

Exh. JMK-2

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EXHIBIT: JMK-2

ADMIT W/D REJECT

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-20 _____

DOCKET NO. UG-20 _____

EXH. JMK-2

JAMES M. KENSOK

REPRESENTING AVISTA CORPORATION

Capital Additions Description for 2018 and 2019 IS/IT				
Project/Program Name	Expenditure Request Number	Description	2018	2019
Technology Refresh to Sustain Business Process	5005	Avista manages an ongoing program to systematically replace aging and obsolete technology under “refresh cycles” these refresh cycles are timed to optimize hardware/software system changes and industry trends. The business case program generally has over one hundred active projects each year. The scope spans technology solutions for back office, customer facing, energy operating and control systems. An example of the 2017 project scope is as follows: Oracle E-Business Suite, Enterprise Budget Tool Replacement, BizTalk Upgrade, Cognos Upgrade, Metropolitan Area Network Transport Backhaul Refresh, Spokane Field Area Network Refresh, MS Exchange 2013 Upgrade, SCCM Software Package Implementation, Virtual Server Upgrade, and Linux Operation System Upgrade. This technology investment is made at this time based on technology lifecycle planning and risk management. The decision to make this technology investment will lessen the use and maintenance of obsolete or custom technology and optimize integrations with other commercial off-the-shelf (COTS) investments. If we delay or cancel this technology investment, Avista risks various technologies that currently support automated business processes and operational efficiencies, to degrade and fall risk to technology obsolescence and security vulnerabilities due to loss of maintenance, support and patching.	\$ 8,687,848	\$ 3,713,767
Technology Expansion to Enable Business Process	5006	This program facilitates technology growth throughout Avista, including technology expansion for the entire workforce, business process automation and increased technology to support efficient business processes. For example, when trucks are added to the fleet, communication equipment needs to be added to the truck; as Avista hosts more customer data, disk storage needs to be expanded, as customers expand their use of the website, additional computing capacity is needed. This investment is made at this time to promote efficiencies through automated business technologies that allow Avista to gather, transmit, and analyze more information and guide sound business decisions. If we delay or cancel this technology investment, Avista risks a longer lag in business automation, which can result in longer wait times, manual business processes, and system-wide inefficiencies.	\$ 5,782,285	\$ 39,816

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Enterprise Business Continuity Plan	5010	Avista has developed and maintains an Enterprise Business Continuity Program to support Avista's emergency response, and to ensure the continuity of its critical business systems under crisis conditions. The framework includes the key areas of technology recovery, alternate facilities, and overall business processes. The effort of developing and continuously improving the program ensures the readiness of systems, procedures, processes, and people required to support our customers and our communities any time we are required to operate under critical emergency conditions. A Business Impact Assessment (BIA) typically drives the need for improvement projects, however some projects are funded based on quality issues with existing infrastructure following an annual exercise or actual event. Projects within this business case may also support regulatory requirements. The decision to make this technology investment now is based on the continued need for reliable emergency and business continuity systems to protect Avista's critical technology and ensure continued operations. If we delay or cancel this technology investment, Avista risks a potential complete shut-down of operations and communications in the event of an emergency.	\$ 257,515	\$0
Enterprise Security	5014, 5032	There are three primary drivers of the increasing costs for Enterprise Security: cyber security, physical security, and regulatory standards. Each plays a critical role in supporting our delivery of safe and reliable energy to our customers.	\$ 1,037,227	\$3,816,881
Endpoint Compute and Productivity Systems	5016	Endpoint Compute and Productivity Systems include end-user hardware and software assets that ensure access to and interface with all corporate applications required for employees and contractors to perform their jobs in a safe, reliable, and efficient manner. Hardware that falls under this business case includes: personal computers, virtualized app deployments, tablets, printing, scanning, monitors, touch, global positioning systems, cellular modems, scales, uninterruptable power supplies and peripherals used in all areas of the Company from corporate office users, customer service, overseas application development, remote office and mobile field workers.	\$ 1,033,833	\$ 10,919,526

