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ADMIT ☑ W/D ☐ REJECT ☐

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-20_____

DOCKET NO. UG-20_____

EXH. HLR-10

HEATHER L. ROSENTRATER

REPRESENTING AVISTA CORPORATION

Capital Additions Description for 2018 and 2019
Electric

Project/Program Name	Expenditure Request Number	Description	2018	2019
New Revenue – Growth	1000, 1002, 1003, 1004, 1005, 1107, 1009, 1108	These investments include the costs for establishing a new service connection to a customer when requested. This work can be as simple as setting a new area light or running a new secondary service from an existing transformer, to a more involved instance of extending a primary distribution line to the customer, setting the transformer, running the service line, and setting the new meter. System reinforcements that are required to serve a solitary or small group of customers generally involve substation and feeder upgrades that are required to meet new capacity requirements. Because Avista is obligated to provide electric service or service enhancements when requested. Thus, we allocate the needed capital to this program based on the number of requests we expect to receive each year, and not through a competitive prioritization process. For this period, Avista expects to connect on average about 6,000 new electric customers each year. Avista is required by its service tariffs to make the investments necessary to connect customers when requested.	$ 39,337,493	$ 38,168,322
Distribution Grid Modernization	2470, 2599	In order to properly select the most appropriate feeders for rebuilding, Grid Modernization uses inventory information from the Wood Pole Management Program and our Avista Facilities Management System to assess the potential energy efficiency savings, avoided customer outages, and avoided expenses for failure of equipment. This feeder criteria information is used to rank the potential benefits for each compared with all of the other feeders on our system. The top ranked feeders are then balanced among Company operating districts, jurisdictions, and urban vs. rural service. In the process of evaluating feeders for potential rebuilding, our engineers evaluate reliability results for each feeder, study the actual loadings on each phase of the feeder under a range of seasonal conditions and model the average and peak loadings expected after the phase loads are balanced. They also model the capacity of the overhead conductors, by segments on the trunk and laterals, to identify any limitations, as well as potential for energy savings. By integrating all of this information, along with the full range of asset age and condition data, our engineers recommend a comprehensive set of treatments that could be applied and identify the cumulative potential benefits. This program represents a comprehensive approach to infrastructure management, based on extensive data and	$ 14,788,544	$ 10,112,822

Capital Additions Description for 2018 and 2019 Electric				
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		engineering-driven analysis and evaluation. It serves as a platform to better integrate a portion of the capital investments we make each year in our electric distribution system. Through grid modernization, we know we are targeting work on the right infrastructure at the right time, and in a priority that allows us to maximize the customer value of every investment made under the program. The failure to fund this program at the planned level for this period will push even more work into Wood Pole Management Program and reduce the value of both programs.		
Distribution Wood Pole Management	2060	Avista has approximately 340 electric feeders with a total circuit length of approximately 7,700 miles. This system is composed mainly of overhead electric conductors and associated equipment that is supported by approximately 240,000 wood poles and attached equipment that includes crossarms, transformers, cutouts, insulators and pins, wildlife guards, lightning arresters, guy lines, and pole grounding. Poles, equipment, and conductors comprise over 70% of the Company's electric distribution infrastructure. In managing these assets, it is the Company's goal to repair or replace aging poles and equipment before they actually fail, but late enough in their expected life span to capture the full value of the initial investment and any follow-up investments. The practical way to accomplish this is to systematically inspect each pole in the system on a regular cycle and make the investments needed to replace failed poles or to extend the life of weakened poles so they don't fail before the next inspection. Generally, more frequent inspections (shorter cycle time) reduce the likelihood that poles and associated components will fail sometime during the interval between inspections, but they also cost more because the annual number of poles inspected is greater than with a longer cycle interval. The optimum interval time can be mathematically determined based on the characteristics of the wood pole population, associated operating expenses, and likelihood and cost of customer service outages resulting from poles that fail between inspections. The Company's evaluation of the cycle interval in 2009 pointed to a 20-year cycle as preferable to both a shorter 10-year interval and a much longer interval. In each 20-year cycle, all of the wood poles in our system will have been visually inspected and repaired, reinforced (stubbed), or replaced as needed. The program has been	$ 10,999,184	$ 10,373,071

