle calendar years. Quarterly forecasts capture changes in transfers to plant based on project status.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The Land Mobile Radio (LMR) & Real Time Communication Systems Business Case has two levels of governance: The Program Steering Committee and the Project Steering Committee.

Program Steering Committee

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the Enterprise Technology (ET) Project Management Office (PMO) Department. The project queue will be reviewed periodically and will consist of projects needed to maintain the reliability and performance of all LMR and real time communication systems.

Project Steering Committee

Project Steering Committees act as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible to provide guidance and make decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the ET PMO Department.

The governance structure under this business case program is responsible for decision-making, prioritization, and change requests. Through the regular Program Steering Committee Meetings, the team reviews and balances planned work versus unplanned work to determine prioritization, as well as pending project change requests. Any change request requiring either an increase or decrease of funds is reviewed at the upcoming Technology Planning Group meeting before it is submitted to the Capital Planning Group for consideration.

Land Mobile Radio & Real Time Communication Systems

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Land Mobile Radio & Real Time Communication Systems business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Shawna kiesbuy*	Date:	Apr-30-2024 | 1:29 PM PDT
Print Name:	Shawna Kiesbuy		
Title:	Sr. Manager Network Engineering		
Role:	Business Case Owner		

Signature:	*Alexis Alexander*	Date:	May-03-2024 | 1:26 PM PDT
Print Name:	Alexis Alexander		
Title:	Director Information Technology		
Role:	Business Case Sponsor		

Network Backbone Infrastructure

EXECUTIVE SUMMARY

The Network Backbone Infrastructure Program[1] Business Case includes investment in communication network infrastructure for expansion requirements and periodic refresh of our mixed service (for controls, safety, corporate and internet data) transport solutions. The assets provided by this business case include fiber optic cable, Optical Ground Wire (OPGW), mircrowave sites along with network switching and routing equipment to aggregate and transport substantial amounts of data across miles of geography and locations, including substations, district offices, Mission headquarters, and mountaintop communication sites. Network Systems in this business case are evaluated to ensure Avista is employing the most cost-efficent methods to improve performance and reliability while expanding the network's capacity. The risks of not approving this business case at the level to which it can maintain the balance of meeting its asset management strategy and scale for future technology could result in unplanned failures and outages to our communication network system.

For this business case, funding is being requested for $12,800,000 over five years to upgrade or replace network communication systems within the network backbone infrastructure. Collectively these systems track lifecycle, manufacturer warranty, maintenance, and support (contract) status, licensing, capacity, and replacement cost. Manufacturer lifecycles drive a considerable portion of the required work within this request. Concurrently, a sizable portion of work is driven by the ongoing modernization of energy delivery infrastructure and by the rapid technological advancements of business applications and systems.

Avista customers across all jurisdictions will benefit from the projects in this program by having a robust network that has capacity and reliability to transport real time data on system status and performance. Proactive updates to assets or timely placement of assets to locations will reduce possible service interruptions or delays. This translates to the safe and reliable delivery of energy to customers across the Avista service territory.

Currently, there are no direct cost savings. Indirect offsets may be realized with fewer truck roles, staff efficiency, etc.

VERSION HISTORY

Version	Author	Description	Date
3.0	*Shawna Kiesbuy*	*Update content and new template*	*4/2023*
4.0	*Shawna Kiesbuy*	*Annual Update*	*4/2024*

Network Backbone Infrastructure

BCRT	*Heide Evans*	*Has been reviewed by BCRT and meets necessary requirements*	*4/30/24*

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	**$2,800,000**	**$2,500,000**
2026	**$2,500,000**	**$2,000,000**
2027	**$2,500,000**	**$2,500,000**
2028	**$2,500,000**	**$2,000,000**
2029	**$2,500,000**	**$2,500,000**

Project Life Span	*5 years+*
Requesting Organization/Department	Enterprise Technology/Network Services
Business Case Owner | Sponsor	Shawna Kiesbuy | Alexis Alexander
Sponsor Organization/Department	Enterprise Technology/Network Services
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1.   BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

Assets included in this business case have a finite lifecycle or there is need for adding assets to support Avista growth and transformation. Given the pace of change in technology, constant threats from bad actors, and need to have suitable performance and capacity, the project work done within this program will help maintain a robust and reliable network by proactively building out communication paths while updating equipment and systems per vendor roadmaps.

This business case includes investment in communication network infrastructure for expansion requirements and periodic refresh of our mixed service transport backhaul solutions. Systems in this technology area include those designed to aggregate and transport substantial amounts of data across miles of geography and locations, including substations, district offices, Mission headquarters, and mountaintop communication sites.

Over time with new business productivity application system requirements, communication network loads. demand for network paths and capacity will continue to increase. For example, communication requirements at substations are changing, including access needs for enterprise services (email and phones), transmission and distribution SCADA (Supervisory Control and Data Acquisition), and safety services such as high-definition cameras and badge access. This business case will focus on proactively identifying and fulfilling such needs.

Network Backbone Infrastructure

1.2 Discuss the major drivers of the business case.

The main driver for this business case is Performance and Capacity. Each year, systems have been identified for updating to take advantage of newer technologies by expanding the high-speed backbone to improve performance and reliability further and increase the network's capacity. Specifically allowing for communications in the field, the network backbone infrastructure facilitates the ability to transport corporate traffic such as email and day-to-day business productivity traffic, as well as generation, substation, transmission, and distribution control data, plus carry safety communications to crews in outage events and across hard-to-reach locations. With Performance and Capacity, the network communication assets are managed in alignment with technology lifecycles that are based on manufacturer product roadmaps and planned obsolesces to proactively reduce the risk of failing assets affecting critical operations systems, processes, and infrastructure reliability.

The network infrastructure assets in this business case are necessary to operate our critical business assets by using technology to automate business processes and leverage communication networks for remote visibility and operations. This business case specifically addresses network infrastructure requirements for all company business requirements. The business case considers business impact vs. likelihood/probability when sequencing and prioritizing resource allocations and responds to vendor-manufactured product obsolescence risks as well as cyber security risks.

This business case provides intentional funding for a network backbone infrastructure for the geographical transmission of corporate and controls data. The key performance indicator for network availability and reliability is 99.99%, 24x7. The investment sequencing is based on three drivers, 1) Compliance, 2) Initiatives, 3) Reliability.

The sequencing of the Reliability projects is driven first by the network asset end-of-support date for cybersecurity patching, then the performance and capacity to meet the business requirement, and lastly product obsolescence date.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

The communications network projects captured in this business case deliver on expansion requirements and periodic refresh of our multi-service transport backbone solutions. With Avista's vision of delivering better energy for life, this business case is key to enabling the gas and electric service delivery to our customers in a safe and reliable manner by ensuring required data and communications over the network infrastructure are reliable and available when needed. The work of transporting data across the network backbone is critical to core systems and operations.

The risks of not approving this business case at the level to which it can maintain the balance of proactively upgrading systems to stay within product lifecycles and scale for future technology could result in unplanned failures and outages to our communication network system. The result is tied to the following risks: an increase in employee, contractor and/or public safety risks due to the inability to see and remotely operate the electric and gas systems. This has the potential to increase labor and non-labor costs tied to unplanned system outages, where delays to procurement can be realized to replace the failed asset, as well as downtime to the critical systems supported. This could also lead to additional exposure of outdated or unsupported devices to external cyber vulnerabilities.

Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

[Avista Strategic Goals](#)

Network Backbone Infrastructure

In this business case, the network enables the aggregate and transport of substantial amounts of data across miles of geography and locations, including substations, district offices, Mission headquarters, and mountaintop communication sites. These network system examples, and many others, move and present data over long-distances that drive operational decisions and controls, tying back to all four strategic goals affecting our customers, people, performance, and invention.

1.4 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

Reference materials that support the needed changes in Network technology are maintained by Technology Domain Architects within each respective technology area. These materials include Utility Cluster Studies, External Service Provider Memorandums, Electric Distribution and Transmission Management Technology Roadmaps, etc.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

Executing and completing planned projects within this business case should refresh assets or install new instances of technology to enhance and increase performance and capacity needs. If the fail rate associated with the network systems in the business case remains low, then the project work is adding value by proactively reducing the risk of failing assets affecting critical operations systems, processes, and infrastructure reliability. In addition, expanding network assets in advance of Avista adding services ensures business operations are not delayed and the system impacted with increased capacity.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

Overall network backbone transport system reliability is reviewed bi-monthly with key stakeholders in cyber security and energy delivery with the goal of reducing single points of failure for critical infrastructure. A backlog of work is generated with this key stakeholder group and a risk matrix is leveraged to score and validate the order of projects so that we reduce the largest business risk first.

Each individual network infrastructure asset is tracked throughout its active presence using several systems. Collectively these systems track lifecycle, manufacturer warranty,

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

Network Backbone Infrastructure

maintenance, and support (contract) status, licensing, capacity, and replacement cost. Manufacturer lifecycles drive a considerable portion of the required work within this request.

Concurrently, a sizable portion of work is driven by the ongoing modernization of energy delivery infrastructure and by the rapid technological advancements of business applications and systems. Subject Matter Experts in Utility Transport Network Architecture are regularly consulted within technical cadences so that a real-world, collaborative approach is taken to evaluate the resiliency and redundancy requirements of the backbone network. Capacity and performance planning activities occur in the same forum, the result of which is a scalable, high-performing, and reliable communications network that will enable the reliable and safe delivery of energy.

2.3 **Summarize in the table, and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.**

There are no direct savings related to this business case.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M		$0	$0	$0	$0	$0

2.4 **Summarize in the table, and describe below the INDIRECT offsets4 (Capital and O&M) that result by undertaking this investment.**

There are no indirect savings related to this business case.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M		$0	$0	$0	$0	$0

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:

Fund the business case to an amount which is less than the original request

Funding of this business case at an amount less than the full request will reduce expansion of network communication systems to meet business needs across multiple areas of the business. This reduction in projects will also lessen the ability for a proactive approach refreshing the number of network communications systems which increases the risk of failure or cyber security vulnerability because assets will no longer be supported by their manufacturers.

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

Network Backbone Infrastructure

Alternative 2:

Do not fund the business case

Removing all funding for this business case would be challenging for Avista since this business case provides our mixed service transport backhaul solutions. Systems in this technology area include those designed to aggregate and transport substantial amounts of data across miles of geography and locations, including substations, district offices, Mission headquarters, and mountaintop communication sites. If the projects in this business case cease to exist, other funding sources are required to upgrade and refresh critical backbone network communications between substations, on transmission or distribution poles, or the network systems that age beyond their vendor lifecycles .and avoid potential failure. These failures translate to a lack of visibility and control into critical systems that deliver gas and electric services. Additionally, the company would be forced back to manual on site work and truck roles, instead of leveraging remote visibility and control.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Executing and completing planned projects within this business case should refresh or install new assets and/or functionality to enhance and increase performance and capacity needs. If the fail rate associated with the network systems in the business case remains low, then the project work is adding value by proactively reducing the risk of failing assets affecting critical operations systems, processes, and infrastructure reliability. In addition, expanding network assets in advance of Avista adding services ensures business operations and the delivery of safe, reliable, and affordable energy are not delayed or impacted from the increased capacity.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The Network Backbone Infrastructure business case is managed as a program of projects planned yearly. Throughout the year, the business case's multiple projects are Initiated, Planned, Executed, and then Completed with a Transfer to Plant for the individual projects in this business case. Therefore, investments become used and useful on a project-by-project basis and happen frequently throughout the year.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

Steering Committee members are invaluable to the project and will provide approval on scope, schedule, and budget related changes. Additionally, they will provide approval on issues and risks pertaining to project deliverables outlined in this document, which also typically have an impact on the scope, schedule, or budget of a project. Steering Committee members will also provide approval on Change Requests, Go-Live, and the Approval to Close documents. For the Network Backbone Infrastructure business case, the Steering Committee will consist of the Directors and Managers within ET, Energy Delivery, GPSS and the Business Case Owner.

The Network Backbone Infrastructure Business Case has two levels of governance: The Program Steering Committee and the Project Steering Committee.

Program Steering Committee

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

Network Backbone Infrastructure

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the PMO. The project queue will be reviewed periodically to plan and sequence work to the levels of funding allocation received.

Project Steering Committee

Project Steering Committees function as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible for providing guidance and making decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the PMO.

Project prioritization is evaluated by the management team monthly. Each program and project steering committee meet regularly and oversee scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the Technology Planning Group (TPG) or Capital Planning Group (CPG) for decision-making around resource or funding constraints.

Any changes in funding or scope are documented at the Business Case level, via a Change Request document that is presented to the CPG monthly and evaluated by the CPG for approval.

Changes in scope, schedule, or budget are also documented through a 'Change Request' at the project level and reviewed and approved through a formal workflow process. All ET projects in this business case are managed through the PMO, which follows the Project Management Institute (PMI) standards. Projects initiate with a 'Charter' to begin the planning process. When planning is complete, a 'Project Management Plan (PMP)' is created and approved as the project baseline for scope, schedule, and budget. At the end of execution, an 'Approval to Go Live' is submitted and approved prior to implementation (Transfer to Plant). After the technology is in service and out of the warranty period, the Project Manager will hold a Lessons Learned, and subsequently submit an 'Approval to Close' prior to finishing the project. All Monitor and Control documentation and Change Requests are documented and stored to ensure a comprehensive audit trail.

Network Backbone Infrastructure

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Network Backbone Infrastructure business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature: _____   Date: May-02-2024 | 6:23 AM PDT

Print Name: Shawna Kiesbuy

Title: Sr. Manager, Network Engineering

Role: Business Case Owner

Signature: _____   Date: May-06-2024 | 2:53 PM PDT

Print Name: Alexis Alexander

Title: Director Information Technology

Role: Business Case Sponsor

NexGen Control System Networks

EXECUTIVE SUMMARY

This NexGen Control System Networks (NCSN) Program Business Case will administer projects specifically scoped to replace products and services on our control system communication networks that have been designed and provisioned over time division multiplexing (TDM) methodologies. TDM based products and services are end-of-life, end-of-support and are at the end-of-manufacturing.

As vendors continue ramping down on the manufacturing and support of TDM based products and services, LECs and other telecommunication service providers continue removing these services from their own product portfolios, recognizing that these services are no longer viable products to maintain. Local exchange carriers and vendors alike have both issued notices to Avista to sunset these products and services. If we do not address the existing services before they are disconnected or out of support, we risk losing communication network services that carry control and tele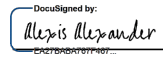metry traffic; data that is critical to our ability to operate our gas and electric systems. The services to be scoped for removal as part of this business case are:

- Leased public interconnections with local exchange carriers via TDM services, i.e., Digital Signal 0 (DS0) and Digital Signal 1 (DS1) circuits Avista is leasing. Through a series of Declaratory Rulings and Orders from 2014 thru 2018, the FCC allowed for a local exchange carrier (LEC) to discontinue TDM services and permitted LECs to leverage universal service funding support for investment in more modern and efficient software defined IP (Internet Protocol) based networks.
- Private TDM services for public interconnections, i.e., our Synchronous Optical Network (SONET) network and circuits provisioned specifically for Supervisory Control and Data Acquisition (SCADA) communications via interconnection agreements with Bonneville Power Authority (BPA) and others across the bulk electric system.
- Private TDM services for private communication services, i.e., our SONET network and circuits provisioned specifically to transport Avista control and telemetry traffic for our own purposes.

The primary focus of this business case for 2024-2025 will provide alternatives to the LEC disconntinued product lines by leveraging LTE, fiber placement and 700Mhz. As the LEC discontinuance work ramps down, the project and cost focus will turn to SONET replacement as it is another aging infrastructure.

For this business case, funding is being requested for $25,000,000 over 5 years to upgrade or replace all remaining circuits and node sites that carry traffic for the above listed use cases.

Avista customers in Washington and Idaho will benefit from the projects in this program by having a robust network that has capacity and reliability to transport real time data on system status and performance. Proactive updates to assets or timely placement of assets to locations will reduce possible service interruptions or delays. This translates to the safe and reliable delivery of energy to customers across the Avista service territory.

NexGen Control System Networks

VERSION HISTORY

Version	Author	Description	Date
1.0	Shawna Kiesbuy	Initial draft of original business case	3/2023
2.0	Shawna Kiesbuy	Annual Update	4/2024
BCRT	BCAT Review Team	Has been reviewed by BCRT and meets necessary requirements	

NexGen Control System Networks

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$5,000,000	$5,000,000
2026	$5,000,000	$4,000,000
2027	$5,000,000	$4,500,000
2028	$5,000,000	$4,000,000
2029	$5,000,000	$4,500,000

Project Life Span	*5 years*
Requesting Organization/Department	Enterprise Technology
Business Case Owner | Sponsor	Shawna Kiesbuy | Alexis Alexander
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

Investment Drivers

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

TDM based products and services are end-of-life, end-of-support and are at the end-of-manufacturing. As vendors are ramping down on the manufacturing and support of TDM based products and services, local exchange carriers and other telecommunication service providers are also removing these services from their own product portfolios, recognizing that these services are no longer viable products to maintain. Local exchange carriers and vendors alike have both issued notices to Avista to sunset these products and services. If we do not address the existing services before they are disconnected or out of support, we risk losing communication network services that carry control and telemetry traffic, critical to our ability to operate our gas and electric systems.