**Capital Additions Description for 2018 and 2019
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Energy Delivery Modernization	5017	This business case supports the ability to refresh technologies that have been enabled to meet business requirements throughout the Energy Delivery business area including: Gas Engineering and Operations, Electric Engineering and Operations, Asset Management and Supply Chain, Facilities, Fleet Operations, and Metering. The major applications in the Energy Delivery Program portfolio include: Geospatial platform environment – ArcGIS solutions (Esri), Enterprise Asset Management System – Maximo Solutions (IBM); Time Series Operational Data – Plant Intelligence (PI) Solutions (OSIsoft); Mobile Workforce Management – Mobile Dispatch solutions (ABB); Fleet Asset and Work Order Management – FASuite solutions (Asset Works); Crew Planning and Scheduling – Crew Manager Solutions (Arcos); System Operations Outage Management – CROW (Equinox); Transmission Planning – PowerWorld solutions (PowerWorld); Metering solutions which include OpenWay, OpenWay Riva, MV90, Field Collection System (FCS), Fixed Network, and TWACS (two-way automatic communication system); Flight Tracker; and Global Mapper.	\$ 6,868	\$ 4,124,999
Energy Delivery Op Efficiency & Shared Services	5018	This business case supports the ability to expand business functionality through the use of technology throughout the Energy Delivery business area including: Gas Engineering and Operations, Electric Engineering and Operations, Asset Management and Supply Chain, Facilities, Fleet Operations, and Metering. The projects represented herein support the need to meet business requirements by enhancing existing functionality or adding brand new functionality for users across the Energy Delivery business area. Application expansion projects result from technology demand related to transformations in the utility industry and continual changes required to meet expanding customer needs, as well as the drive to achieve operational efficiencies. Recent trends in the area of mobility, scalability, and the move towards commercial off-the-shelf solutions that enhance and/or improve conventional business practices and processes also influence application expansion efforts. Key projects in this business case are: GIS Enhancements Packages 1 and 2; Maximo Enhancements Packages 1 and 2; Maximo Enhancements 2018 Package 3; CROW Enhancements, PI Enhancements Package 1; and Arcos Enhancements.	\$ 1,973,649	\$ 5,187,210

**Capital Additions Description for 2018 and 2019
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Project/Program Name	Expenditure Request Number	Description	2018	2019
Energy Resources Modernization & Op Efficiency	5019	This program supports the technology-related application projects required for both expansion and refresh activities required within the Energy Resources business area. This program is required to support the application-related technology initiatives for all areas of energy Resources – Power Supply, Gas Supply, and Generation Production and Substation Support (GPSS). The business program functions that require major application support include the following: Energy Risk Management and Energy Trading which includes Nucleus, Avista Decision Support System (ADSS), and Settlement Solutions; Gas Forecasting -- Nostradamus; Work Management – Maximo for GPSS; Generation Plant and Substation Operations – Wonderware, and CROW Outage Management; and Fuel Inventory Management – WeighWiz. Key projects in 2019 within this business case are: the Nucleus Enhancement Blanket, GPSS Mobile Solution – Generation, and Avista Decision Support System (ADSS) Package 2019.	\$ 509,680	\$ 895,569
Enterprise & Control Network Infrastructure	5020	The Enterprise and Control Network systems business case will represent projects that are driven by performance and capacity related issues on the following technologies: Network Switching; Network Routing; Network Load balancing; Network Optimization; Network communication links; Time Delay Multiplexed (TDM) systems; Virtual Private Network (VPN) systems; Microwave and other telecommunication systems; Global Positioning Systems (GPS); Time Synchronization; Network media converters; and applications used to monitor and manage systems. Key projects within this business case are: Gas Telemetry Modem Refresh, CDA – PIN OPGW Phase 2, Data Center Patch Panels Refresh, Klamath Falls Router Refresh, Roseburg Router Refresh, Moscow to Terra View OPGW, P2P Mw Refresh Mt. Spokane to Creston Butte, Wireless Access Point Enhancements, Post Street Network Improvements, Cisco AnyConnect Client Refresh, CMS Refresh – DCR/HAT/LOL/NLW, and Bennewah Fiber Appr and Network.	\$ 1,307,216	\$ 5,021,478