Capital Additions Description for 2018 and 2019 Electric				
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		modified to more fully utilize the crews performing inspections, by replacing pre-1960's transformers, identifying inefficiently sized transformers, installing grounds or guy wires where needed, and ensuring equipment meets current safety standards. In 2012, Avista initiated the Grid modernization Program, which is dovetailed with the Wood Pole Management Program, to make further-optimized use of crews and materials supporting wood pole management. The failure to fund this program at the planned levels for this period will result in more risk of customer outages, and higher expenses and capital costs due to unplanned maintenance and repair.		
Distribution Transformer Change-Out Program	2535	Between 1929 and 1981, a family of synthetic organic compounds, known as Polychlorinated Biphenyls (PCBs), were commonly used in the oil that fills electrical transformers due to their high dielectric strength and resistance to fire. Studies conducted in the 1960s and 70s revealed, however, that these compounds are also toxic, carcinogenic, and highly resistant to biodegradation in the environment. Their production was banned in the United States in 1979. As a result of this elevated concern, Avista began to formally analyze alternatives to deal with its distribution transformers containing PCBs. Under the current plan, all transformers with PCB concentrations exceeding 1 ppm should be removed from our system by year 2019. In year 2020 and beyond, the remainder of the pre-1981 transformers in our system will be targeted for removal as part of the wood pole management and grid modernization programs.	$ 2,064,151	$ 995,659
Downtown Network	2058, 2062, 2063	The Downtown Campus project includes several related sub-projects discussed below. In the first phase of this plan, in 2015 Avista purchased an existing office building with 22,000 square feet of space situated on a 2.3 acre parcel in Spokane. The office space was renovated in a second phase in 2016. Several employee project teams were relocated to this space, freeing up needed office space in our central office facilities. In considering an alternative to purchasing and renovating this property, the Company evaluated the cost of leasing office space and approximately 100 parking spaces, but determined that the lifetime cost of purchasing and renovating this facility, including the ability to expand operations at this site, was less than the long term expense associated with leasing. The third and final phase of this project, was completed in late 2017, included the construction of an operations center for the Company's electric network	$ 3,082,688	$ 2,195,632

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		staff, craft workers, vehicles, equipment and materials storage. This project will consolidate the downtown crews and equipment onto one integrated site, improving safety, efficiency and our response to network reliability issues.		
Primary URD Cable Replacement	2054	Underground residential district cable (underground cable or URD) has been used by the utility industry since the 1930s., Avista did not begin installing the cable until the late 1960's. During the 1990s, it became apparent that the cable manufactured from the 1960s into the 1980s had numerous problems. These included the lack of adequate insulation resulting in numerous faults, the process of splicing the cable caused weaknesses and premature failure, and excessive corrosion on the neutral strands caused voltage levels to drop unexpectedly or the cable to entirely fail. In 2009, Avista's Asset Management group analyzed options for accelerating the replacement schedule from 10 years to a four-year program. The analysis, which was based on savings from avoiding unplanned outages, estimated that the four-year program would save customers approximately $7.3 million in capital installation, expenses, and failure consequences. With the majority of the known vintage cable replaced by 2013, the program was ramped down to an annual investment of approximately one million dollars, which provides for the removal and replacement of this vintage cable as we find it on the system (usually through responding to an underground fault). Failure to fund this program at the planned levels for this period will result in more customer outages, and higher expenses and capital costs due to unplanned maintenance and repair.	$ 637,472	$ 813,805

Capital Additions Description for 2018 and 2019 Electric				
Project/Program Name	**Expenditure Request Number**	**Description**	**2018**	**2019**
Distribution Minor Rebuild	2055	A major portion of the investments made under this program are driven by faults or damage to our system that result in service outages for our customers. The vast majority of the outages our customers experience each year occur on our overhead distribution system. In 2016, there were 7,083 outages on the distribution grid, compared to only 53 related to substations and 61 associated with transmission lines. The majority of these outages are related to weather (e.g. lightning, wind, rain, and snow), downed trees, animals (e.g. squirrels and birds), and equipment failure. In addition to replacing assets that have failed, Avista's operations staff performs a wide range of limited capital infrastructure work that does not rise to the level of a project or program. This work includes the need to reconfigure, replace, repair, or upgrade distribution facilities that arise for a variety of reasons. The Company must promptly replace failed infrastructure in order to ensure the continuity of service to our customers, Avista allocates funding to this program based on the evaluation of historical trends, and not through a competitive prioritization process. If Avista did not make the required investments under this program, we would be unable to repair and / or replace infrastructure that is damaged or fails, and would therefore fail to provide service continuity to our customers.	$ 9,272,548	$ 11,868,906
Meter Minor Blanket	2073	The Company has over 370,000 electric meters in service for measuring the kWh usage for our residential, commercial and industrial customers. Each year, in response to our customers' requests for a meter check, the Company's detection of billing anomalies, or the identification of failing meters through our annual meter testing program, Avista must promptly replace or repair failed meters to ensure our customers are accurately billed. The investments for meter replacements and repairs are included under this failed plant program.	$ 257,742	$ 198,169