1.2 Discuss the major drivers of the business case.

The telecommunications industry continues to move through its own series of disruptive transformations, much of which is centered around the move from circuit-based networks and TDM technologies to IP, or packet-based networks. As a significant portion of our communication network also leverage TDM technologies, if we do not act faster to implement this new architecture and the move to IP based networks for our control communications, we run a very real risk of not being able to view, manage or control our systems, which could negatively impact real time decisions needed to deliver safe and reliable services to our customers.

NexGen Control System Networks

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

This work is needed to ensure that our workers have reliable data to control our systems. SCADA telemetry data, generation control data, protection circuit communications and capabilities are at risk If this work is not approved/deferred. The loss of remote control and data acquisition also means that personnel could be required to drive out to specific sites to manage, operate and support controls, which removes the efficiencies and real time decisions the company has been used to operating with. By having these communication systems updated through this program, we can increase our productivity by receiving real time data that will allow us to control our systems in real time and increase the safety of our employees.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

If we do nothing and decide to either de-prioritize and/or not fund this work, all four of the Focus Areas will be impacted, which would directly and indirectly impact the alignment to our values, mission & vision statements:

Our Customers – Our customers could see a negative impact to the reliable delivery of energy when the delivery of telemetry data which gives us situational awareness and control of the systems and devices that serves their energy is not delivered in real time.

Our People – Our employees could see a negative impact in their ability to operate and control the system on a real-time basis, adding safety risks and in-efficiencies to normal operating procedures.

Perform - We have built these real time data efficiencies into our daily operations and budgets. Sending crews to man locations without telemetry or control circuits would be cost prohibitive, inefficient and extremely disruptive to existing operations. We would be moving in the wrong direction of progress.

Invent – We are on the back end of the product lifecycle curve with TDM technologies. We must increase our cadence of deployments with current/newer network technologies to keep pace with markets, carriers, suppliers, vendors and other energy companies with whom we have interconnections and service relationships. Otherwise, we risk misalignments, obsolescence and an inability to move data, communicate and control.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

The carriers we interconnect with to move control and telemetry data across our geographic region have recently issued written statements that they will begin disconnecting services in Q3 2024 and that they have already received regulatory approval to do so. Lumen is the first carrier in this region to issue a written disconnect statement and serves the largest number of circuits to be redesigned at 51 Avista circuits. While Avista waits for other LEC's in our service territory to provide official product disconntinuance notifications, Avista continues to work towards transitioning critical control circuits away from aging technology.

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

NexGen Control System Networks

Additionally, GE has served us with a written email that also provides an end of service, end of manufacturing and end of support date for TDM based equipment that we use on network designs that carry traffic to and from interconnected entities, as well as our own control and telemetry traffic.

For the reasons above, and the risks to business operations, an exceptionally large portion of this programmatic business case is schedule driven.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

We will a) disconnect leased carrier services provisioned over TDM technologies and design solutions-including placing fiber, deploying LTE or leveraging 700Mhz that integrate into our existing private utility Multiprotocal Label Switching MPLS network that is served via current and standard internet protocol solutions.

We will also disconnect our own SONET networks provisioned over TDM technologies and design solutions that integrate into our existing private utility MPLS network that is served via current and standard internet protocol solutions.

These two simple statements capture the large body of work to remove TDM technologies from our portfolio, thus removing the risk of misalignments, obsolescence and an inability to move data, communicate and control.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

The work in this business case supports and enables our ability to reliably operate our systems, providing remote visibility and telemetry data, as well as remote control capabilities.

According to Avista's form 10-K filed for the fiscal year ending December 31, 2022, the company's top Operational Risks highlight operational impacts related to wildfires, severe weather or natural disasters, incidents related to mechanical breakdowns, blackouts or disruptions of interconnected transmission systems, and even cyber-attacks which disrupt our technology systems. All these risks are monitored, and in some cases, even mitigated via the network communications technologies found in substations, on the distribution lines coming into and out of the substations and the transmission lines related to those same systems. This technology provides the remote visibility to realize a risk and take action when needed.

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

NexGen Control System Networks

2.3 Summarize in the table, and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

Monthly Reccuring Change MRC savings that will be realized once these leased services are disconnected.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	LightRiver Envision Plus Licensing	($54,081)	($54,081)	($54,081)	$	$
O&M	Carrier MRCs	($20,000)	($20,000)	($20,000)	$	$

2.4 Summarize in the table, and describe below the INDIRECT offsets4 (Capital and O&M) that result by undertaking this investment.

There are no indirect offsets at this time.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital		$0	$0	$0	$0	$0
O&M		$0	$0	$0	$0	$0

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternative 1:
Funding the business case at an amount less than the full request will increase the likelihood of a communications failure translating to a loss of visibility and control into critical systems that deliver Gas and electric services.

Alternative 2:

Removing all funding for this business case would allow the circuits to be disconnected resulting in a loss of communications into many of our substations. This loss of communications translates to Supervisory Control and Data Acquisition (SCADA) Engineers and System Operators not having visibility and control into critical systems.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Success will be measured by the continued, uninterrupted ability to transmit and receive data that allows for remote SCADA, so that we can make expeditious and real time system operations decisions.

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[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[4] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

NexGen Control System Networks

No loss of communications because of carrier disconnects or lack of vendor support is the success metric to be met. Throughout this multi-year initiative, we will continue to work with the carriers and vendors to stay/delay the disconnect of circuits and maintain hardware support in order to deliver uninterrupted communications that enable the operation of our system and the delivery of safe and reliable energy to our customers.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The SCADA Comms Refresh_01 project, which is winding down, is the first design iteration project, intended to deliver design standards and implement those designs at two locations. Future projects will be forecasted to replace the TDM leased circuits at the remaining 51 sites, sequenced based on the risk of losing communications and the impact to the business if communications are lost. A timeline and/or burndown chart will be created and maintained to show progress towards the goal of removing all leased carrier TDM circuits. Similar metrics will be created in future projects as we begin to remove TDM based SONET services from our private network and replace with current MPLS based networks.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

Steering Committee members are invaluable to the business case and individual projects, and will provide approval on scope, schedule, and budget related changes. Additionally, they will provide approval on issues and risks pertaining to outlined project deliverables, which also typically have an impact on the scope, schedule, or budget of a project. Steering Committee members will also provide approval on Change Requests, Go-Live, and the Approval to Close documents. For this NexGen Control Systems Network business case, the Steering Committee will consist of the Directors and Managers within ET, Energy Delivery, GPSS and the Business Case Owner.

The NexGen Control Systems business case has two levels of governance: the Program Steering Committee and the Project Steering Committee.

Program Steering Committee

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the ET PMO. The project queue will be reviewed periodically to plan and sequence work to the levels of funding allocation received against the risks being mitigated.

Project Steering Committee

Project Steering Committees function as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible for providing guidance and making decisions on key issues that affect the following topics:

- Scope
- Schedule

NexGen Control System Networks

- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the PMO.

NexGen Control System Networks

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the *<Business Case Name>* and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*[DocuSigned signature]* 3CD005A84B984C3...	Date: May-03-2024 | 6:13 AM PDT
Print Name:	Shawna Kiesbuy	
Title:	Sr. Manager, Network Engineering	
Role:	Business Case Owner	
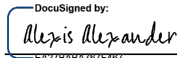
Signature:	*[DocuSigned signature]* Alexis Alexander EA27BABA767F467...	Date: May-06-2024 | 4:17 PM PDT
Print Name:	Alexis Alexander	
Title:	Director Information Technology	
Role:	Business Case Sponsor	

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Technology Failed Assets

EXECUTIVE SUMMARY

The Technology Failed Assets Program Business Case sponsors the tools and systems used by the technology teams to support business applications. Technology assets enable automated and necessary business processes in a modern innovative world. These technology assets range widely from computers to handheld radios, from printers to networking equipment, and beyond. Sometimes these technology assets fail prior to being refreshed as part of a lifecycle management program. These failures can be caused by manufacture defects, human error, natural disasters, malicious actors, or age/runtime of equipment. In any case, the failed asset can cause downtime for an employee or system resulting in significant disruption to daily operations across our service territory. Such failures even have the potential to disrupt service to customers. The ability to replace failed assets in a timely manner results in decreased downtime for the business and customers alike.

The Technology Failed Assets business case was established to address unplanned technology failures. It consists of in-portfolio technology assets which allow rapid replacement of assets when they fail beyond the ability for repair. A technology inventory is maintained to quickly restore business functionality. Inventory includes, but is not limited to laptops, mobile phones and tablets, printers, field area network (FAN) equipment, monitors, audio-visual equipment, routers, switches, servers, and fiber cable. The cost of each technology solution varies depending on the type of asset. Additional impacts to budget allocation in this business case are scope of failure, required lead time, and location. Funding for this business case has been calculated based on historical technology asset failure rates.

In order to deliver necessary tools and systems to workers, the recommended funding amount for this business case is $5,175,000 over the next five years, averaging $1,035,000 each year. This budget allocation enables technology teams to quickly replace failed assets, thereby restoring business functions and critical to the daily operations of the Company. Absent appropriate funding, the Technology Failed Assets business case could not deliver replacement technology items to support business continuity. Impacts would vary based on which technology items fail. An individual with a failed laptop, for example, could no longer perform their daily job duties efficiently. More significant impacts may arise from failed network hardware, such as an inability to transmit data across our networks. This could lead to loss of productivity, or worse, safety risks if visibility were lost over a generation site.

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Technology Failed Assets

VERSION HISTORY

Version	Author	Description	Date
1.0	*Mike Beil*	*Initial draft of original business case*	*07/2019*
2.0	*Mike Beil*	*BCJN 2.0 Revised*	*07/2020*
3.0	*Kaitlyn Richardson*	*BCJN 3.0 Revised*	*07/2022*
4.0	*Kaitlyn Richardson*	*BCJN 4.0 Revised*	*04/2023*
5.0	*Dave Husted*	*Updated to revised template and content*	*04/2024*
BCRT	*BCRT Team Member*	*Has been reviewed by BCRT and meets necessary requirements*	

Technology Failed Assets

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$1,035,000	$1,035,000
2026	$1,035,000	$1,035,000
2027	$1,035,000	$1,035,000
2028	$1,035,000	$1,035,000
2029	$1,035,000	$1,035,000

Project Life Span	*5 years*
Requesting Organization/Department	Enterprise Technology
**Business Case Owner	Sponsor**	Dave Husted	Alexis Alexander
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Failed Plant & Operations

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

Technology assets enable automated and necessary business processes in a modern innovative approach. These technology assets range from computers and mobile devices to radio systems and pole-mounted network devices. Sometimes these technology assets fail prior to being refreshed as part of a lifecycle management program. These failures can be caused by manufacture defects, human error, natural disasters, malicious actors, or age/runtime of equipment. In those cases, the failed asset can cause downtime and loss of performance for an employee or system resulting in significant disruption to daily operations across our service territory depending on where and to what asset the failure occurred. Such failures even have the potential to disrupt service to customers. The ability to replace failed assets in a timely manner will result in decreased downtime potential for customers.

1.2 Discuss the major drivers of the business case.

The main driver for this program is Failed Plant & Operations, which is also related to asset management strategies being driven by technology lifecycles and technology obsolescence. As outlined in section 1.1 of this Business Case Justification Narrative, at times technology may unexpectedly fail. This program provides a technology inventory to restore business functionality and reduce the downtime caused by the failure. On-hand inventory allows for a rapid replacement of failed items, allowing swift restoration of business processes. This is particularly important today as we have observed greater uncertainty regarding the availability of technology items due to supply chain issues. Investment in the Technology Failed Asset

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Technology Failed Assets

program business case is prudent because the Avista workforce depends on this technology to deliver gas and electric service to our customers.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Since technology asset failures will happen across Avista's territory, having budget allocation available to quickly replace a failed asset is critical to the daily operations of the company. If the Technology Failed Assets business case funding is not approved, replacement of failed assets will result in individual requests for funding each time an asset fails. This could extend the downtime of a system until the funding is approved and the asset is replaced. This funding also provides spare technology inventory, which is maintained to replace failed assets in a timely manner.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives and mission statement of the organization. *See link*.

Avista Strategic Goals

Since the main driver behind this program is Failed Plant & Operations, the success of this program can be measured by the timely replacement of failed technology assets and restoration of automated business processes and overall productivity. The investment aligns with the focus areas of "our people" and "perform." This program allows for the ability to quickly restore the functionality of a failed technology device that is causing downtime and interrupting our employee's ability to work. This program also aligns with our value of being "collaborative." By having the technology functionality working properly, our employees can collaborate and come up with innovative solutions.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[1]

Funding requests are made based on average failure rates across the categories listed below. As it is not possible to predict when an asset will fail, funding requirements could change and may result in an increase or decrease in annual funding amounts. The table below represents the annual amount proposed for 2024 based on the average 2022 and 2023 failures.

2023

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[1] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

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Category	2023 Order Count	2023 Failure Count	Avg Cost	YTD Actuals
Repeaters	10	0	$ 8,527	$ 85,270
AV Blanket	8	6	$ 7,853	$ 62,827
Comms & LMR Devices	33	28	$ 1,684	$ 55,582
Network, FAN, & Storage	17	17	$ 19,742	$ 335,607
PC Tablets Laptops	117	101	$ 3,352	$ 392,210
Apple iDevices	90	66	$ 1,814	$ 163,255
Printers	23	14	$ 7,504	$ 172,589
Monitors	16	8	$ 851	$ 13,622
Other Projects: Pullman Network Grid, Auditorium Lift & Screen, Mt. Spokane Siding, Shawnee/N Lewiston Fiber Break				$ 128,492
			YTD Actuals	$1,409,454

2022

Category	2022 Failure Count	Avg Cost	Fulfillment
AV Blanket	2	$ 6,857	$ 13,713
Comm Devices	3	$ 19,085	$ 57,255
FAN Blanket	6	$ 14,663	$ 87,975
Mobile Devices	135	$ 1,062	$ 143,388
Monitors	6	$ 2,280	$ 13,678
Network Devices	17	$ 6,383	$ 108,509
Personal Computer	10	$ 7,463	$ 74,631
Printers	7	$ 8,274	$ 57,920
Repeaters	15	$ 5,929	$ 88,939
Storage Devices	2	$ 6,877	$ 13,753
YTD Fullfillment:			$ 659,761

2. **PROPOSAL AND RECOMMENDED SOLUTION -** *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

   2.1 **Please summarize the proposed solution and how it helps to solve the business problem identified above.**

   This program includes a range of solutions from computers to hand-held radios carried by field staff, to printers in remote offices, to networking equipment. Sometimes technology assets fail prior to being refreshed. Any failed asset can cause downtime for an employee or system resulting in significant disruption to daily operations across the service territory depending on where and to what asset the failure occurred. To support these types of unplanned failures, the Technology Failed Assets program was established and consists of technology assets meant for rapid deployment as failures occur and when repairs are not feasible. A technology inventory is maintained to quickly restore business functionality. This program provides benefits to customers by providing a technology inventory to quickly restore functionality and reduce the downtime caused by the failure.

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2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[2]

The requested capital cost amount per year has been calculated to replace failed assets based on a three-year failure history. This level of funding is critical to maintain an inventory of in-portfolio assets to be available for rapid replacement during failures or unplanned outages (i.e., laptops, mobile phones, field area network equipment, etc.). The funding amounts within this program undergo regular review to balance the asset failure forecast within the predetermined budget allocations. Since technology asset failures will happen across Avista's territory, having budget allocation available to quickly replace a failed asset is critical to the daily operations of the Company.

An example of some assets that Avista needs to replace these technology assets for cost avoidance related to significant risk downtime related to failures:

- Printers
- Monitors
- Mobile phones
- Personal computers
- Field Area network devices
- Other devices

2.3 Summarize in the table and describe below the DIRECT offsets[3] or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	N/A	N/A	N/A	N/A	N/A	N/A
O&M	N/A	N/A	N/A	N/A	N/A	N/A

There are no direct offsets in this business case, though the ability to replace failed assets in a timely manner will prevent extended impacts to employee productivity. Therefore, not funding a failed asset replacement inventory would result in an increase in O&M costs.

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[2] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

[3] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

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2.4 Summarize in the table and describe below the INDIRECT offsets4 (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	N/A	N/A	N/A	N/A	N/A	N/A
O&M	Operating Expenses	$100k-$10M	$100k-$10M	$100k-$10M	$100k-$10M	$100k-$10M

Investments in these technology asset replacements provide indirect savings to our customers by cost avoidance related to downtime issues and loss of productivity due to potentially implementing manual business processes. Without spare inventory, this would increase the amount of time to resolve these breakdown issues, reducing the efficiency of employees and our infrastructure systems. The amount of indirect savings would depend on the site and associated business process systems impacted by failure. Current trends indicate that the Company is running assets longer than recommended.