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Project/Program Name	Expenditure Request Number	Description	2018	2019
Enterprise Communication Systems	5022	This business case enables the Company to manage technology replacement, as well as to address asset growth driven by business need for enterprise communication systems such as: instant messaging systems, contact center automatic call distribution system, contact center scheduling and quality assurance systems, customer interactive voice response (IVR), voice recording, electronic mail and calendar, voicemail, telephone, teleconferencing, video conferencing, conference room technology, media walls, enhanced 911 emergency services, electronic fax, paging and application systems to manage enterprise communication technology. The enterprise and control network technology systems provide the data communication foundation for all automated business processes.	\$ 428,669	\$2,050,011
Enterprise Information Management & Analytics	5023	<p>The VISION is to unlock additional value from Avista's data assets through Enterprise Data Science. The EIM and Analytics adoption road map facilitates Avista migrating to a data driven paradigm, where information is managed as an asset. The following are key objectives:</p> <ul style="list-style-type: none"> • Close alignment of enterprise information management (EIM) strategy and business strategy; • Proactive information governance to facilitate data driven execution; • Develop processes to manage information as an integrated asset across the company; and, • The right set of integrated tools: There is a mechanism in place to enable the best choice of tools for analysis, decision making and underlying integrated data <p>The Enterprise Information Management and Analytics Program is to be implemented one use-case at a time, setting the foundation for the program with initial efforts that show strong business justification and value. This allows for the initial efforts to prove out the value of both the individual solution as well as the program as a whole. Funding of the program will be reviewed yearly. Subsequent funding is based upon the performance of the program in the previous year.</p>	\$1,829,613	\$ 100,902

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Project/Program Name	Expenditure Request Number	Description	2018	2019
Environmental Control & Monitoring Systems	5025	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. This business case represents projects that are driven by performance and capacity-related issues to the following assets in Telecom facilities: emergency generation systems; DC power supply plants; fire protection systems; HVAC systems; Remote Terminal Unit (RTU) technologies; microwave towers; UPS systems support; and applications systems used to monitor and manage the environment.	\$ 100,618	\$ 749,778
ET Modernization & Op Efficiency - Technology	5026	The Enterprise Technology (ET) Modernization and Operational Efficiency business case supports the technologies and processes necessary to support application implementation, application development, delivery automation, application operations, application support, and data delivery. The focus is on the tools and systems used by ET personnel to deliver solutions to the rest of the organization. These efforts can be divided into the following activities: IT Incident and Asset Management which includes the following applications: Tracker, Resource Library, and Change Management Solution; Non-production Environment and Data Management which includes Continuous Integration Workflows, Automation, Data Management, and Development Environments; ET Portfolio Management – Clarity; Application Lifecycle Management (ALM) Tools which include Microsoft Team Foundation Server (TFS), VersionOne and TaskTop, and Microsoft Visual Studio / MSDN; Shared Systems and Tooling which includes AppDynamics, BizTalk / API Management, Shared Project Licensing, and Databases. Key 2019 projects represented in this business case are: ET Content Management (ECM) Enhancements, Action Data Connect Upgrade v11, Enterprise Content Management: Taxonomy, Data and Analytics Platform – Foundations, Minor App Purchase & Licenses, Tracker and Resource Library Replacement (Phase 1), Clarity Application Upgrade 2019, and BizTalk Upgrade.	\$ 1,753,393	\$ 2,462,107

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Financial & Accounting Technology	5028	<p>This business case supports technologies for Finance and Accounting groups which include: Accounting, Tax, Finance Planning and Analysis, Treasury and Trust, Risk Management, and Internal Audit. The financial and accounting business processes are critical to the routine operations of Avista. Work within this business case addresses changing accounting standards and regulations that require frequent updates to the financial systems in order to support accurate and timely financial and accounting business processes, as well as the need to manage enhancements to meet internal and external business requirements.</p> <p>Major applications in the Financial & Accounting Technology business case are: Oracle Enterprise Business Suite; Power Plan; Impact Budget; Utilities International Planner; BancTec Systems; and a small number of commercial off-the-shelf and in-house developed applications to support various accounting requirements.</p>	\$ 1,195,280	\$ 3,446,598
Human Resources Technology	5029	<p>The Human Resources Technology business case supports the technology-related application projects required for both expansion and refresh activities required within the Human Resources business area. This program is required to support the application related technology initiatives for all areas of Human Resources including Human Resources Labor and Employee Relations, Leadership and Organizational Development, Human Resources Shared Services, Craft Training, Safety, and Internal Communications. The largest applications within the Human Resources business case portfolio are the Ultimate Product Suite and Skillsoft / SumTotal Learning Management System. Key projects for 2019 include Enterprise Health & Safety System, Enterprise Performance Management (Craft/Technical), Classroom Smart Boards, and Ultipro Expansion Module 2019.</p>	\$ 135,775	\$ 120,315