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Project/Program Name	**Expenditure Request Number**	**Description**	**2018**	**2019**
Electric Replacement/Relocation	2056, 2061	Each year Avista is required to respond to the projects of municipalities, counties and state-level agencies to rebuild or realign roads, streets and highways. When these projects impact our distribution facilities located in public rights-of-way, the Company is required to remove and rebuild them in the clear zone of the new roadway, or to place them on a new purchased private easement. This work must be performed at the Company's expense, and while Avista may have some latitude to negotiate the timing of the construction, it has no choice with regard to removing and relocating its infrastructure and paying all of the associated costs. If Avista failed to make these investments we would be in violation of our operating franchises, municipal codes, state laws and regulations, and would be subject to litigation and financial and other penalties.	$ 1,573,451	$ 1,693,571
LED Change Out Program	2584	LED lighting technology emerged as viable alternative to conventional and fluorescent lighting around 2009, and by year 2012 over 14 million units had been installed in the U.S. alone. It is estimated that LEDs will save U.S. consumers and businesses $20 million per year within a decade, and reduce U.S. CO2 emissions by up to 100 million metric tons per year. LED bulbs cut electricity use by 85% compared with incandescent bulbs, and 40% compared with fluorescent lighting. Avista operates approximately 35,000 street lights we have installed for many of our communities and other jurisdictions across our service territory as well as area lights requested and paid for by individual customers. In 2013, in recognition of the superior safety performance of LED lighting, the energy savings potential, Avista evaluated the benefit of converting all our Schedule 042 street lights from High Pressure Sodium (HPS) to LED fixtures. Also, the State of Washington has established a statewide grant program, which is administered for the state by Avista, which provides small communities an offset to their street lighting costs when their systems are converted to LED lighting. If Avista did not invest in the LED lighting program, we would delay the safety and security benefits to customers, as well as the savings for energy efficiency and reduced operating expenses achieved by the program.	$ 1,367,942	$ 676,578

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Segment Reconductor and FDR Tie Program	2217, 2276, 2414, 2514, 2515, 2516	The annual investments made under this program represent 7.1% of our planned distribution investments, and remedy the overloading of electric equipment and cable, as well as the conductor sag that results from overheating of the overhead wire. These instances of system overloading result from load growth and shifts in load demand that occur over time on the distribution system. Resolving these overloading issues involves a combination of two strategies known as "load shifting" and "segment reconductoring." The strategy of load shifting extends existing lines on one feeder to an adjacent feeder that has the available capacity to carry the additional transferred load. Reconductoring involves the removal of the wire or conductor that is too small in diameter for the current loading and replacing it with larger conductor that can easily carry the load. Avista considers a range of options that not only meet the current need to relieve the overloading, but that also provide for the optimization of the overall distribution system.	$ 3,685,446	$ 4,853,883
Substation – Station Rebuilds	2112, 2204, 2215, 2278, 2283, 2538, 2569, 2572	This program replaces and/or rebuilds existing substations as they reach the end of their useful lives or where installed equipment that fails or is being replaced for capacity needs cannot be accommodated within the physical constraints of the small, older stations. Included are wood substation rebuilds as well as upgrading stations to current design and construction standards. The failure to timely replace and rebuild end of life equipment in these substations will expose the Company to the risk of more frequent and long duration outages that have a significant impact on our customers. Examples of substation rebuilds to be completed under this program in the next five years are Kamiah (wood substation), Ford (end of service life), 9th & Central, Priest River and Colville.	$ 14,302,194	$ 16,943,463

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Transmission Minor Rebuild	2057, 2254	This project covers transmission structure (ER 2057) and air switch (ER 2254) replacements based upon the results of the Company's annual Wood Pole and Aerial Patrol inspection programs, and field operations. Both the Wood Pole and Aerial Patrol inspection programs are undertaken to maintain compliance with NERC Standard FAC-501-WECC-1. Failing to make the necessary replacements identified by the Company's inspection programs increases the risk of transmission system outages and the potential to ignite fires in dry areas. Air switch replacements are made based either on condition, capacity, or functionality issues. Prioritization of installations and replacements are made from information provided by System Operations, Substation Engineering or the Company's regional operations centers. Failing to make the necessary replacements identified by the Company's inspection programs risks placing Avista in violation of NERC standards, and will increase the risk of transmission system outages and the potential to ignite fires in dry areas.	$ 586,929	$3,971,001
Transmission Major Rebuild	2550, 2564, 2577, 2423, 2607	Projects in this program rebuild existing transmission lines based on overall asset condition (at the end of their useful life). The failure to timely replace aging transmission infrastructure on planned basis will subject our customers to the increased risk of service outages and increased restoration costs as we become less able to continue providing our current level of reliability. In addition to customer outages, the added risk of failure also impacts the economic dispatch of our Company's generation resources and increases the risk of fire in dry areas. Finally, the failure to properly invest builds a "bow-wave" of needed investments to the future, which makes it more difficult to fund these projects in addition to our already-planned priority infrastructure needs. Projects include: ER 2550 – Burke-Thompson A&B 115kV Transmission Line rebuild; ER 2577 – Benewah-Moscow 230kV Transmission Line structure replacement; ER 2597 – Cabinet-Noxon 230kV Transmission Line rebuild; and ER 2596 – Lolo-Oxbow 230kV Transmission Line rebuild.	$ 7,760,683	$314,005