Indirect savings related to operating expenses could range from $100k - $10M a year representing at least 1 full-time employee up to 100 full-time employees needed to implement manual processes. This is also assuming we do not replace these assets when they fail. This is a high-level estimate that the Company does not have a way to track.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Option	Capital Cost	Start	Complete
Funding based on an average of previous two years failure rates (Recommended)	$1,035,000	01/2025	12/2029
Funding based on 80% of the recommended solution	$828,000	01/2025	12/2029
Request funding when needed	$0	01/2025	12/2029

Alternative 1:

Funding would be based on the average failure rates from the previous two years. The failure rates have been variable and difficult to predict from year to year. There is an ongoing need to develop a mechanism to track failure rates more effectively and better understand failure rate trending. Until better failure rate data is known, the business case has been tracking against fulfillment needs once an asset has failed beyond repair. This methodology aligns with the chart in Section 1.5 which details specific assets and failure counts for 2022 and 2023.

Alternative 2:

Alternative #2 is to fund 80% of the recommended solution and seek alternative ways to reduce costs to deliver technology and return during the year for additional funds to meet business demand, if not successful. If these additional funds are not fulfilled, the business case will not

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4 Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

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Technology Failed Assets

be able to deliver necessary technology items to workers, thereby rendering them unable to work effectively and efficiently.

Alternative 3:

Funding will only be requested once an asset fails beyond repair. The risk with this alternative is additional downtime of our automation systems due to the time needed to request/approve funding to replace the failed asset. This alternative also puts additional pressure on other business cases or expense budgets due to manual work, delays, or having to absorb capital costs elsewhere.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

The Technology Failed Assets business case is managed as a program of blanket projects which manage the replacement of failed assets tracking their used and usefulness on a monthly cadence. All individual projects set up for unplanned asset failures are managed through the PMO, which follows the Project Management Institute (PMI) standards. These projects are Initiated, Planned, Executed, and then Completed with a Transfer to Plant for the installed assets. Over a calendar year, the blanket projects and individual projects equate to the funded budget.

2.7 Please provide the timeline of when this work is scheduled to commence and complete, if known.

This business case is a program of blanket technology projects that transfers to plant monthly. Quarterly forecasts capture changes in transfers to plant based on trends of fulfillment requests.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The Technology Failed Assets Business Case has two levels of governance; The Program Steering Committee and the Project Steering Committee.

Program Steering Committee

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing   the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the Enterprise Technology (ET) Project Management Office (PMO) Department.

Product roadmaps identify investment demand that is generally not fully funded. Product investments are prioritized in this manner:

1. Safety Systems
2. Control Systems
3. Customer Facing Systems
4. Back Office Systems

Technology Failed Assets

Project Steering Committee

Project Steering Committees act as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible to provide guidance and make decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the ET PMO Department.

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Technology Failed Assets

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Technology Failed Assets Business Case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Dave Husted*	Date: May-02-2024 | 12:30 PM PDT
Print Name:	Dave Husted	
Title:	Manager Technology Services	
Role:	Business Case Owner	

Signature:	*Alexis Alexander*	Date: May-03-2024 | 1:36 PM PDT
Print Name:	Alexis Alexander	
Title:	Director Information Technology	
Role:	Business Case Sponsor	

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Disaster Resiliency

EXECUTIVE SUMMARY

Recovery is a critical business capability for Avista, as we have witnessed after a major weather event when time is of the essence to recover from a storm. Avista's Disaster Resiliency program business case (formerly Enterprise Business Continuity) is similar, whereby readiness is critical before, during, and after an incident. Although many of Avista's technology systems have built-in redundancy or high availability requirements, there are some gaps that necessitate further investment. To identify these gaps, Avista conducts an annual disaster recovery exercise that evaluates the effectiveness of its program, which includes people, process, and systems. The results of these exercises, along with peer collaboration with utility industry partners, provides Avista with a strong baseline from which to measure its recovery capabilities and channel the appropriate level of investment to address any identified issues or risks.

Investments may include secondary systems required to respond when primary systems are not available, additional compute and storage in offsite backup data centers to increase capacity, and network and security enhancements to increase security and network reliability. The cost associated with identified solutions can average between $100-$200k per year, depending on the identified solution. Alternatives considered vary by the recovery need and interoperability of systems in place.

The Colonial Pipeline ransomware event of 2021 highlighted the dependency between the company's corporate technology systems, such as accounting and billing systems, and operational technology system that control the flow of gas in their pipeline. These interdependencies between systems are creating a complex technology architecture, whereby one set of systems requires the other set to fully operate. Additionally, regulators are focusing more on recovery requirements for critical infrastructure organizations.[1] Using a cost estimate for a PII (Personal Identity Information) and/or a PCI (Payment Card Industry) data breach, based on the number of records under our stewardship, the indirect offset ranges from $5.2M to $20.7M, or average $12.9M, per incident. In this data breach example, the risk avoidance cost far outweighs the per annual investment under this business case to maintain resiliency and recovery capabilities. This is a tremendous benefit to Avista and our customers. If we do not invest in our Disaster Resiliency continuity program, it can lead to our inability to recover from an incident affecting technology systems required to deliver safe and reliable energy. So, while the date and time of an incident cannot be predicted, prudency lies in the company's ability to timely recover from an incident.

Our business continuity and disaster recovery capabilities must be ready to ensure critical business processes and systems continue to operate under crisis conditions. Avista customers benefit from investments in this program, as the solutions provide redundancy and availability of critical systems that allow the delivery of electricity and gas securely, safely, and reliably to our customers.

VERSION HISTORY

Version	Author	Description	Date
Draft	*Andru Miller*	*Initial draft of original business case*	*6/30/2020*
1.0	*Andru Miller*	*Updated 5-year funding request*	*8/9/2022*
2.0	*Andy Leija*	*Updated 5-year funding request*	*5/15/2023*
BCRT	*Jeff Smith*	*Has been reviewed by BCRT and meets necessary requirements*	*5/30/2023*
3.0	*Andru Miller*	*Updated 5-year funding request*	*4/19/2024*
BCRT	*Jeff Smith*	*Has been reviewed by BCRT and meets necessary requirements*	*5/3/2024*

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[1] Colonial Pipeline May Face $1 Million Penalty for "Operational" Lapses in 2021 Ransomware Attack - CPO Magazine

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Disaster Resiliency

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2025	$100,000	$100,000
2026	$100,000	$100,000
2027	$100,000	$100,000
2028	$100,000	$100,000
2029	$100,000	$100,000

Project Life Span	*5 years*
Requesting Organization/Department	System Engineering
Business Case Owner | Sponsor	Walter Roys | Alexis Alexander
Sponsor Organization/Department	Infrastructure
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.* ⌷OBJ⌷

1.1 What is the current or potential problem that is being addressed?

Severe storms, natural disasters, major technology failures, and significant security events are risks that Avista operates under. They are usually unpredictable and can have a high consequence. These high consequence events can impact the technology systems Avista relies on to operate the delivery of gas and electricity to our customers. For example, a data breach incident can average $12.9M. Many of Avista's critical business processes are now more than ever dependent on data, communication networks, and computer systems. Prolonged failure or disruption of any of these systems could have a significant impact on Avista's ability to deliver gas and electric service to its customers.

1.2 Discuss the major drivers of the business case.

Performance & Capacity is the primary driver for the Disaster Resiliency business case as the investments enhance or address performance or technology capacity constraints. The availability of each application and network system is assessed annually during an annual disaster recovery exercise to determine their reliability and recovery capabilities. This in turn determines the level of performance or capacity requirements needed for systems that underperform.

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1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

The ability to maintain uninterrupted services and/or quickly recover from a major event or disaster is critical to serving our customers. Technology investments are needed annually to continue to enhance the resiliency of our systems that support critical business processes. Not approving or deferring investments in this business case could limit Avista's disaster recovery capabilities.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives, and mission statement of the organization. *See link.* **Avista Strategic Goals**

This business case best aligns with Avista's focus area of Perform "...to serve our customers well and unlocking pathways to growth." Avista conducts an annual disaster recovery exercise to evaluate the effectiveness of its program, which includes people, process, and systems. The results of these exercises, along with peer collaboration with utility industry partners, provides Avista with a strong baseline from which to measure its recovery capabilities and channel the appropriate level of investment to address any identified issues or risks.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.

As mentioned in the security business case narratives, the number and level of complexity in cyber security attacks is significantly growing, as well as attacks by Domestic Violent Extremists (DVEs) on physical infrastructure.[2] A recently released report by the North American Electric Reliability Corporation (NERC) tilted Cyber-Informed Transmission Planning, calls for the integration of cyber and physical protections into transmission planning to increase reliability and security.[3] The report emphasizes both prevention and the ability to recover from an event as a goal for system resiliency. Avista's EBC program works with all business units to identify business processes through regular business impact analysis (BIA), establishes process criticalities and dependencies, and develops procedures for how to continue business operations when systems, people and facilities are not available. Also, the technology department conducts an annual disaster recovery exercise to review areas of excellence and improvement. An after-action report is often produced from the annual exercises, which highlight gaps. These gaps can vary between people, processes, and systems. This business case focuses on the investment needed in systems to close those gaps. Examples of previously funded investments include additional data storage and compute to support growing backup demand. Also, a new security system was purchased to improve production system redundancy during the annual exercise.

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[2] Electric grid is 'attractive target' for domestic violent extremists in US, intel brief says | CNN Politics
[3] Cyber-Informed Transmission Planning Report. NERC. May 2023

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Disaster Resiliency

2. PROPOSAL AND RECOMMENDED SOLUTION **-** *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

Investments under this business case support technology gaps identified during Avista's annual disaster recovery exercises. The solutions have included additional compute and storage for backup data center capacity, additional network devices to increase system failover reliability, and secondary security systems to support redundant protection schemes. There is no one solution that addresses this complex problem. Instead, the solutions will vary by the identified gaps. Further assessment and investment are required in operational technology areas where different operational requirements exist.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[4]

Much like investing in strong cybersecurity protection, investments in system redundancy, availability, and recovery are risk-based and just as critical to continue to operate during a crisis. Based on the consistent annual allocation over the past five years to strategically deliver disaster recovery solutions, there is a high level of confidence the requested amount will be fully utilized. According to a recently published article, the average ransomware attack results in 19 days of downtime.[5] The average cost for downtime for companies of all sizes is $4,500 per minute or $1,410 per minute for small businesses.[6] This is an average of $2,955 per minute. Assuming the event was like the Colonial Pipeline incident, the downtime was 6 days or approximately $25.5M. The risk avoided, is the downtime associated with a potential incident.

2.3 Summarize in the table and describe below the DIRECT offsets[7] or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	Not Applicable	$0	$0	$0	$0	$0
O&M	Not Applicable	$0	$0	$0	$0	$0

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[4] Please do not attach any requested items to the business case, be sure to have ready access to such information upon request.
[5] After a Decline in 2020, Data Breaches Soar in 2021 | Nasdaq
[6] 20+ Business Data Loss Statistics & Recovery [2022 New Data] (businessdit.com)
[7] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

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Disaster Resiliency

There are no direct offsets associated with risk-based investment in disaster recovery solutions. While an incident cannot be fully prevented, the prudent decision to invest in recovery solutions brings confidence that when an incident occurs, Avista can recover from it. With the number of cybersecurity incidents growing in number and complexity, there is no utility business that would not invest in disaster recovery solutions as part of ongoing investment and accept it as the cost of doing business.

2.4 Summarize in the table and describe below the INDIRECT offsets[8] (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2025	2026	2027	2028	2029
Capital	Security Solutions	$104,000	$104,000	$104,000	$104,000	$104,000
O&M	Data Breach Cost Estimates	$936,000	$936,000	$936,000	$936,000	$936,000

Using a data breach cost estimates for a PII (Personal Identity Information) and/or a PCI (Payment Card Industry) data breach, the indirect offsets range from $5.2M to $20.7M per incident or on average $12.9M. Additionally, the costs associated with incident response, customer notification, crisis management, regulatory fines and penalties, and class action lawsuits are mostly operational expense costs. There is an assumption that the vulnerabilities or gaps identified during the incident will require immediate investment in recovery solutions to mitigate the existing and/or future events.

The potential indirect offsets are 90% operation and maintenance and 10% capital using the lowest cost of a data breach with only PII data and no class action lawsuit. However, they can be significantly higher, such as $18.63M in operation and maintenance and $2.1M in capital, respectively, should the incident be on the high end. Also, not knowing when or how often a data breach would occur, the conservative estimate with the assumption that the incident only happened once, amortized over 5 years, the cost would be $936k in operation and maintenance and $104k in capital, respectively. The indirect benefit or reduction of risk is mostly in operation and maintenance costs associated with recovering from a data breach incident.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, which were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

The requested funding level will address the highest risks that are identified in the after-action reports first following each annual disaster recovery exercise or those that cannot wait until the next technology refresh cycle. It is recommended that this level of funding continue rather than potentially deferring the work 3-5 years since this program is meant to address high-risk deficiencies in a shorter cycle than a typical refresh cycle.

Option	Capital Cost	Start	Complete
Address disaster recovery gaps identified in after-action reports outside of technology refresh or expansion projects	$500,000	01 2024	12 2029

Alternatives under this business case vary by identified need and solution, based on after action reports from annual disaster recovery exercises. Historically, solutions have included additional hardware to increase performance and capacity of existing systems or network and security systems

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[8] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

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to develop alternative paths to provide network redundancy and failover capabilities. Only in the case of a significant need or an incident, will this business case require additional funding. Therefore, no alternatives are being presented. And doing nothing is not an option, as we continue to find gaps in each year's disaster recovery exercises to make our systems more resilient.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Success under this business case can be measured by the number of after-action report findings that can be completed annually based on current funding levels. Additionally, the annual disaster recovery exercise should have less and less findings each year assuming the investments are creating a strong, secure, and resilient environment.

2.7 Please provide the timeline of when this work is scheduled to commence and complete, if known.

The Disaster Resiliency business case is a program that consists of multiple projects per year that run concurrently, and at times over multiple years. They follow all phases of the project lifecycle, facilitated by a project manager, and governed by a steering committee to determine scope, schedule, and budget forecasts, including transfers-to-plant.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

The Disaster Resiliency Business Case has two levels of governance; The Program Steering Committee and the Project Steering Committee.

Program Steering Committee

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the Enterprise Technology (ET) Project Management Office (PMO) Department. The project queue will be reviewed periodically and will consist of projects needed to maintain Disaster Resiliency.

Technology product roadmaps identify investment demand that is generally not fully funded. Technology product investments are prioritized in this manner:

1. Safety Systems

2. Control Systems
3. Customer Facing Systems
4. Back Office Systems

Project Steering Committee

Project Steering Committees act as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible to provide guidance and make decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project and will be facilitated by an assigned Project Manager from within the ET PMO Department.

The governance structure under this business case program is responsible for decision-making, prioritization, and change requests. Through the regular Program Steering Committee Meetings, the team reviews and balances planned work versus unplanned work to determine prioritization, as well as pending project change requests. Any change request requiring either an increase or decrease of funds is reviewed at the upcoming Technology Planning Group meeting before it is submitted to the Capital Planning Group for consideration.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Disaster Resiliency business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*Walter Roys*	Date: May-08-2024 | 2:55 PM PDT
Print Name:	Walter Roys	
Title:	Systems Engineering Manager	
Role:	Business Case Owner	

Signature:	*Alexis Alexander*	Date: May-09-2024 | 4:37 AM PDT
Print Name:	Alexis Alexander	
Title:	Director of Infrastructure	
Role:	Business Case Sponsor	

Signature:		Date:
Print Name:		

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Disaster Resiliency

Title: _____

Role: _____
Steering/Advisory Committee Review

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EXECUTIVE SUMMARY

Cybersecurity threats continue to grow in numbers and complexity. In response to this growing trend, federal agencies overseeing the reliability of electrical and gas infrastructure are increasing their call for utilities like Avista to step up their requirements around security best practices to mitigate the eminent risk. These risks can affect both Information Technology systems and Industrial Control Systems that can potentially impact the ability to provide energy in a secure, safe, and reliable manner to our customers.

Appropriate measures are expected by customers of businesses today to protect the confidentiality, integrity, and availability of the information under their stewardship. This is even more essential to utilities deemed critical infrastructure and required to meet strong reliability standards. Protecting vital electric and gas services from cyber threats requires continued risk-based investment in a myriad of security solutions that defend, detect, and protect Avista's networks and information. Success metrics for each security investment are unique as it is determined by the capability of the implemented security solution and the cost avoidance associated with responding to an incident. For example, Distributed Denial of Service (DDoS) attacks occur daily on Avista's network and vary in size from 15 to 1,300 or more per day. This would result in 11 to 24 hours of downtime each day our network is unavailable, affecting our customer facing website, which has been prevented by investing in a security protection solution.

The average cost of a data breach is also growing along with the number of incidents. The cost of a data breach incident at Avista is estimated to range from $5.2M to $20.7M depending on the number of records and type of data stolen, respectively. This estimate does not include the reputational damage or cascading consequences the incident may have on our customers, especially if it affects the delivery of electric or gas service for any period. For example, should the data breach incident cause Avista to bill customers more than once or incorrectly, this would not only put pressure on the customers who cannot pay more, but also create an operational nightmare in crediting or reimbursing customers as quickly as possible, all while trying to maintain current usage and billing information.

The 5-year capital budget request of $14,300,000 for Enterprise Security funds a diverse set of security solutions that benefit all Avista customers to maintain and enhance Avista's security posture to minimize the risks associated with growing cyber threats. Not approving this business case or its recommended funding level can pose risks to the many systems that Avista depends on to conduct business and deliver safe and reliable energy.