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Land Mobile Radio & Real Time Comm Systems	5030	This business case represents 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. Key 2019 projects for this business case are: Mobile RF Repeater Expansion, LMR Coverage Enhancements – Stensgar Mountain, LMR Coverage Enhancements – Idaho Mountain, Mobile Radio Refresh 2019, DMR Transition – Mobiles and Handhelds, and DMR Transition – Base Station Refresh 2019.	\$ 180,863	\$ 1,040,335
Legal & Compliance Technology	5031	This business case represents projects that will ensure constant management of enhancements to meet internal and external business requirements for the following business areas: Legal, Environmental Affairs, Real estate, Claims Management, Corporate Compliance, FERC Compliance, Reliability Compliance, and Ethics Compliance. The main applications are CATSWeb, Claims Management System, Valuation, Serengeti Law, StackVision, and a small number of commercial off-the-shelf and in-house developed applications to support various legal and compliance applications. Key projects within this business case for 2019 are: CATSWeb Enhancements and Avista Claims Management (ACM) System Replacement.	\$ 127,413	\$ 201,916
Facilities and Storage Location Security	5033	Physical security remains a concern at our facility & storage locations. These locations contain people, equipment, and material that are critical to support our day to day operations and, in turn, the delivery of safe and reliable gas and electricity. A physical security incident at any of these locations may harm people, damage equipment, or even restrict our ability to respond to our customers. Also, physical attacks can give intruders access to critical cyber equipment, which can lead to a cybersecurity event. This work funds the security protections that benefit Avista customers as the enhancements maintain and enhance Avista's security posture to minimize the risks associated with physical attacks at facility & storage locations within the Avista service territory. Not spending these funds can pose risks to the people and assets Avista depends on to conduct business and delivery safe and reliable energy.	\$ 0	\$ 1,009,634

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Facilities Driven Technology Improvements	5036	The Facilities Driven Technology Improvements business case dove-tails structure and improvement requests that require an infrastructure technology improvement. The technology solutions can range from network cabling to audio visual expansion to computer and phone improvements, etc. The cost of each solution can also vary depending on the type of improvement request. However, because not all improvements will have a technology requirement, such as asphalt replacement or addressing structural issues, this program has been funded at 10% of the Structures and Improvements business case budget allocation for any given year, based on historical trends. The technology improvements invested under this program, which integrate with the Facilities Structures and Improvements business case, benefit all customers across our service territory by investing in the technology solution while the facility is being improved, thereby bringing current outdated technology infrastructure or adding it to meet changing business demands.	\$ 0	\$ 82,544
Infrastructure Technology Failed Assets	5037	The Infrastructure Technology Failed Assets business case represents work that is driven by asset failures. Infrastructure technology assets experience failures due to manufacture defects, human error, natural disasters, malicious actors, or age/runtime of the equipment. These failures can or may occur within or after an asset's end of life. Depending on the asset, it may be more cost effective to replace versus repairing. As there are higher failure rates related to assets used for mobility, the most common hardware covered under this business case are laptops, tablets, and mobile phones.	\$ 1,695	\$ 786,634
Enterprise Data Science	5038	Enterprise Data Science is a program of opportunity. Our vision is that by democratizing data and analytics, across the enterprise, we thereby empower our people to use their expertise, ingenuity, and innovation to better serve our customers, communities and people. The program acts as a Center of Excellence to help migrate the company further towards managing data as an enterprise asset. The Data Science team delivers value thru the development of use-cases as jointly scoped and prioritized with each of the requesting business units. Aside from the business insights derived thru use-cases developed by this team, this program also supports change management of new analytics tools and skills development within the enterprise to promote self-service.	\$ 0	\$ 1,437,251

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Basic Workplace Technology Delivery	5039	<p>The Basic Workplace Technology 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. This requires a need to keep a small amount of inventory to meet business value timeframes.</p> <p>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.</p> <p>Therefore, regular review of inventory levels, historical trends, and planned requests help determine the overall performance and capacity standards under the established budget allocations. 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.</p>	\$ 0	\$ 241