VERSION HISTORY

Version	Author	Description	Date
Draft	*Andru Miller*	*Initial draft of original business case*	*7/012020*
1	*Andru Miller*	*Updated 5-year funding request*	*8/09/2022*
2	*Andy Leija*	*Updated 5-year funding request*	*4/27/2023*
BCRT	*Jeff Smith*	*Has been reviewed by BCRT and meets necessary requirements*	*5/30/2023*

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2024	$2,860,000	$2,860,000
2025	$2,860,000	$2,860,000
2026	$2,860,000	$2,860,000
2027	$2,860,000	$2,860,000
2028	$2,860,000	$2,860,000

Project Life Span	*5 years*
Requesting Organization/Department	Security
Business Case Owner | Sponsor	Andy Leija | Clay Storey
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Performance & Capacity

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

Threats from cyberspace, including viruses, phishing, and spyware, continue to test our industry's capabilities to identify, protect, detect, respond, and recover from them. And while these malicious intentions are often unknown, the methods are becoming more advanced and the attacks more persistent. Additionally, the vulnerabilities in hardware and software systems continue to increase at times faster than a vendor can provide a mitigation patch to be applied, especially with industrial control systems such as those supporting the delivery of energy. This can result in an increase or exposure to risk. To assure that our industry maintains its vigilance, federal agencies, such as the U.S. Federal Energy Regulatory Commission (FERC) through the North American Electric Reliability Corporation (NERC), and the Transportation Security Administration (TSA) are increasing their cybersecurity requirements for best practice across our industry[1]. For these reasons,

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[1] Federal Energy Reliability Commission – Cyber and Grid Security. Cyber and Grid Security | Federal Energy Regulatory Commission (ferc.gov) and recent updates to North American Electric Reliably Corporation (NERC) Reliability Standard CIP-003-9, Cyber Security Management Controls for supply chain risk management for low impact bulk electric system (BES) cyber systems. E-1 RD23-3-000 | Federal Energy Regulatory Commission (ferc.gov). Transportation Security Administration (TSA) for Pipeline Owner and Operators. TSA revises and reissues cybersecurity requirements for pipeline owners and operators | Transportation Security Administration

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Avista must continue to advance its cybersecurity program and invest in security controls to prevent, detect, and respond to these increasingly frequent and sophisticated threats. Avista's customers benefit from the protection of Avista's network, data, and information.

1.2 Discuss the major drivers of the business case.

Performance & Capacity is the primary driver for this business case as the projects it funds address security risks with the use of technology that keeps our systems secure and reliable. The security of our electric and natural gas infrastructure is a significant priority at a national and regional level and is of critical importance to Avista customers across our service territory.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Addressing security risks has been and will continue to be an ongoing need. Also, as cybersecurity threats continue to grow in frequency and complexity, preventative and defensive measures are necessary and require an increase in investment. If the requested funding level is not approved or is deferred, it will prevent Avista from maintaining the security systems that protect from and detect cyberthreats. Alternatives may include moving multiyear capital license renewals, which often come with discounts, to annual renewals at higher operational expense costs, as well as increase the potential for a security event that could impact Avista's operations.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives, and mission statement of the organization.

Investments funded under this business case protect Avista's information and reduce the risk of a security event occurring. Additionally, Avista utilizes third party assessments to evaluate the effectiveness of its security posture. These assessments, along with utility industry forums, councils, and organizations provide Avista with a strong baseline from which to measure its security capabilities and determine the appropriate level of investment to mitigate identified risks.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.

Ongoing case studies, articles, reports, and government guidance illustrate continuous cyberthreats to our industry and growing trends in cybercrime. Some even quantify the

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average cost associated with each of these events.[2] Not only have complexity and frequency of attacks grown, but so too have the attack vectors as businesses post-pandemic increased remote work environments as a retention strategy to provide employees flexibility and reduce turnover and moved more business capabilities to cloud services to gain efficiencies and continuous improvements from technology vendors at scale. These evolutions result in continuous investment in security systems that protect data in the cloud and while an employee is working remotely. According to a recent Security Spending Guide, published by the International Data Corporation (IDC), "worldwide spending on security solutions and services is forecast to be $219 billion in 2023, an increase of 12.1% compared to 2022."[3]

Much like other technology solutions, security systems, such as firewalls, intrusion prevention, anti-virus, and endpoint protection must be regularly updated or replaced as they reach their end of life, as well as license or subscription renewals to continue to receive product support and security updates as they are released. These investments are tracked via lifecycle planning for the hardware, the operating system, the database, the software version, and the license term or count.

Security system vendors drive product lifecycles to continue improving their product. Avista Security Subject Matter Experts track vendor lifecycle roadmaps with each specific vendor on upcoming product versions or system models for compatibility and to plan system upgrades. Future models are not always backwards compatible to previous operating systems, as illustrated in the example below, where not each firewall can run the same operating system that this vendor is releasing.[4]

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[2] The average cost of a data breach in 2022 was $9.44 million in the United States, and is expected to grow in 2023, according to a 2022 IBM Report. Cost of a data breach 2022 | IBM. Ransomware payments averaged $1.85 million in 2022 with almost 236.7 million attacks in the first half of that year, alone, according to Astra Security. 100+ Ransomware Attack Statistics 2023: Trends & Cost (getastra.com). According to Cybersecurity Ventures, the cost of cybercrime is predicted to hit $8 trillion in 2023 and will grow to $10.5 trillion by 2025. eSentire | 2022 Official Cybercrime Report.

[3] New IDC Spending Guide Forecasts Worldwide Security Investments Will Grow 12.1% in 2023 to $219 Billion.

[4] Example of vendor roadmap for hardware and operating system compatibility. Palo Alto Networks Next-Generation Firewalls

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Palo Alto Networks Next-Generation Firewalls

STRATA

PREVIOUS   NEXT

The following table shows the PAN-OS® releases supported for each of the Palo Alto Networks Next-Generation Firewall hardware, and VM-Series, and CN-Series models. You can also review PAN-OS support for PA-7000 Series cards and PA-5450 firewall cards as well as for Palo Alto Networks appliances.

PALO ALTO NETWORKS FIREWALL MODEL	PAN-OS 8.1*	PAN-OS 9.1	PAN-OS 10.0**	PAN-OS 10.1	PAN-OS 10.2	PAN-OS 11.0
Hardware Firewalls						
PA-200 Firewall (EoS***)	√	–	–	–	–	–
PA-220 Firewall	–	√	√	√	√	–
PA-220R Firewall	–	√	√	√	√	–
PA-410 Firewall	–	–	–	√ 10.1.2 & later	√	√
PA-415 and PA-445 Firewalls	–	–	–	–	–	√
PA-440, PA-450, and PA-460 Firewalls	–	–	–	√	√	√
PA-500 Firewall (EoS***)	√	–	–	–	–	–
PA-800 Series Firewalls	–	√	√	√	√	√
PA-1400 Series Firewalls	–	–	–	–	–	√
PA-3000 Series Firewalls (EoS***)	–	√	–	–	–	–

Moreover, with over two dozen different security solutions required to protect Avista's network, each system has various hardware and software requirements that are tracked and managed for replacement and renewal. To add to the complexity, the security solutions are peppered across various networks that protect Avista's data in our back-office systems, as well as our industrial control systems that provide energy to our customers. Security systems cannot be run beyond their useful life, as the operating system and software may no longer be compatible with the hardware, and the vendor will cease offering software upgrades or patches. Maintaining the lifecycle for security systems is critical to reducing cybersecurity vulnerability risks.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1   Please summarize the proposed solution and how it helps to solve the business problem identified above.

The Enterprise Security Systems business case funds cybersecurity investments to reduce risks by protecting against cybersecurity threats. Investments in security systems vary but fall into protection, detection, identity, authentication, and access to on-premises and cloud resources. Securing Avista's data and information to provide energy safely and reliably to each of our customers is of utmost importance. As the utility industry continues to undergo

digital transformation and reliance on technology, so will the security investments needed to go side by side. The projects funded by this business case protect Avista's people, assets, and information. Without proper security protection the risk to Avista's people, assets, and information increases.

2.2 **Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits, or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).**

Avista conducts regular analyses on the security posture of our networks through third-party penetration tests, monitors, and addresses system vulnerabilities through a vulnerability management program, and subscribes to government agency information sharing platforms that inform of emerging threats. Moreover, our risk management team also collects data points to determine the risk and mitigating control associated with a potential data breach.

The risk management team uses a third-party cybersecurity insurance broker to benchmark Avista's limit of liability and self-insured retention (deductible) in comparison to utility and energy companies of our revenue size. [5] Compared to other utilities, Avista's liability coverage falls within the median and self-insured retention. Although data breach insurance coverage continues to go up analogous to data breaches, the utility industry in general has not had a major cybersecurity incident to date, thus keeping the rates reasonable. Additionally, based on the records within our stewardship, the cost of a data breach or risk avoidance estimates for Personal Identifiable Information (PII), or Payment Card Industry (PCI) data can vary from as low as $5.2M to as high as $20.7M for the first incident. [6] This calculation includes the costs associated with:

- Incident Investigation

- Customer Notification/Crisis Management

- Regulatory Fines and Penalties

- PCI Specific Fines if it includes PCI data

- Class Action Lawsuit

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[5] Annual cybersecurity data breach peer benchmarking performed by McGriff Insurance Company.

[6] Calculation estimates for a data breach of PII, or PCI data is based on number of data records exposed, assuming it's the first breach, the data is stored in a centralized system, no fraud is expected, there is a class action lawsuit, and having data breach insurance coverage. eRiskHub - NetDiligence® Mini Data Breach Cost Calculator

It does not include the cost associated with reputational damage from the event or the extent to which the event has other implications on Avista or its customers who may experience a ripple effect associated with the initial data breach. The annual recommended investment in security solutions is less than the cost of one data breach incident, let alone the cost associated with ransomware or subsequent incidents.

2.3 Summarize in the table and describe below the DIRECT offsets or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	Not Applicable	$0	$0	$0	$0	$0
O&M	Not Applicable	$0	$0	$0	$0	$0

There are no direct offsets associated with risk-based investment in security solutions. It is much like investing in life insurance to offset the probability and impact in the event of death. While it cannot be fully prevented, the prudent decision to invest in life insurance brings confidence that when it does occur, the impact or consequence will be manageable. With the number of cybersecurity incidents growing in number and complexity, there is no utility business that would not invest in security solutions as part of ongoing investment and accept it as the cost of doing business. The question is not whether to invest or not, but how much to invest to reduce the risk of a cybersecurity incident occurring.

2.4 Summarize in the table and describe below the INDIRECT offsets (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	Security Solutions	$104,000	$104,000	$104,000	$104,000	$104,000
O&M	Data Breach Cost Estimates	$936,000	$936,000	$936,000	$936,000	$936,000

Based on the data breach cost estimates above for a PII and/or a PCI data breach, the indirect offsets range from $5.2M to $20.7M per incident or on average $12.9M. Additionally, the costs associated with incident response, customer notification, crisis management, regulatory fines and penalties, and class action lawsuits are mostly operational expense costs. There is an assumption that the vulnerabilities or gaps identified during the incident will require immediate investment in security solutions to mitigate the existing and/or future events. Therefore, the potential indirect offsets are 90% operation and maintenance and 10% capital using the lowest cost of a data breach with only PII data and no class action lawsuit. However, they can be significantly higher, such as $18.63M in operation and maintenance and $2.1M in capital, respectively, should the incident be on the high end. Also, not knowing when or how often a data breach would occur, the conservative estimate with

Enterprise Security

the assumption that the incident only happened once, amortized over 5 years, the cost would be $936k in operation and maintenance and $104k in capital, respectively.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Alternatives under this business case vary by security solution, vendor offerings, and internal capabilities. They may include several alternatives, such as: security as a managed service, security as a service subscription, or internal implementation or replacement of the security solution.

Alternative 1: Security as a managed service is whereby a third-party vendor performs security on Avista's behalf. The most common services provided by a managed service vendor includes managed security monitoring, vulnerability risk assessment, threat intelligence, security consultation, security program development, perimeter management, penetration testing, product resale, and compliance monitoring. Common reasons for hiring a third party are lack of internal resources, talent, or expertise; cost savings; moving to 24x7 security coverage; compliance; and speed of response to incidents.[7] We have used security as a managed service for third-party penetration tests to identify weaknesses, as well as for Distributed Denial of Service (DDoS) protection for internet traffic, where we have seen significant protection from massive attacks on Avista's network that would have caused major disruptions on our customer facing website and internal back-office services. If not mitigated, these attacks can result in subsequent ransomware attacks.

Alternative 2: Security as a Service (SECaaS) is often a subscription-based model whereby we leverage a security solution vendor's expertise and scalability on a particular solution and capability. Some examples include continuous monitoring, data loss prevention, business continuity and disaster recovery, email security, antivirus management, spam filtering, identity and access management, intrusion protection, security assessment, network security, web security, and vulnerability scanning.[8] This can include ongoing patching, virus definitions, and system upgrades that free up internal resources to work on higher priority work or work assignments specific to an electric and gas utility. There are a few cases where we have outsourced for this work, such as managed detection and response, which has reduced our operational overhead in antivirus management and provides up to date threat detection, resulting in high value for endpoint security 24x7.

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[7] The 9 most common MSSP security services (exigence.io)
[8] What is Security as a Service (SECaaS)? | Forcepoint

Enterprise Security

Alternative 3: Internal implementation or replacement of the security solution is often selected as the alternative of choice given that we are a highly regulated utility, that is required to meet many compliance requirements and thus require tailored implementations. Because much of Avista's data is stored in our data centers, it is critical that we invest in the verification of people who authenticate using their accounts and devices to access our networks, as well as in security protection and detection tools to deter and detect when unauthorized activity is detected.

Lastly, while there are opportunities to leverage the capabilities and economies of scale of a third-party vendor in alternative 1 and 2, the costs typically fall under recurring operational expenses. And the services may not always be tailored enough to meet Avista's specific needs or stringent compliance requirements. Therefore, we are very selective and intentional when we pursue security as a managed service or a service subscription.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Each security solution investment under this business case reduces security risk in a unique way and therefore measuring their success is also unique. For example, in the case of a protection solution, the system will act as a wall or shield to prevent access to Avista networks from unauthorized users or devices. A success measure that shows the solution's value is the number of prevented unauthorized attempts or attacks on Avista's networks, including the size and frequency, which could have resulted in a sustained network outage. This translates into downtime for systems, as well as an increase in operational resources to troubleshoot the issue and determine root cause.

Similarly, for a vulnerability scanning solution, the system will identify and catalog by risk the number of vulnerabilities found on several types of systems that require patching. This includes servers, personal computers, and applications. Success can be measured by the number of identified vulnerabilities per scan, their risk score, and the ability for technology teams to patch pre and post scanning cycles to reduce vulnerability risks.

Each security solution performs a different and unique security function, and its success is determined by how well the solution accomplishes it. This implies that to increase its success, the implemented solution is running in accordance with vendor specifications and has been fully optimized to extract the greatest value.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The Enterprise Security Systems business case is a program that consists of multiple security projects per year that run concurrently, and at times over multiple years. They follow all phases of the project lifecycle, facilitated by a project manager, and governed by a steering committee to determine scope, schedule, and budget forecasts, including transfers-to-plant.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

There are two levels of governance to the Enterprise Security business case and the investments within it. They consist of a business case governance team and project specific steering committees for in-flight projects.

Business Case Governance Team: The Enterprise Security Governance Team provides monthly oversight of this program business case and makes recommendations based on forecasted inactive planned investments, the pace of in-flight investments, and any new unplanned activity that surfaces from an emerging security threat. The team also tracks business case risks and issues that can affect the portfolio of planned investments.

Monthly governance meetings consist of a full review of each in-flight investment, reasons for any delays or deviation to proposed completion and transfers to plant schedules and recommends necessary steps to bring the investments back into schedule or defer inactive work, when possible, to offset delays. However, should a security risk be increased by deferring a planned or unplanned investment into future years, the Enterprise Security Governance Team will recommend a Capital Planning Group (CPG) In-Year Change Request to surface the impending need. The Change Requests are presented at a monthly Technology Planning Group meeting to inform the Director members who are also members of the CPG where the request will be considered and weighed against other pending requests.

The Enterprise Security Governance Team consists of Avista's Enterprise Security Director, Cybersecurity Manager, Physical Security Manager, Security Delivery Manager, and the Project Management Office Manager. The sessions are facilitated by the Security Program Manager who manages the standing agenda.
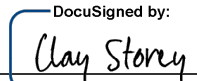
Project Steering Committees: Additionally, each security investment is governed by a project steering committee that consists of the Enterprise Security Director, Cybersecurity Manager, and Security Delivery Manager, as well as ancillary management team members required for the successful implementation of the security solution. Steering committee meetings are facilitated by a Project Manager and held monthly to review scope, schedule, budget, and risks and issues surfaced from each in-flight project.

Enterprise Security

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Enterprise Security business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*[DocuSigned by: signature]* 6456C8EEF402467...	Date: Jun-12-2023 | 10:58 AM PDT
Print Name:	Andy Leija	
Title:	Security Delivery Manager	
Role:	Business Case Owner	

Signature:	*[DocuSigned by: Clay Storey signature]* B70F95F7061D4B6...	Date: Jun-12-2023 | 11:28 AM PDT
Print Name:	Clay Storey	
Title:	Director of Security	
Role:	Business Case Sponsor	

Signature:		Date:
Print Name:		
Title:		
Role:	Steering/Advisory Committee Review	

Business Case Justification Narrative Template Version: February 2023

Page **11** of **11**
Exhibit No. 12
Case Nos. AVU-E-25-01/AVU-G-25-01
W. Manuel, Avista
Schedule 1, Page 308 of 351

EXECUTIVE SUMMARY

The reliability of Avista's electric and gas infrastructure is maintained and operated by people. Our highly skilled staff require equipment and material readily available to respond to customer needs, conduct preventative routine maintenance, and recover from storm caused outages. To cover Avista's service territory of gas and electric customers across three states, we operate out of over two dozen office and storage locations where people plan and prepare daily to safely make sure electricity and gas service is delivered to our customers. The equipment, tools, and material required to do this is also critical. Therefore, Avista maintains a fleet of vehicles, tools, and equipment in working order, as well as spare material to reduce any unnecessary downtime in case of an unplanned event. For example, it can take up to 18 months to replace a bucket truck, and during the replacement period, Avista would need a rental to keep the crews working.

To protect people and assets at these various locations, Avista must invest in layered physical security enhancements that denies, deters, detects, or delays an intruder or attack. The current security measures are either inadequate or have run their useful life. The physical security hardening measures proposed include replacing and centralizing an outdated access management system to deny access to unauthorized people; replacing doors, gates, and fencing to deter and delay threats; and replacing or upgrading cameras, alarms, and motion detection systems to capture video surveillance evidence to aid in law enforcement investigations. The cost estimate associated with this program investment is $2M over 5 years. While this may not be adequate to address all the identified risks, it is enough to begin addressing the highest priority risks first. For example, all of the previous year allocations have gone into replacing the outdated access management system at multiple Avista facilities. There are 4-5 facilities left that are planned for replacement in 2024. Only after that will the program begin replacing other security technology.

Investments in physical security hardening at Avista's office and storage locations will reduce ongoing risk of theft, vandalism, or sabotage, as well as improve the safety and security of staff at these facilities. There is no dollar amount estimated to replace the loss of life or inflicted trauma to any of our staff from a physical injury due to an assault at one of our facilities. So, while these events do not happen often, the consequences can be high depending on the damage or theft, which can range from stolen material or tools to damaging or theft of specialized replacement parts, approximately $5K to $50K, respectively. The cost is greater for irreparable damage to or theft of a fleet vehicle, including the operational costs associated with renting equipment or fleet vehicles during the replacement period. These investments have direct benefit to Avista and our customers, as they secure and protect our people and assets required to operate and timely recover from an outage event. Not approving the recommended funding amount can pose risks to the people and assets Avista depends on to conduct business and deliver safe and reliable energy.

VERSION HISTORY

Version	Author	Description	Date

Draft	Andru Miller	Initial draft of original business case	7/01/2020
1	Andru Miller	Updated 5-year funding request	8/09/2022
2	Andy Leija	Updated 5-year narrative & funding request	5/10/2023
BCRT	*Jeff Smith*	*Has been reviewed by BCRT and meets necessary requirements*	*5/30/2023*

Facilities and Storage Location Security

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2024	$400,000	$400,000
2025	$400,000	$400,000
2026	$400,000	$400,000
2027	$400,000	$400,000
2028	$400,000	$400,000

Project Life Span	*5 years*
Requesting Organization/Department	Security
Business Case Owner | Sponsor	Andy Leija | Clay Storey
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

Avista office facilities and storage locations house staff and store equipment, tools, and materials. These locations are critical to support our day-to-day operations to deliver gas and electricity safely and reliably to our customers. The office facilities and storage locations are in strategic areas across our service territory to be available for prompt response to customer requests, preventative maintenance, or storm recovery. The office facilities and storage locations require investment in physical security enhancements to deter, detect, and delay physical security threats to protect our people and assets.

People use these facilities to operate and maintain our infrastructure. They consist of small one-person construction offices with crews that come and go in rural towns, to call centers, to our company headquarters in Spokane, WA. Each of these office locations is critical to our operation. In some cases, the same campus facility may host multiple functions that serve both gas and electric customers, such as call center services, construction office services, and as equipment and materials storage location.

Facilities and Storage Location Security

Additionally, these locations store millions of dollars in equipment, tools, and materials required to operate and maintain our infrastructure. In some cases, the equipment, tools, and materials stored are unique to the gas and electric services we provide and specific to certain locations. So, while the probability is low of an event occurring, the consequence may be high. For example, should any of these assets be damaged or stolen, replacing them can take weeks, to months, to years, depending on the uniqueness of the equipment and whether it is made to order or specifications versus an easier to find commodity. Estimated costs can vary between $5K to $50K, respectively, and depending on the theft or damage. However, and while it does not often occur, the cost of irreparable damage or theft of a fleet vehicle is much higher.

A physical security incident at any of these locations may harm people, damage tools and equipment, or even restrict our ability to respond to our customers, if the required tools, equipment, or material are not readily available. Also, a physical breach can give intruders access to Avista's network, which can then lead to a cybersecurity event. Not investing in the security of Avista's facilities and storage locations would pose a significant risk in our ability to maintain and operate our electric and gas infrastructure. For example, a few years ago one of Avista's storage locations was broken into that had a forklift vandalized causing damage to various equipment. The only way Avista was made aware of the intrusion during the weekend was from the neighbors. While the neighborhood watch plays a role, it does not promote confidence to our customers that Avista can maintain the security and reliablilty of the infrastructure under our stewardship. Physical security enhancements, such as gates, fencing, and access controls will aim to deter and delay a threat while cameras, alarms, and motion detection systems will capture evidence to aid law enforcement investigations.

1.2   Discuss the major drivers of the business case.

Performance & Capacity is the primary driver for the Facilities and Storage Location Security program business case as the projects it funds address security risks by protecting our people, equipment, tools, and material that are critical to support our day-to-day operations. Replacing an outdated access management system to deny access to unauthorized people at five additional facilities will centralize access management for all of Avista's facilities. Camera replacements and enhancements will be the next phase at these facilities to provide visibility at each of these locations.

1.3   Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Addressing security risks in our office or storage facilities has been and will continue to be an ongoing issue. We have had theft and vandalism incidents that have resulted in equipment damage and tools and material theft. Also, in some of these smaller facilities, once the crews are out for the day, there is a lone worker that is available to respond to

operational needs that arise throughout the day, such as responding to walk-in customers, coordinating out of town contractor crews, or receiving deliveries. The office facilities must provide adequate safety and security to the lone workers, especially in the winter season when sunlight is limited during the workday. Additionally, Avista suffers from theft and vandalism at various facilities and storage locations. In recent years, homeless have vandalized our downtown location several times resulting in clean up fees of druguse paraphernalia and prompting calls to the law enforcement to stop an altercation essentially a glass window away from our employees. Deferring or not approving this investment increases the likelihood of a security event that could impact our people, equipment, tools, or materials that are critical to support operations.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives, and mission statement of the organization. *See link*. Avista Strategic Goals

The Facilities and Storage Location Security program business case provides funding for security-related projects and aligns with Avista's strategic goal to "affordably operate and maintain, safe, clean, reliable generation and energy delivery infrastructure." A focus under this strategic goal is to mature Avista's physical security program and emergency response.[1]

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.

According to the Department of Homeland Security in 2022, Domestic Violence Extremists (DVEs) adhering to a range of ideologies will likely continue to plot and encourage physical attacks against electrical infrastructure. By extension, office facilities and storage locations are also at risk, if delaying a response by damaging equipment, tools, or material is part of a coordinated attack. Additionally, should an attack include any gas infrastructure, the equipment, tools, and material must be readily available to aide the immediate response as it presents a safety risk to the public. Therefore, the Cybersecurity & Infrastructure Security Agency (CISA) and the Department of Energy (DoE) call for utilities to step up their physical security posture and take mitigating steps that include physical protective security measures to reduce or minimize the impact of an attack. The physical security enhancement should include a risk based, layered approach that dissuades a potential attacker through visible security measures.[2]

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[1] Strategy Scorecard. Board of Directors Meeting. February 2023.
[2] Sector Spotlight: Electricity Substation Physical Security (cisa.gov)

Facilities and Storage Location Security

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The Facilities and Storage Location Security business case provides funding for cyber and physical security enhancement projects, such as gates, fencing, and access control systems that are aimed to deter and delay a threat while cameras, alarms, and motion detection systems will capture evidence to aid law enforcement investigations. With over two dozen office and storage facilities across Oregon, Idaho, and Washington, the recommended solutions will vary by location based on the criticality of the location, the known threats or history of vandalism activity to determine the level of risk-based layered physical security response. At a minimum, all Avista facilities will have upgraded to a centralized access control system at all perimeter doors and gates to manage authorized access. Brass keys are not a solution for this, as they can be easily lost, stolen, or misused. Second, some facilities require a video/intercom system with remote switch or pin pad to authorize gate access for ad-hoc or recurring services, such as delivery of mail, parts, tools, material, garbage pickup, occurring throughout the workday and off hours. Proper video surveillance at specific facilities is necessary to keep eye on materials, tools, and equipment that has in years past gone missing from unmanned locations.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits, or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[3]

The funding request is based on previous year funding levels, except for an acceleration of replacing an end-of-life access management systems at five remaining office facilities. Addressing these remaining locations will reduce a cybersecurity risk and daily operational challenges in the first year, while layering physical security measures to subsequent locations of highest risk. The estimates are based on historical values from previous access management system conversion projects to date, as well as the cost of video surveillance replacements in several locations. Continuous investment reduces the risk of unauthorized access to our facilities and storage locations. The risk avoidance estimate can vary between $5K to $50K in theft or damage to tools, material, equipment or fleet vehicles. There is no cost estimated to replace the loss of life or inflicted trauma to any of our staff from a physical injury due to an assault at one of our facilities.

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[3] Please do not attach any requested items to the business case, rather be sure to have ready access to such information upon request.

2.3 Summarize in the table and describe below the DIRECT offsets[4] or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	N/A	$0	$0	$0	$0	$0
O&M	N/A	$0	$0	$0	$0	$0

There are no direct offsets associated with investments in physical security enhancements in facilities and storage locations. Doing nothing is not an option, as Avista staff safety and the security of equipment, tools, and material is critical to operations.

2.4 Summarize in the table and describe below the INDIRECT offsets[5] (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	Equipment, Tools, Material replacement	$594,000	$594,000	$594,000	$594,000	$594,000
O&M	Damage repairs	$6,000	$6,000	$6,000	$6,000	$6,000

Indirect offsets include the cost avoidance from lost, stolen, or damage equipment, tools, and material. Typical stolen material includes copper wire and tools right out of parked fleet vehicles. In a recent event, the intruder started a forklift and drove it through a storage yard fence, damaging the forklift and some material along the way. In a separate event, intruders assumed that digging up cable would result in a windfall of copper. They instead what they dug up and damaged was fiberoptic cable that provided communication signals from our facility to our central office systems. The repair work to damaged assets and replacement of equipment, tools, and material not only cost time and money, but it also makes the asset unavailable for use when needed. Based on these examples, the estimated cost of each event can range from $5K to $50K, depending on the theft or damage. Using these estimates, the average cost of an incident is $27.5K each occurrence. With over two dozen office and storage yard locations, assuming one incident per location, the cost per year is approximately $660K in stolen or damaged equipment, tools, or material. Assuming the asset is either stolen or deemed irreparable, the cost is capital to replace. However, the cost of repairing cut fences, dug up ditches, and vandalized equipment is operation and maintenance expense. Therefore, the assumption is 85% capital for replacements and 15% in O&M repairs.

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[4] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[5] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, that were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

The program business case contains both cyber and physical security projects that protect our people, assets, and information from growing risks. The layered risk-based physical security enhancements consider the most cost-effective solutions and alternatives to address the risk at each location. The alternatives presented are listed in order of addressing identified risk.

Option	Capital Cost	Start	Complete
Alternative 1: Address centralized access management replacement in 2024 only at office locations, then proceed to other measures as funding is available (Recommended)	$2,000,000	01 2024	12 2028
Alternative 2: Address layered risk-based security enhancements at office facilities and storage locations in 7 years, as appropriate	$2,000,000	01 2024	06 2031
Alternative 3: Address layered risk-based security enhancements at office facilities and storage locations in 10 years, as appropriate	$2,200,000	01 2021	12 2033

Alternative 1: The recommended option includes accelerating the completion of a slow-going effort to replace Avista's centralized access management system in office locations by the end of 2024. This replacement is necessary to remove a legacy system that is at risk of cybersecurity threats and causes daily operational challenges. The subsequent years will continue physical security enhancements at both office and storage locations, as well as camera and video surveillance system replacements based on lifecycle to deter, detect, and delay physical security threats, as funding is available.

Alternative 2: This approach will also complete the replacement of Avista's centralized access management system in office locations by the end of 2024. However, $400K of the funds are needed in 2024, followed by the remaining $1.6M over the subsequent 6 years. Continued investments in layered physical security enhancements at office and storage locations will continue in subsequent years with the goal of completing them over the same period.

Alternative 3: This option will also complete the replacement of Avista's centralized access management system in office locations by the end of 2024. However, $400K of the funds are needed in 2024, followed by the remaining $1.8M over the subsequent 9 years. Continued investments in layered physical security enhancements at office and storage

locations will continue in subsequent years with the goal of completing them over the same period.

Doing nothing is not an option or presented as an alternative, as called out by Avista's senior leadership in the 2023 Strategic Goals, as well as identified as one of the highest risks in Avista's recent Securities and Exchange Commission, 10-Q filing[6].

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Physical security enhancements at office and storage locations are necessary to maintain the identified high-risk locations safe, secure, and reliable. Metrics to demonstrate the success of the investments under this program business case include averted physical threats, reduction in problem location incidents, and keeping this equipment available and reliable to aid in deterring, detecting, and delaying an intrusion. Avista tracks physical security incidents and will monitor for a reduction in incidents, especially at historically high risk and problem locations that have implemented physical security enhancements.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The Facilities and Storage Location Security business case is a program that consists of multiple security projects per year that run concurrently, and at times over multiple years. They follow all phases of the project lifecycle, facilitated by a project manager, and governed by a steering committee to determine scope, schedule, and budget forecasts, including transfers-to-plant.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

There are two levels of governance to the Generation, Substation, and Gas Location program business case and the investments within it. They consist of a business case governance team and project specific steering committees for in-flight projects.

Business Case Governance Team: The Enterprise Security Governance Team provides monthly oversight of this program business case and makes recommendations based on forecasted inactive planned investments, the pace of in-flight investments, and any new

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[6] SEC Filing | Avista Corporation

unplanned activity that surfaces from an emerging security threat. The team also tracks business case risks and issues that can affect the portfolio of planned investments.

Monthly governance meetings consist of a full review of each in-flight investment, reasons for any delays or deviation to proposed completion and transfers to plant schedules and recommends necessary steps to bring the investments back into schedule or defer inactive work, when possible, to offset delays. However, should a security risk be increased by deferring a planned or unplanned investment into future years, the Enterprise Security Governance Team will recommend a Capital Planning Group (CPG) In-Year Change Request to surface the impending need. The Change Requests are presented at a monthly Technology Planning Group meeting to inform the Director members who are also members of the CPG where the request will be considered and weighed against other pending requests.

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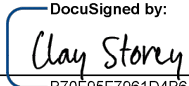
Project Steering Committees: Additionally, each security investment is governed by a project steering committee that consists of the Enterprise Security Director, Cybersecurity Manager, Physical Security Manager, and Security Delivery Manager, as well as ancillary management team members required for the successful implementation of the security enhancement at the respective location. Steering committee meetings are facilitated by a Project Manager and held monthly to review scope, schedule, budget, and risks and issues surfaced from each in-flight project.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Facilities and Storage Location Security business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*DocuSigned by:* [signature] 6456C8EEF402467...	Date: Jun-12-2023 | 10:58 AM PDT
Print Name:	Andy Leija	
Title:	Security Delivery Manager	
Role:	Business Case Owner	

Signature:	*DocuSigned by:* Clay Storey B70F95F7961D4B6...	Date: Jun-12-2023 | 11:28 AM PDT
Print Name:	Clay Storey	
Title:	Security Director	
Role:	Business Case Sponsor	

Signature:		Date:
Print Name:		
Title:		
Role:	Steering/Advisory Committee Review	

Generation, Substation & Gas Location Security

EXECUTIVE SUMMARY

Generation, substation, and gas facilities are difficult to protect from physical threats, as they are typically in remote, rural, and unmanned locations. This is a known risk to utilities across the country. However, the risk has been growing over the past few years with an increase in attacks to electric and gas infrastructure driven by domestic violent extremism and cyberattacks, as reported by federal agencies.[1] Reported incidents at substations range from general observation of suspicious activity to a direct and significant impact to the electric grid. In 2021, an oil pipeline incident targeted by cybercriminals impacted pipeline operations and resulted in significant challenges on dependent businesses on the east coast. Current security measures at critical electric and gas locations across the country are not enough.