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Project/Program Name	Expenditure Request Number	Description	2018	2019
Microwave Refresh	5121	Avista manages an ongoing program to systematically replace aging and obsolete technology under “refresh cycles”. These refresh cycles are timed to optimize hardware/software system changes. This project will replace aging microwave communications technology with current technology to provide for high speed and more reliable data communications. These communication systems support relay and protection schemes of the electrical transmission system. The decision to make this technology investment at this time will reduce Avista’s risk that failure of these critical communication systems will have a significant impact on Avista’s transmission capacity and ability to serve our customers electrical needs. If we delay or cancel this microwave refresh technology investment, Avista risks out-of-date communications technology that could result in a shut-down of critical communications and transmissions systems.	\$ 774,919	\$ 263,251
High Voltage Protection for Substations	5142	Telecommunication facilities, including Phone, Communication Switches, SCADA, and Metering & Monitoring systems, are commonly co-located inside Avista’s high voltage substations. This requires communications technicians to work in close association with our high-voltage electrical equipment. Avista has implemented new high-voltage protection and isolation standards that are designed to lower potential risks to our personnel and equipment. The decision to make this technology investment at this time will ensure implementation of the clearance changes required to meet the new standards and will result in a safer working environment for our crews who work in close proximity to high voltage electrical equipment. If we delay or cancel this high voltage protection upgrade investment, Avista crews, will be at a higher risk of injury or death.	\$ 163,122	\$ 291,477

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Project/Program Name	Expenditure Request Number	Description	2018	2019
Project Atlas	5147	Avista Facility Management (AFM) is the legacy custom-coded system that the Company uses to manage the location and current operating state of its critical electric and natural gas assets (e.g. pipes, poles and wires). Environmental Systems Research Institute (ESRI) GIS serves as the foundational data structure on which AFM applications are built or rely on. AFM is the system of record for spatial electric and natural gas facility data and provides the connectivity model to support the AFM applications. This program replaces legacy custom-coded systems with COTS technology common in the utility industry. Project examples include the replacement of the Electric and Gas Design tools, which are applications for the design of electric and natural gas facilities, as well as Electric and Gas Edit tools inherent in the system used for data edits prior to committing final data changes and additions. These tools also include a mobile version for in-the-field updates by field staff, resulting real time changes in the system, as well as meeting customer responsiveness expectations. For the reliability of system records and the efficiency reasons stated above, this technology investment is made at this time. If we delay or cancel this AFM technology investment, Avista risks not having up to date information on our natural gas and electric assets that could result in harm to our customers, crews, and business operations.	\$ 2,242,717	\$ 399,255

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Customer Facing Technology	5151	In an effort to keep pace with customer demands and quickly changing technologies, Avista intends to expand on the foundational technologies established during previous business cases, and offer more channels of choice including self-service options that meet customer needs and help reduce overall business cost. A primary example of a project funded under the Customer Facing Technology Program business case is the expansion of our outage mobile app to include payments, SMS messaging around payments and billing, and "pay by text" functionality. Expanding our mobile options can reduce call center volumes, resulting in reduced hold times and enhanced customer satisfaction. It can also increase adoption of electronic billing and payment transactions, which can lead to lower processing costs. Efforts like this are focused on providing tools for our customers that support general consumer preferences for mobile devices. The decision to make this technology investment now is based on industry practice and trends. If we delay or cancel this technology investment, Avista risks longer call center wait times, lower customer satisfaction and generally, less efficient and higher cost operations.	\$ 7,432,557	\$ 6,950,848
Payment Card Industry Compliance (PCI)	5152	Avista accepts credit cards over the phone, in person and through our website. We do this because credit cards are becoming the most common form of payment and our customer expect us to take credit cards. In addition it aligns with our Customer Engagement & Value Strategy which states "our relationships, programs, products and services are relevant and add value or convenience for our customers". When a company takes credit cards they are subject to the Payment Card Industry (PCI) standards. These standards specify controls that must be in place in order to meet the standards and be complaint. If a company does not achieve and maintain PCI compliance they are subject to fines and their ability to continue taking credit cards can be revoked.	\$ 0	\$ 617,112
CIP v5 Transition - Cyber Asset Electronic Access	5153	Avista, as a regulated utility, is required to meet North American Electric Reliability Corporation ("NERC") Critical Infrastructure Protection ("CIP") Reliability Standards ("Standards"). Specifically, Avista has been complying with CIP Version.3 Standards ("CIPv3") and needs to transition to CIP Version.5 Standards (CIPv5). This Business Case will support achieving compliance for Low Impact Bulk Electric System Cyber Systems by implementing electronic access controls.	\$ 0	\$ 1,016,355

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Project/Program Name	Expenditure Request Number	Description	2018	2019
Data Center Compute and Storage Systems	5155	This business case represents projects that are driven by performance and capacity of the following technologies: 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); and backup and recovery systems.	\$ 207,966	\$ 2,233,253
Digital Grid Network Expansion	5156	This business case represents work to expand network systems to support digital endpoints throughout the service territory in support of work that will be conducted within the Grid Modernization, Washington AMI, and Idaho AMI business cases.	\$ 2,470,662	\$ 531,567