Security of Avista's generation, substation, and gas locations remains a concern. These locations contain equipment that is critical to the delivery of gas and electricity safely and reliably to our customers across our service territory. A security incident at any of these locations could deny, degrade, or disrupt the delivery of energy. Therefore, Avista's senior leadership has called for an immediate and suitable response to this growing risk. To respond accordingly, the proposed investment is $13.3M over 5 years, with $10.8M in the first two years.

Avista has assessed the criticality of its electric and gas infrastructure and tiered them by risk to apply physical security enhancements under this program business case. The risk-based layered security enhancements consist of ballistic shielding, fencing, gates, doors, cameras, sensors, and access management systems. They vary by location and intend to deter, detect, or delay a potential attack and provide law enforcement with immediate measures to assess, interrupt and/or apprehend an intruder. The recommended solutions include physical security enhancements at all Tier 1, 2, and problem substation locations and selected generation facilities over the next five years, addressing the most critical sites in the first two years. Doing only a fraction of them or extending the schedule to the most critical locations does not reduce the identified risk in the period called for by Avista's senior leadership.

As typical of physical or cyber security incidents, costs are estimated based on previous incidents at other utilities or similar sized companies. For example, estimates of firearms attacks on electrical infrastructure since March 2022, range from as little as $12K to over $3.5M per incident at each location and can result in long lead times to replace damaged equipment.[2] Based on the number of incidents growing, it is wise to assume that Avista is not shielded from this risk without taking appropriate security measures. Take-aways from previous incidents are the known vulnerability of each asset, the cost and time to repair or replace the damage, and the hindsight of known physical security enhancements that could have reduced the risk. Not funding the recommended amount to address this eminent risk may increase the likelihood of not being prepared for when a physical security incident happens at a critical Avista generation, substation, or gas location.

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[1] Sector Spotlight: Electricity Substation Physical Security (cisa.gov)
[2] (U//FOUO). U.S. Department of Homeland Security, Office of Intelligence and Analysis, April 2023.

VERSION HISTORY

Version	Author	Description	Date
Draft	Andru Miller	Initial draft of original business case	7/02/2020
1	Andru Miller	Updated 5-year funding request	8/09/2022
2	Andy Leija	Updated 5-year funding request	5/5/2023
BCRT	*Jeff Smith*	*Has been reviewed by BCRT and meets necessary requirements*	*5/30/2023*

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2024	$6,460,000	$6,000,000
2025	$4,290,000	$4,000,000
2026	$1,450,000	$1,200,000
2027	$635,000	$600,000
2028	$500,000	$500,000

Project Life Span	*5 years*
Requesting Organization/Department	Security
Business Case Owner | **Sponsor**	Andy Leija | Clay Storey
Sponsor Organization/Department	Enterprise Technology
Phase	Execution
Category	Program
Driver	Performance & Capacity

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. BUSINESS PROBLEM - *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.* ⛶

1.1 What is the current or potential problem that is being addressed?

Security remains a concern at Avista's generation, substation, and gas locations. These locations contain equipment that is critical to the delivery of gas and electricity safely and reliably to our customers. Many of these locations are remote, unmanned, and vulnerable, which makes them difficult to protect. A cyber or physical security incident at any of these locations could deny, degrade, or disrupt the delivery of energy. Although the probability of an incident occurring at these locations is low, it has been steadily growing in possibility and proximity. The impact or consequence at any of these locations would be high, directly affecting our customers.

Criminal activity, such as vandalism, theft, and individual sabotage are no longer the only threat. There is a rise in domestic violent extremist (DVE) agendas that plot and encourage physical attacks against electrical and gas infrastructure. Federal officials report of an increase in DVE activity based on a rise in online discussions about plans for attacking and disrupting electrical and gas infrastructure, suspicious behavior that includes taking

photographs or video from unmanned flying devices, disruption of perimeter fencing and video surveillance systems, and firearms attacks at specific electrical infrastructure.[3]

Recent firearms attacks on electrical utility infrastructure throughout the country, and specifically in Western Oregon and Washington have heightened the urgency to increase Avista's physical security measures specifically at electrical substation facilities.[4] Furthermore, a recently released movie (Apr 7, 2023) titled, *How to Blow Up a Pipeline* sensationalizes and socializes DVE ideology to a wider audience that can easily trigger copycat behavior and inspire more criminal activity thereby increasing further threat to both electrical and gas infrastructure.

In most cases, electrical and gas facilities have had little physical security investment over the years outside of original perimeter fencing and locked gates, as the probability of a security threat had been low. However, with the number of incidents growing over the past few years, their proximity to our service territory, and the public's knowledge of the inherent vulnerability of electric and gas infrastructure, initial physical security protections are not enough and require further investment.

1.2   Discuss the major drivers of the business case.

Performance & Capacity is the primary driver for this program business case as the projects it funds address security risks protecting Avista's generation, substation, and gas locations that are critical to deliver energy to our customers. The security of our electric and natural gas infrastructure is a significant priority at a national and regional level and is of critical importance to Avista customers across our service territory. Keeping the systems at these locations performing is critical to delivering electric and gas service to our customers.

1.3   Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Addressing security risks at Avista's generation, substation and gas locations has been and will continue to be an ongoing issue. However, Avista takes a 'risk-based and layered approach' to physical security investments as called out by the North American Electric Reliability Corporation (NERC) in response to emerging physical security threats.[5] The risk-based and layered approach consists of understanding the risk and criticality for each location, followed by installing physical security measures that deter, detect, and deny an intruder or attack. So, while Avista may operate and maintain twelve generation facilities, over 180 substations, and many miles of distribution gas pipeline serving our customers, the investments under this business case address only the most critical sites.

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[3] [Electric grid is 'attractive target' for domestic violent extremists in US, intel brief says | CNN Politics](#)
[4] [2 Charged in Attacks on Substations in Washington State - The New York Times (nytimes.com)](#)
[5] [NERC Announces Actions Addressing Physical Security](#)

Generation, Substation & Gas Location Security

The current approved amount is not sufficient to adequately and immediately address the identified critical sites to deter, detect, or delay an intruder or attack. This includes facilities that generate high electric load or are used regularly to meet peak demand for essential services. While the overall performance of each generation, substation, and gas location will stay intact, physical security hardening measures, such as gates, fencing, and ballistic shielding will aim to deter and delay a threat while cameras, alarms, and motion detection systems will capture video surveillance evidence to aid investigations.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives, and mission statement of the organization. *See link*. **Avista Strategic Goals**

The Generation, Substation, and Gas Location Security program business case provides funding for security-related projects and aligns with Avista's strategic goal to "affordably operate and maintain, safe, clean, reliable generation and energy delivery infrastructure." The focus under this strategic goal is to mature Avista's physical security program and emergency response. In response to the emerging threats, Avista's senior leaders have requested that this risk be mitigated adequately and immediately.[6]

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.

In 2022, four electric substations in Western Washington operated by Tacoma Public Utilities (TPU) and Puget Sound Energy were vandalized causing an initial power loss to more than 14,000 customers in the affected communities. Perpetrator(s) cut the chain link fence and manipulated high side breakers, causing power outages. Combined, the damage cost to two of the TPU substations (Elk Plain and Graham) was estimated at over $3 million – as damaged transformers require replacement and a lengthy lead time to replace.[7]

Much like the government response following the Colonial Pipeline incident, where by federal agencies issued urgent directives to mitigate the risk of subsequent attacks, the Cybersecurity and Infrastructure Security Agency (CISA) and the Department of Energy (DoE) have highlighted an increasing trend of physical attacks on electric substations and customer impact to escalate awareness.[8] Avista is in alignment with what is described in the federal agency sector highlights, which calls for utilities to take a risk-based and layered approach to physical security enhancements that is tailored to each facility based on a threat and vulnerability assessment conducted at each facility and ranked by criticality.

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[6] Our Goals 2023 - Perform (sharepoint.com)
[7] 2 Charged in Attacks on Substations in Washington State - The New York Times (nytimes.com)
[8] Sector Spotlight: Electricity Substation Physical Security (cisa.gov)

2.   PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1   Please summarize the proposed solution and how it helps to solve the business problem identified above.

Any of Avista's infrastructure facilities are prone to a physical security threat. However, the proposed investments that address the risks under this program business case assessed each location and tiered them according to criticality from high to low.

Tier 1	Critical Asset – supports essential local, state, and national services.
Tier 2	Very Important Asset – outage impacts would be significant
Tier 3	Important Asset – outage impacts minimal to critical services and customers (Higher customer impacts than Tier 4)
Tier 4	Important Asset – outage impacts minimal to critical services and customers (Lower customer impacts)

Based on tier level rating for each substation, generation, and gas facility, appropriate layered security enhancements are recommended for each location. In a few cases, a company wide solution is required, such as replacing unsupported camera and access management systems that while working, are prone to cyberthreats and suffer from continued operational challenges. So, as physical security threats evolve, Avista's investments under this program business case will also protect Avista's people, assets, and information in generation, substation, and gas facilities.

The recommended solution accounts for physical security enhancements at generation and substation locations that fall within Tier 1, 2, and Problem Substation Locations, and a steady asset lifecycle camera and access system replacement in generation locations. All Tier 1 and problem substation locations would be addressed in the first two years; followed by Tier 2 locations addressed in four years and maintaining an asset lifecycle camera and access system replacement for short lifecycle assets.

Investments under this program business case are risk based and therefore a layered response is proposed for each location. Physical security enhancements consist of ballistic shielding, fencing, gates, doors, cameras, sensors, and access management systems. The proposed enhancements will vary by location but will implement new or replace inadequate security measures to mitigate the increasing risk.

Tier and Location Type	Layered Enhancement	2024	2025	2026	2027	2028
Tier 1 Substations	Ballistic Screening	x	x			
	Perimeter detection/ cameras	x	x			

	Perimeter T-Wall and Gate	x	x			
	Asset Lifecyle Camera Replacement					x
Tier 2 Substations	Ballistic Screening	x	x			
	Perimeter detection/ cameras	x	x	x	x	
	Asset Lifecyle Camera Replacement					x
Problem Substation Locations	Perimeter detection/ cameras		x			
	Asset Lifecyle Camera Replacement					x
Selected Generation Locations	Perimeter detection/ cameras	x	x	x	x	x

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits, or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).

Estimates of firearms attacks on electrical infrastructure since March 2022, range from as little as $12K to over $3.5M per incident at each location.[9] The investment under this program business case is to respond to the growing threat in the next 2-4 years by addressing critical and vulnerable infrastructure locations. Ongoing investment thereafter is for physical security technology lifecycle replacements.

2.3 Summarize in the table and describe below the DIRECT offsets[10] or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	N/A	$0	$0	$0	$0	$0
O&M	N/A	$0	$0	$0	$0	$0

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[9] (U//FOUO). U.S. Department of Homeland Security, Office of Intelligence and Analysis, April 2023.
[10] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

There are no direct offsets associated with investments in physical security enhancements in generation, substation, and gas locations. Doing nothing is not an option, especially as attack incidents are growing.

2.4 Summarize in the table and describe below the INDIRECT offsets[11] (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	Electric Infrastructure replacement	$316,800	$316,800	$316,800	$316,800	$316,800
O&M	Electric Minor repairs	$35,200	$35,200	$35,200	$35,200	$35,200

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	Gas Infrastructure replacement	$35,000	$35,000	$35,000	$35,000	$35,000
O&M	Gas Minor repairs and relights	$140,000	$140,000	$140,000	$140,000	$140,000

Indirect offsets are achieved through cost avoidance associated with a physical security incident at a generation, substation, and gas location. Existing physical security investments at generation, substation, and gas locations are minimal and while they may deter vandalism or minor theft, it will not deter a more strategic DVE attack. Moreover, it will not detect or provide forensics to investigate or prevent future attacks, as little to no physical surveillance technology is currently in place.

An indirect offset cannot be estimated without assuming the avoidance of a physical security incident at each type of generation, substation, and gas location. Using costs from attacks at other electrical substation locations across the country, the average incident cost is approximately $1.76M and can result in long lead times to replace damaged equipment. Assuming one incident over 5 years, with a 90% capital and 10% expense costs, the indirect offset would be $1.58M in capital and $176K in operation and maintenance, respectively.

Reported pipeline incidents at gas locations do not distinguish the cause of the incident. On average, three incidents were reported in the last 5 years in gas distribution systems across Idaho, Oregon, and Washington. During the same 5-year period, the average cost for those

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[11] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

incidents was $876k, as reported to the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration for all pipelines.[12]

Extrapolating estimated average costs for one event at a gas location over 5 years, assuming 20% capital cost associated with infrastructure replacement and 80% associated with minor repairs and relights, the cost would be $175K in capital and $700k in operation and maintenance, respectively.

No data is available to estimate the cost of a physical security incident at a generation location. However, depending on its location and damage, the cost could exceed that of a substation or gas location incident, including the cost associated with the period it is offline not generating power or revenue.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, which were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

The program business case contains many cyber and physical security projects that protect our people, assets, and information from growing risks. The risk-based layered physical security enhancements consider the most cost-effective solutions and alternatives to address the risk at each location. The alternatives presented are listed in order of addressing identified risk.

Options	Capital Cost	Start	Complete
Alternative 1: Physical security enhancements at Tier 1, 2 and Problem Substation locations and selected Generation locations, including asset lifecycle camera replacement (Recommended)	$13,335,000	01 2024	12 2028
Alternative 2: Physical security enhancements at Tier 1 and 2 Substations and selected Generation locations only, including asset lifecycle camera replacement	$12,985,000	01 2024	12 2028
Alternative 3: Physical security enhancements at 'Tier 1' Substations and selected Generation locations only, including asset lifecycle camera replacement	$10,200,000	01 2024	12 2028

Alternative 1: The recommended solution is where all Tier 1, 2 and problem substation locations and selected generation locations are addressed in the first four years to

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[12] Pipeline Incident 20 Year Trends | PHMSA (dot.gov). Oracle BI Interactive Dashboards - SC Incident Trend (dot.gov)

respond to the eminent risk and asset lifecycle camera replacements. Estimates include ballistic screening, perimeter detection and camera systems, and perimeter walls with fortified gates at identified locations.

Alternative 2: The second alternative includes physical security enhancements at Tier 1 and 2 substations, selected generation locations, and asset lifecycle camera replacement only, leaving out problem substation locations. The handful of problem locations are in areas with higher crime reports and a history of incidents. Not addressing these sites will continue ad-hoc incidents that cause system outages, vandalism, theft, and can present a safety risk to intruders or emergency responders.

Alternative 3: The third alternative reduces the scope by leaving out Tier 2 substations and problem locations and focusing only on Tier 1 substation locations, selected generation locations, and asset lifecycle camera replacements only. Risk assessments have identified Tier 2 substations, selected generation locations, and problem sites as also at risk of physical security threats based on their criticality to generate and deliver energy to our customers. Not addressing the subsequent tier of substations and known problem locations limits Avista and law enforcement's ability to address the growing threat by not having video surveillance evidence to identify intruders and their tactics to mitigate future attacks.

Doing nothing is not an option or presented as an alternative, as called out by Avista's senior leadership in the 2023 Strategic Goals, as well as identified as one of the highest risks in Avista's recent Securities and Exchange Commission, 10-Q filing.[13]

2.6   Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Physical security enhancements at generation, substation, and gas locations are necessary to maintain the identified high-risk locations safe, secure, and reliable. Metrics to demonstrate the success of the investments under this program business case include averted physical threats, reduction in problem location incidents, and keeping this equipment available and reliable to aid in deterring, detecting, and delaying an intrusion. Avista tracks physical security incidents and will monitor for a reduction in incidents, especially at historically high risk and problem locations that have implemented physical security enhancements.

2.7   Please provide the timeline of when this work is scheduled to commence and complete, if known.

The Generation, Substation, and Gas Location Security business case is a program that consists of multiple security projects per year that run concurrently, and at times over

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[13] SEC Filing | Avista Corporation

multiple years. They follow all phases of the project lifecycle, facilitated by a project manager, and governed by a steering committee to determine scope, schedule, and budget forecasts, including transfers-to-plant.

2.8 Please identify and describe the Steering Committee/governance team responsible for the initial and ongoing approval and oversight of the business case and how such oversight will occur.

There are two levels of governance to the Generation, Substation, and Gas Location program business case and the investments within it. They consist of a business case governance team and project specific steering committees for in-flight projects.

Business Case Governance Team: The Enterprise Security Governance Team provides monthly oversight of this program business case and makes recommendations based on forecasted inactive planned investments, the pace of in-flight investments, and any new unplanned activity that surfaces from an emerging security threat. The team also tracks business case risks and issues that can affect the portfolio of planned investments.

Monthly governance meetings consist of a full review of each in-flight investment, reasons for any delays or deviation to proposed completion and transfers to plant schedules and recommends necessary steps to bring the investments back into schedule or defer inactive work, when possible, to offset delays. However, should a security risk be increased by deferring a planned or unplanned investment into future years, the Enterprise Security Governance Team will recommend a Capital Planning Group (CPG) In-Year Change Request to surface the impending need. The Change Requests are presented at a monthly Technology Planning Group meeting to inform the Director members who are also members of the CPG where the request will be considered and weighed against other pending requests.
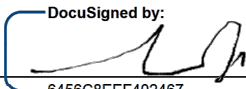
The Enterprise Security Governance Team consists of Avista's Enterprise Security Director, Cybersecurity Manager, Physical Security Manager, Security Delivery Manager, and the Project Management Office Manager. The sessions are facilitated by the Security Program Manager who manages the standing agenda.

Project Steering Committees: Additionally, each security investment is governed by a project steering committee that consists of the Enterprise Security Director, Cybersecurity Manager, Physical Security Manager, and Security Delivery Manager, as well as ancillary management team members required for the successful implementation of the security enhancement at the respective location. Steering committee meetings are facilitated by a Project Manager and held monthly to review scope, schedule, budget, and risks and issues surfaced from each in-flight project.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Generation, Substation & Gas Location Security business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	*DocuSigned by:* [signature] 6456C8EEF402467...	Date: Jun-12-2023 | 10:57 AM PDT
Print Name:	Andy Leija	
Title:	Security Delivery Manager	
Role:	Business Case Owner	

Signature:	*DocuSigned by:* *Clay Storey* B70F95F7961D4B6...	Date: Jun-12-2023 | 11:29 AM PDT
Print Name:	Clay Storey	
Title:	Security Director	
Role:	Business Case Sponsor	

Signature:		Date:
Print Name:		
Title:		
Role:	Steering/Advisory Committee Review	

Identity and Access Governance (IAG) Program

EXECUTIVE SUMMARY

Avista's current Identity and Access Governance (IAG) program is highly manual, time consuming, cumbersome, and prone to human error. This has led to consistent failures of related controls around access to systems or facilities for individuals who have either changed roles in the Company or left the Company and should no longer have previous role access. The external audit scrutiny over the continued failures of these controls has also increased. The recommended solution will implement an IAG program that includes a technical solution while revising and improving processes for validating, auditing, and reporting system privileges for individuals across the company.

The initial cost of the solution included software licenses, integration with Avista's Sarbanes-Oxley (SOX) applications, and certification of individuals requiring access to them. Implementation was estimated at $1.1M in the first two years, followed by continuous investment of $195K per year, except in the case of license subscription renewals every third year when the investment will go up to $350K. The IAG program will create role-based profiles, define system privileges, automate access management, and facilitate regular user access review and validation. Continuous investment is required to integrate all company systems and validate system access and privileges. The risks avoided by implementing this solution are allowing over-permissive accounts that can result in a data breach and penalties from noncompliance. The cost of a physical or cyber-attack can average $1.76M or $12.9M, respectively. Noncompliance penalties can average $40-60K per finding per day. The avoided indirect costs associated with either a physical or cyber-attack, or avoided penalties is a significant benefit to Avista and our customers. Not approving funding for this program will continue the challenge of controlling identity and access to maintain compliance and the over-permissive risk.

Additionally, the growing threat landscape preys on over-permissive access. According to a recent IBM Security Report, the most common attack vector in 2022 was stolen or compromised credentials.[1] This solution will benefit Avista and its customers by adhering to the security principle of 'least privilege,' whereby individuals are limited only to information and resources necessary to perform their current and intended job functions. It also reduces the risk associated with individuals having broad access to systems or to facilities their roles no longer require. Security threats continue to become more sophisticated, such as ransomware attacks, which can force system outages, financial losses, ransomware payments, and reactive investments.

The alternative to further implementing an IAG program, is to only onboard some applications onto the new system and continue to perform the rest manually. This approach increases human error due to the continuous permission changes required by employees newly hired or transitioning to other job functions. As stewards of critical infrastructure and customer data, appropriate permission levels are a requirement to protect our people, assets, and information.

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[1] Cost of a Data Breach Full Report 2022 - IBM.pdf

Identity and Access Governance (IAG) Program

VERSION HISTORY

Version	Author	Description	Date
1.0	*Andy Leija*	*Initial draft of original business case*	*7/6/2021*
2.0	*Andru Miller*	*Updated 5-year funding request*	*8/09/2022*
3.0	*Andy Leija*	*Updated 5-year funding request*	*5/18/2023*
BCRT	*Jeff Smith*	*Has been reviewed by BCRT and meets necessary requirements*	*5/30/2023*

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2024	$195,122	$195,122
2025	$658,284	$658,284
2026	$195,122	$195,122
2027	$350,000	$350,000
2028	$350,000	$350,000

Project Life Span	*5 years*
Requesting Organization/Department	C09/Enterprise Security
Business Case Owner | Sponsor	Andy Leija | Clay Storey
Sponsor Organization/Department	Enterprise Security / Accounting
Phase	Execution
Category	Program
Driver	Mandatory & Compliance

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

[Investment Drivers](#)

1. BUSINESS PROBLEM - THIS SECTION MUST PROVIDE THE OVERALL BUSINESS CASE INFORMATION CONVEYING THE BENEFIT TO THE CUSTOMER, WHAT THE PROJECT WILL DO AND CURRENT PROBLEM STATEMENT.

1.1 What is the current or potential problem that is being addressed?

Avista's existing Identity and Access Governance (IAG) program is highly manual, time consuming, cumbersome, and prone to human error. This has led to consistent failures of related controls around access to systems or facilities for individuals who have either changed roles in the Company or left the Company and should no longer have previous role

access. Generally, when an employee leaves the Company, their account is inactivated and thus all their systems and facilities access is removed. However, when an employee moves into a different job role within the Company, their previous access can remain for a period as the open position is being backfilled. This period is unknow, as no user access reviews are conducted for systems outside of those needing to meet compliance requirements. Additionally, cyber threats continue to grow and center on breeching compromised credentials to gain access to internal network with over-permissive accounts, the external audit scrutiny over the continued failures of these controls has also increased.

1.2 Discuss the major drivers of the business case.

Mandatory & Compliance is the main driver behind the IAG program in response to meeting Sarbanes-Oxley (SOX) compliance requirements. It ensures that Avista has the internal controls to limit access to individuals only to information and resources necessary to perform their current and intended job functions. After the initial phase of meeting SOX compliance, additional integrations will fall under the Customer Service Quality and Reliability investment driver. Avista and its customers benefit from continued investment in this solution that reduces the risk of broad system access, adhering to the security principle of 'least privilege' and segregation of duties. The investment will allow for review and validation of appropriate system permissions, which in turn will improve the reliability of delivering electricity and gas to our customers.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Maturing Avista's IAG program requires further investment in an Identity and Access Management (IAM) solution to manage access and permissions to hundreds of applications and systems required to deliver gas and electric service safely and reliably. Phase one of the IAG program included the initial implementation of an IAM platform and the integrations to meet SOX compliance requirements. For the IAG program to mature, continued integrations of other applications and systems are necessary to reduce the risk that comes with an increase in cybersecurity breaches that are due to compromised credentials with over-permissions.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives, and mission statement of the organization. *See link.* **Avista Strategic Goals**

Investment in the Company's IAG program aligns with Avista's customer-centric vision by reducing the Company's risk exposure, strengthening security, improving compliance and audit performance, and delivering fast and efficient access to all business users.

Maintaining a culture of compliance and strong security posture allows our employees to focus on delivering value to our customers and the communities we serve.

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[2]

As mentioned in other security business case justification narratives, cybersecurity threats are growing in numbers and complexity and utilities are especially vulnerable. For example, the U.S. Intelligence Community Annual Threat Assessment (2023) highlights that "China almost certainly is capable of launching cyber-attacks that could disrupt critical infrastructure services with the United States, including against oil, and gas pipelines…"[3] The effects of cyberattacks on critical infrastructure, which consists of aging operational technology can have costly and physical consequences, such as shutdowns, outages, leakages, and explosions.[4] The expansive and geographical nature of utilities' attack surface increases its vulnerability, as well as its interdependence between physical and cyber infrastructure protections.[5]

There are various attack vectors that attackers leverage more than others. According to IBM Security Cost of a Data Breach Report 2022, "The most common data breach attack vector in 2022 was stolen or compromised credentials…[and had] the longest mean time to identify and contain…"[6] Regardless of how an employee's credentials are acquired by a threat actor, the risk exposure is greater when those employee's credentials have broad permissions to various applications and systems across the organization. Therefore, managing identity and access for all our staff is as critical as providing them keys to only what they require to perform their job.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

Automating the existing identity and access provisioning business process is critical to meeting compliance requirements and securing the Company's systems. The solution

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[2] Please do not attach any requested items to the business case, be sure to have ready access to such information upon request.
[3] ATA-2023-Unclassified-Report.pdf (odni.gov)
[4] Enhancing Operational Technology (OT) cybersecurity | McKinsey
[5] The energy sector threat: How to address cybersecurity vulnerabilities | McKinsey
[6] Cost of a Data Breach Full Report 2022 - IBM.pdf

requires a centralized tool for provisioning user accounts to Company systems, as well as revising and introducing new processes for identified efficiencies. This may include pre-approved role base profiles, automated workflows, email notifications/alerting, and regular privilege verifications by system owners. This will ensure that user identities and system access is always current to minimize risk.

The current highly manual identity and access provisioning business process consists of 2-3 staff, lacks a centralized system, is bogged down with approval delays, and cannot scale to meet compliance requirements or enhanced business practices requiring account provisioning and access changes on various fronts (e.g., rapid growth system light apps, cloud computing, etc.) Leveraging a single platform for all account and system provisioning will result in huge efficiencies and leverage system automation capabilities for auto-provisioning pre-approved roles. This means that the cost over time will continue to drop to a point where the program investment will only support license renewals and system enhancements and improvements.

2.2   Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[7]

There are various data points that were considered in preparing this capital investment request. However, the primary driver for the request is to invest in a technology solution that reduces the Company's risk exposure, strengthens security, improves compliance and audit performance, and delivers fast and efficient access to business users who require it to perform their job function.

So, while the initial implementation addressed SOX compliance requirements, the major benefit to Avista and its customers is avoiding the risk of a data breach due to stolen or compromised credentials with over-permissive access. As mentioned in other security and business continuity business cases, the cost of a data breach and associated downtime can be costly and significantly impactful. Therefore, taking the average cost estimate for a data breach of $12.9M and the average number of days (19) of downtime multiplied by the average cost of $2,955 per minute, the total cost can reach nearly $93.7M. This would be the risk avoidance cost associated with continuous investment in maturing an IAG program.

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[7] Please do not attach any requested items to the business case, be sure to have ready access to such information upon request.

Identity and Access Governance (IAG) Program

The solution allows for automation and user access verification that reduces the risk of over-permissive access. So, while the consequence of a data breach is high due to over permissive access, the ability to verify user access on a regular basis will decrease the impact of a data breach to only the systems to which the compromised account was allowed to access.

2.3 Summarize in the table and describe below the DIRECT offsets[8] or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	Not Applicable	$0	$0	$0	$0	$0
O&M	Not Applicable	$0	$0	$0	$0	$0

There are no direct offsets associated with risk-based investment in an identity and access solution. It is a prudent decision to invest in a centralized solution that can automate approvals and audit access to bring confidence that staff have the right level of permissions to perform their job functions and nothing more. With the number of cybersecurity incidents growing, there is no better way to prevent an attack than with investment in a centralized solution that tracks the right level of access. So, while efficiencies will result from automating and centralizing the existing manual process, any labor savings are offset by new subscription fees associated with the new platform.

2.4 Summarize in the table and describe below the INDIRECT offsets[9] (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	Security Solutions	$104,000	$104,000	$104,000	$104,000	$104,000
O&M	Data Breach Cost Estimates	$936,000	$936,000	$936,000	$936,000	$936,000

Using a data breach cost estimates for a PII (Personal Identity Information) and/or a PCI (Payment Card Industry) data breach, the indirect offsets range from $5.2M to $20.7M per incident or on average $12.9M. Additionally, the costs associated with incident response, customer notification, crisis management, regulatory fines and penalties, and class action lawsuits are mostly operational expense costs. There is an assumption that the vulnerabilities or gaps identified during the incident will require immediate investment in recovery solutions to mitigate the existing and/or future events.

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[8] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

[9] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

Identity and Access Governance (IAG) Program

The potential indirect offsets are 90% operation and maintenance and 10% capital using the lowest cost of a data breach with only PII data and no class action lawsuit. However, they can be significantly higher, such as $18.63M in operation and maintenance and $2.1M in capital, respectively, should the incident be on the high end. Also, not knowing when or how often a data breach would occur, the conservative estimate with the assumption that the incident only happened once, amortized over 5 years, the cost would be $936k in operation and maintenance and $104k in capital, respectively. The indirect benefit or reduction of risk is mostly in operation and maintenance costs associated with recovering from a data breach incident. The reason that this risk still stands is because while the solution is being implemented, there is very little visibility to the permission levels of each employee and therefore the risk exposure is not reduced or changed until after further implementation occurs.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, which were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

The requested funding level allows for further maturity of the IAG program and specifically, the IAM platform. Enhancement projects will continue to integrate the rest of Avista's applications to automate pre-approved provisioning of staff accounts based on role-based access profiles. The alternatives presented below offer a steady implementation over the next 5, 7, or 10 years, with ongoing license subscription renewals every three years. This program automates an existing manual business process. The longer the implementation period, the longer the existing manual process will continue, which is highly manual, time consuming, cumbersome, and prone to human error.

Option	Capital Cost	Start	Complete
Alternative 1: Continue IAG Program Implementation beyond SOX systems over 5 years (Recommended)	$1.75M	01 2024	12 2028
Alternative 2: Continue IAG Program Implementation beyond SOX systems over 7 years	$2.76M	01 2024	12 2030
Alternative 3: Continue IAG Program Implementation beyond SOX systems over 10 years	$4.4M	01 2024	12 2034

Alternative 1: This approach is recommended to reduce the period that staff will need to use two separate processes for provisioning account access to hundreds of applications and systems. The 5-year implementation period includes a license subscription renewal in 2025. However, the remaining allocation is mostly labor associated with integration of the rest of Avista's applications and systems to the IAM platform.

Alternative 2: This approach adds two years to the implementation of the IAM solution to all Avista's existing applications and systems. This option will extend the period whereby

staff will need to use two separate processes for provisioning account access, which can lead to more human error. The 7-year period of implementation includes two license subscription renewals: one in 2025 and the next one in 2028. The remaining allocation is labor associated with integration of the rest of Avista's applications and systems to the IAM platform.

Alternative 3: This final approach doubles the implementation period from the recommended alternative. It is the least favorable option, as it extends implementation the longest and results in staff needing to use two separate processes for provisioning account access, which can lead to more human error. This option includes four license subscription renewals (2025, 2028, 2031, 2034) over the 10-year implementation period. The remaining allocation is labor associated with integration of the rest of Avista's applications and systems to the IAM platform.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Simple measures that can be used to determine the investment successfully delivered on the desired objectives will include: 1) a semi-annual review and certification of Avista's SOX applications and appropriate user permission levels; 2) annual validation and reporting in preparation for external audit requirements; and 3) semi-annual review and certification of additional applications onboarded onto system.

2.7 Please provide the timeline of when this work is scheduled to commence and complete, if known.

Avista's IAG program began in 2022 and implemented the IAM platform, integrating SOX applications, to meet compliance requirements. Following the initial implementation, all other Company systems will begin their journey onto the new platform. The solution became used and useful in 2023 when the platform went live. However, each new system that is integrated onto the platform will become used and useful at the time each is 'go-live' certified. This means that full implementation will have multiple transfers to plant dates as more systems come online over the course of the program maturity.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

There are two levels of governance to the Identity and Access Governance business case and the investments within it. They consist of a business case governance team and project specific steering committees for in-flight projects.

Business Case Governance Team: The Enterprise Security Governance Team provides monthly oversight of this program business case and makes recommendations based on forecasted inactive planned investments, the pace of in-flight investments, and any new unplanned activity that surfaces from an emerging security threat. The team also tracks business case risks and issues that can affect the portfolio of planned investments.

Monthly governance meetings consist of a full review of each in-flight investment, reasons for any delays or deviation to proposed completion and transfers to plant schedules and recommends necessary steps to bring the investments back into schedule or defer inactive work, when possible, to offset delays. However, should a security risk be increased by deferring a planned or unplanned investment into future years, the Enterprise Security Governance Team will recommend a Capital Planning Group (CPG) In-Year Change Request to surface the impending need. The Change Requests are presented at a monthly Technology Planning Group meeting to inform the Director members who are also members of the CPG where the request will be considered and weighed against other pending requests.
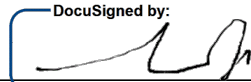
The Enterprise Security Governance Team consists of Avista's Enterprise Security Director, Cybersecurity Manager, Physical Security Manager, Security Delivery Manager, and the Project Management Office Manager. The sessions are facilitated by the Security Program Manager who manages the standing agenda.

Project Steering Committees: Additionally, each security investment is governed by a project steering committee that consists of the Enterprise Security Director, Cybersecurity Manager, and Security Delivery Manager, as well as ancillary management team members required for the successful implementation of the security solution. Steering committee meetings are facilitated by a Project Manager and held monthly to review scope, schedule, budget, and risks and issues surfaced from each in-flight project.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Identity and Access Governance business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature: _____ Date: Jun-12-2023 | 10:57 AM PDT

Print Name: Andy Leija
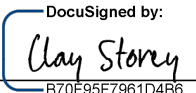

Title:	Security Delivery Manager
Role:	Business Case Owner

DocuSigned by:

Clay Storey

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Signature:	*Clay Storey*	Date:	Jun-12-2023	11:29 AM PDT
Print Name:	Clay Storey			
Title:	Director of Security			
Role:	Business Case Sponsor			

Signature:		Date:	
Print Name:			
Title:			
Role:	Steering/Advisory Committee Review		

Security Compliance

EXECUTIVE SUMMARY

Avista, as a regulated utility, is required to meet many different security compliance requirements. These security requirements evolve to address emerging threats across the utility industry. Physical and cyber security threats have increased over the past few years from Domestic Violence Extremists (DVEs) and nation states, such as China, respectively. Therefore, various federal agencies have called for utilities to invest in stronger security requirements in both physical and cyber protections.

Depending on the issued security compliance requirements, Avista will consider in and out of scope requirements and propose risk-based alternatives that meet the requirement and address the security risk. Investment costs can vary based on the scope of the compliance requirement. The costs have ranged from $100-$500K. Investments under this business case will fund new physical and cyber security improvements to achieve and maintain North American Electric Reliability Corporation Critical Infrastructure Protection (NERC CIP), Western Electricity Coordinating Council (WECC), Transportation Security Administration (TSA), Payment Card Industry (PCI), Federal Energy Regulatory Commission (FERC), Sarbanes-Oxley (SOX), and other emerging security compliance-driven requirements.

Being compliant with industry standards and government agency directives benefits customers by reducing the risk of electric and gas service interruptions associated with physical or cyber-attacks, as well as any assessed penalties associated with noncompliance. The cost of a physical or cyber-attack, can average $1.76M or $12.9M, respectively, while noncompliance penalties can average $40-60K per finding per day. The avoided indirect costs associated with either a physical or cyber-attack, or avoided penalties is a significant benefit to Avista and our customers.

While not being able to estimate the exact cost associated with a forthcoming or unissued compliance standard or directive, it is prudent and necessary to keep a business case available to capture costs associated with meeting new security compliance requirements as they become available. Once a new requirement is implemented, subsequent improvements to maintain compliance will fall under other security business cases. Not being compliant and accepting fines is not considered a viable alternative, as it puts Avista's cyber and physical security posture at risk and increases costs due to penalties. The recommended solution is to implement or enhance the systems or controls necessary to achieve compliance.

VERSION HISTORY

Version	Author	Description	Date
Draft	Andru Miller	Initial draft of original business case	6/29/2020
Updated	Andru Miller	Reduction of funds request in 2021	8/28/2020
Updated	Andru Miller	Changed focus from NERC to all industry compliance standards	6/30/2021
1	Andru Miller	Updated 5-year funding request	8/09/2022
2	Andy Leija	Updated 5-year funding request	5/12/2023

Security Compliance

BCRT	Jeff Smith	*Has been reviewed by BCRT and meets necessary requirements*	*5/30/2023*

GENERAL INFORMATION

YEAR	PLANNED SPEND AMOUNT ($)	PLANNED TRANSFER TO PLANT ($)
2024	$100,000	$100,000
2025	$100,000	$100,000
2026	$100,000	$100,000
2027	$100,000	$100,000
2028	$100,000	$100,000

Project Life Span	*5 years*
Requesting Organization/Department	C09 / Enterprise Security
**Business Case Owner	Sponsor**	Andy Leija	Clay Storey
Sponsor Organization/Department	Enterprise Technology
Phase	Planning
Category	Program
Driver	Mandatory & Compliance

Definitions for the Category and Driver can be found on the Business Case Review Team Team's site see link.

Investment Drivers

Business Case Justification Narrative   Template Version: February 2023

Page **2** of **10**
Exhibit No. 12
Case Nos. AVU-E-25-01/AVU-G-25-01
W. Manuel, Avista
Schedule 1, Page 343 of 351

Security Compliance

1. **BUSINESS PROBLEM -** *This section must provide the overall business case information conveying the benefit to the customer, what the project will do and current problem statement.*

1.1 What is the current or potential problem that is being addressed?

In the battle against cyber and physical threats, government agencies and industry regulators issue security requirements to gas and electric utilities to increase protections. These new requirements typically follow best practice improvements, or an incident that calls for stronger measures. In the case of industry regulators, such as NERC CIP, there is a formal process to either revise or introduce a new requirement, giving utilities time to assess the impact of the new guidance, including the cost and operational overhead associated with meeting it. However, in a more recent example, following the Colonial Pipeline incident, TSA issued security directives to pipeline owners and operators for immediate implementation as a matter of national security.[1] Therefore, compliance requirements can be issues proactively or reactively by regulatory agencies. For proactive requirements, Avista's NERC CIP Compliance team stays engaged with industry partners to prepare and plan for forthcoming requirements and their anticipated costs to implement. Reactive requirements are not as easily foreseen.

Regardless of what drives the new security compliance requirements, Avista is expected to comply. However, because there is little coordination among the various organizations that oversee the security of critical electric and gas infrastructure, security compliance requirements can at times have overlapping components. Therefore, Avista assesses all newly issued security compliance requirements before adopting them as a matter of prudency. Assessments include a review of the scope of the requirement, the potential cost associated with the available solutions, a peer check with industry partners on how they are approaching the new requirement, and by participating in Question-and-Answer sessions with those issuing the new requirements to get a better understanding and intent. So, while meeting these new standards is required, Avista must audit what existing compliance requirements are already in place before adopting new ones.

New security compliance requirements typically call for stronger protection postures to deny, deter, detect, or delay a physical or cyber threat, as well for resiliency measures to recover from an incident. The protection and resiliency measures can include investment in new security systems, redesigning or enhancement of existing systems, or process changes. After formal adoption, the new requirements are audited by the issuing agency for compliance or validated by a third-party organization, such as in the case of PCI and SOX. Through the audit process, Avista learns the expectations of the compliance issuing authority and will revise our approach to maintain compliance.

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[1] [Pipeline Cybersecurity: Protecting Critical Infrastructure | Transportation Security Administration (tsa.gov)](tsa.gov)

1.2 Discuss the major drivers of the business case.

Mandatory & Compliance is the primary driver for the Security Compliance business case to meet the new demands of the compliance issuing authority. However, once a new compliance requirement is implemented, subsequent improvements to maintain compliance would fall under other security business cases with a Performance & Capacity driver. Performance and capacity measurements are determined by Avista's ability to meet compliance requirements assessed regularly by Avista's compliance team and through regulator audits. The security of our electric and natural gas infrastructure is a significant priority at a national and regional level and is of critical importance to Avista customers across our service territory.

1.3 Identify why this work is needed now and what risks there are if not approved or if deferred or risks being mitigated by the request.

Meeting newly issued compliance standards for physical and cyber security are an absolute necessity and will be for the near future in response to emerging threats. Avista must maintain the Security Compliance business case funded at a modest level to respond to immediate and emerging requirements. For example, a recent TSA issued security directive, consisting of sixteen pages, and over forty new security compliance requirements called for immediate (within 7 days) and long term (within 180 days) action. The call for immediate action required that an active funding source be available to rapidly respond.

1.4 Discuss how the proposed investment, whether project or program, aligns with the strategic vision, goals, objectives, and mission statement of the organization. *See link.* **Avista Strategic Goals**

The Security Compliance business case provides funding for security-related projects to meet newly issued compliance requirements and aligns with Avista's strategic goal to "affordably operate and maintain, safe, clean, reliable generation and energy delivery infrastructure."

1.5 Supplemental Information – please describe and summarize the key findings from any relevant studies, analyses, documentation, photographic evidence, or other materials that explain the problem this business case will resolve.[2]

Physical and cyber security incidents continue to grow and impact critical infrastructure, such as electric and gas utilities. Evolving security measures are necessary to meet the

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[2] Please do not attach any requested items to the business case, be sure to have ready access to such information upon request.

Security Compliance

threat. Therefore, compliance issuing authorities, such as federal agencies or industry regulators, implore utilities to comply or face hefty fines, as non-compliance can be a matter of national security.

The Enron-Anderson Consulting Scandal introduced the Sarbanes-Oxley (SOX) Act in 2002, imposing severe penalties for destroying, altering, or fabricating financial records.[3] Annual SOX audits verify and validate Avista's internal controls, which include security requirements to manage system permissions. In 2010, the Stuxnet virus, which targeted Supervisory Control and Data Acquisition (SCADA) systems and Programmable Logic Controllers (PLCs) via an infected USB flash drive quickly resulted in updates to network security requirements under NERC CIP.[4] To meet the new requirements, Avista invested in new security systems and redesigned existing systems. Following the 2013 attack on the Metcalf transmission substation in California, NERC CIP introduced physical security requirements. This new requirement resulted in enhanced physical security measures at specific Avista facilities, as called for by the new requirement. More recently, the May 2021 Colonial Pipeline ransomware attack, which resulted in a shutdown of the gas pipeline for over a week, immediately resulted in TSA issuing security directives for selective pipeline owners and operators.[5] The directives

Additionally, in a recently released report, NERC calls for cyber-informed transmission planning in response to "the rapidly evolving threat landscape is characterized by increasingly sophisticated cyber-attacks…" Additionally, the report highlights the need for Security Integration, which is "to incorporate cyber and physical security aspects into conventional system planning, design, and operations engineering practices."[6] While this is currently only published in a NERC white paper, it is an example of what may become future security compliance requirements.

2. PROPOSAL AND RECOMMENDED SOLUTION - *Describe the proposed solution to the business problem identified above and why this is the best and/or least cost alternative (e.g., cost benefit analysis).*

2.1 Please summarize the proposed solution and how it helps to solve the business problem identified above.

The Security Compliance business case provides funding for cyber and physical security related projects and supports Avista's safe and reliable infrastructure strategy. The projects funded by this business case are driven by new security compliance requirements as issued by various compliance authorities. All future replacement efforts after the initial

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[3] [Enron scandal - Downfall and legislation | Britannica](#)
[4] [The Real Story of Stuxnet - IEEE Spectrum](#)
[5] [Pipeline Cybersecurity: Protecting Critical Infrastructure | Transportation Security Administration (tsa.gov)](#)
[6] [Cyber-Informed Transmission Planning Report, NERC, May 2023](#)

implementation to meet compliance will be funded under other security business cases. Depending on the issuing organization and the security vulnerability they are choosing to mitigate, all new security compliance requirements will need to be fully assessed before developing a solution to implement. Following the assessment, solutions will be surfaced on how best to mitigate the vulnerability and be compliant. Therefore, no solution can be proposed until a new security requirement is issued and assessed.

2.2 Describe and provide reference to CIRR/IRR analyses, relevant studies, documentation, metrics, data, analysis, risk reduction, or other information that was considered when preparing this business case (i.e., samples of savings, benefits or risk avoidance estimates; description of how benefits to customers are being measured; metrics such as comparison of cost ($) to benefit (value), or evidence of spend amount to anticipated return).[7]

Meeting newly issued compliance requirements is imperative and a benefit to our customers, as it allows Avista to deliver electric and gas service safely, securely, and reliably. The security compliance requirements are issued to protect critical infrastructure and customer data. Therefore, electing noncompliance increases the risk of a cyber or physical incident taking place, in addition to the hefty penalties from issuing authorities. Either of these options would provide no value to Avista or its customers, as rectifications would still need to be implemented to mitigate the incident, satisfy the audit findings, or reduce the penalties. As an example, and further discussed below, a physical or cyber-attack can average $1.76M or $12.9M, respectively, while noncompliance penalties can average $40-60K per finding per day. The modest annual investment to maintain a funding source focused on meeting new security compliance can avoid the risk of a physical or cyber-security incident, or noncompliance penalties.

2.3 Summarize in the table and describe below the DIRECT offsets[8] or savings (Capital and O&M) that result by undertaking this investment.

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	Not Applicable	$0	$0	$0	$0	$0
O&M	Not Applicable	$0	$0	$0	$0	$0

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[7] Please do not attach any requested items to the business case, be sure to have ready access to such information upon request.

[8] Direct offsets are defined as those hard cost savings Avista customers will gain due to the work under this business case. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other.

Security Compliance

There are no direct offsets associated with investment in meeting newly issued security compliance requirements. With the number of cybersecurity incidents growing in number and complexity and coordinated and egregious physical security incidents, there is no utility business that would not elect to meet newly issued compliance requirements. This is part of ongoing investment and the cost of doing business. The question is not whether to invest in compliance or not, but how much to invest to reduce the risk of evolving threats and fines associated with being noncompliant.

2.4 Summarize in the table and describe below the INDIRECT offsets[9] (Capital and O&M) that result by undertaking this investment.

Cyber Security Incident:

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	Security Solutions	$104,000	$104,000	$104,000	$104,000	$104,000
O&M	Data Breach Cost Estimates	$936,000	$936,000	$936,000	$936,000	$936,000

Physical Security Incident:

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	Equipment, Tools, Material replacement	$594,000	$594,000	$594,000	$594,000	$594,000
O&M	Damage repairs	$6,000	$6,000	$6,000	$6,000	$6,000

Cyber + Physical Security Incident:

Offsets	Offset Description	2024	2025	2026	2027	2028
Capital	Equipment, Tools, Material replacement	$698,000	$698,000	$698,000	$698,000	$698,000
O&M	Damage repairs	$942,000	$942,000	$942,000	$942,000	$942,000

With the assumption that if implementing newly issued security compliance requirements would reduce the likelihood of a cyber or physical security incident, the avoided indirect costs associated with a cyber ($12.9M) and physical ($1.76M) incident from happening would be approximately $698k in capital and $942k in operations and maintenance based when amortized over 5 years.[10] This assumption does not include fines or penalties associated with noncompliance, which can average $40-60K per finding per day.[11]

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[9] Indirect offsets are those items that do not directly reduce the current costs of the Company, but may serve to reduce future hirings, improve efficiencies, reduces risk (cost or outage), or allows current employees to focus on higher priority work.

[10] Using the data breach cost estimates from the Enterprise Security Solutions business case of $12.9M per incident and the average cost estimate for an attack on an electrical substation from the Generation, Substation and Gas Locations Security business case of $1.76M.

[11] Average cost of noncompliance penalties is based on previously assigned fees for NERC CIP audit findings, although they were mitigated through proposed controls, improvements, and enhancements.

2.5 Describe in detail the alternatives, including proposed cost for each alternative, which were considered, and why those alternatives did not provide the same benefit as the chosen solution. Include those additional risks to Avista that may occur if an alternative is selected.

Option	Capital Cost	Start	Complete
Alternative 1: Address new security compliance requirements as they become available (Recommended)	$500,000	01 2024	12 2028

Alternative 1: Since the projects within this business case are compliance driven, no alternative solutions are available. Being noncompliant is not an option.

2.6 Identify any metrics that can be used to monitor or demonstrate how the investment delivered on remedying the identified problem (i.e., how will success be measured).

Metrics to demonstrate the success of the investments under this program business case include meeting the new compliance requirement, averting fines, and keeping the installed system or equipment available and reliable to aid in deterring, detecting, and delaying a threat. Success is determined by compliance team verifications, as required by the new requirement, and by undergoing regulatory audits conducted by compliance issuing agencies.

2.7 Please provide the timeline of when this work is schedule to commence and complete, if known.

The Security Compliance business case is a program that consists of security projects per year that run concurrently, and at times over multiple years when security compliance requirements or directives are issued. They follow all phases of the project lifecycle, facilitated by a project manager, and governed by a steering committee to determine scope, schedule, and budget forecasts, including transfers-to-plant.

2.8 Please identify and describe the Steering Committee/governance team that are responsible for the initial and ongoing approval and oversight of the business case, and how such oversight will occur.

There are two levels of governance to the Security Compliance program business case and the investments within it. They consist of a business case governance team and project specific steering committees for in-flight projects.

Security Compliance

Business Case Governance Team: The Enterprise Security Governance Team provides monthly oversight of this program business case and makes recommendations based on forecasted inactive planned investments, the pace of in-flight investments, and any new unplanned activity that surfaces from an emerging security threat. The team also tracks business case risks and issues that can affect the portfolio of planned investments.
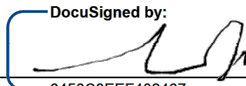
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The Enterprise Security Governance Team consists of Avista's Enterprise Security Director, Cybersecurity Manager, Physical Security Manager, Security Delivery Manager, and the Project Management Office Manager. The sessions are facilitated by the Security Program Manager who manages the standing agenda.

Project Steering Committees: Additionally, each security investment is governed by a project steering committee that consists of the Enterprise Security Director, Cybersecurity Manager, Physical Security Manager, and Security Delivery Manager, as well as ancillary management team members required for the successful implementation of the security enhancement at the respective location. Steering committee meetings are facilitated by a Project Manager and held monthly to review scope, schedule, budget, and risks and issues surfaced from each in-flight project.

3. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Security Compliance business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature: _DocuSigned by:_ _____ Date: Jun-12-2023 | 10:56 AM PDT

Print Name: Andy Leija
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Title: Security Delivery Manager

Role: Business Case Owner

Security Compliance

Signature: _Clay Storey_
DocuSigned by:
B70E95F7961D4B6...

Date: Jun-12-2023 | 11:29 AM PDT

Print Name: Clay Storey

Title: Security Director

Role: Business Case Sponsor

Signature: _____

Date: _____

Print Name: _____

Title: _____

Role: Steering/Advisory Committee Review