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Rattlesnake Flat Wind Farm Project 115kV Integration Project	2604, 2618	The Interconnection Customer representing the Rattlesnake Flat Wind Farm Development (Avista Interconnection Project #49) has proposed construction of a new 144MW nameplate capacity wind generation facility, and has chosen an interconnection to Avista's Lind-Washtucna 115kV Transmission Line at a point approximately 4.5 miles southeast of Avista's Lind Substation. The Point of Interconnection (POI) will be the new 3-position ring bus Neilson Substation with a line position dedicated to the Interconnection Customer. The Interconnection Customer chose the POI from a number of options developed by Avista's Transmission Planning Group during the FERC-mandated interconnection study process. Per the FERC process, the Interconnection Customer and Avista have signed an Interconnection Agreement that include required milestones for completion of this project.		$ 9,467,516
South Region Transmission Voltage Control	2580	There is an ongoing issue with high voltage on the 230 kV transmission system in the Lewiston/Clarkston area. The high voltage problem is persistent most months of the year (the exception is heavy summer loading months) and the high voltage peaks during the overnight hours. This high voltage condition is a result of the expansion of Avista's 230 kV transmission network. Although there are many benefits to a large networked transmission system, one negative outcome is that long, lightly loaded transmission lines produce large amounts of line charging current (leading reactive MVAR), which increases system voltage. Currently, there is no practical way to correct this high voltage issue with the existing 230 kV transmission system beyond taking lines out of service.		$ 7,802,071

Capital Additions Description for 2018 and 2019 Electric				
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Protection System Upgrades for PRC-002	2608	NERC reliability standard PRC-002-2 defines the disturbance monitoring and reporting requirements to have adequate data available to facilitate analysis of Bulk Electric System (BES) Disturbances. The methodology of the NERC standard was performed to identify the affected buses within the Avista BES. The Protection Systems must be capable of recording electrical quantities for each BES Elements it owns connected to the BES buses identified. The present Protection Systems that need to be replaced are either electromechanical or first generation relays not capable of meeting the NERC PRC-002-2 standard requirements of fault recording. The scope of the project is to upgrade the existing Protection Systems on various 230 kV and 115kV terminals to Fault Recording (FR) capability per PRC- 002 requirements at Beacon, Boulder, Rathdrum, Cabinet Gorge, North Lewiston, Lola, Pine Creek, Shawnee, and Westside. Implementation is a phased approach with 50% complaint within 4 years and fully compliant within 6 years of the effective date 7/1/16. The total number of affected terminals is 49. Non-compliance can carry a fine of up to a million dollars per day based on severity. This business case is important to customers because it allows analysis of system faults for the BES that can lead to continued stability and reliability of the electric system.		$ 1,165,241
Electric Storms	2051, 2059	This ongoing program provides for the timely restoration of the Company's transmission, substation and distribution facilities into serviceable condition during or following major weather-related or other natural events including high winds, heavy ice and snow loads, lightning storms, flooding and wildfires.	$ 3,190,440	$ 6,237,565
Colstrip Transmission	2214	As a joint owner of the Colstrip Transmission System, Avista is obligated to pays its commensurate ownership share of all capital improvements. NorthWestern Energy, the designated Transmission Operator of the Colstrip Transmission System under the Colstrip Transmission Agreement, implements the capital program for purposes of maintaining reliable operation and complying with applicable reliability standards for the jointly owned facilities. Avista's failure to pay its share of these investments would place us in violation of the ownership agreement and subject us to the legal recourse provided	$ 120,892	$ 357,673

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		for in the agreement. The Company determined after the Rate Period Studies were completed for this case, that there are amounts that will be transferred to plant in 2020 for this project. The Company will update these transfer to plant amounts during this case.		
Garden Springs 230/115kV Substation	2539	Due to a lack of redundancy and capacity with the existing system, the west Spokane area is unable to meet the applicable NERC transmission planning standards. The project consists of a new 230kV point of interconnection with BPA at a new station to be constructed on the Coulee-Westside 230kV Line and the Garden Springs 230/115kV Substation. The project will mitigate the identified system deficiencies and provide additional transformation capacity in the area. If this project, or a less-than-optimum alternative project that allows us to meet the standard, is not constructed in the timeframe planned, then the Company will be in violation of NERC transmission planning standards and will be subject to the associated penalties. In addition to violating the planning standard, Avista will also risk having to shed load (instantaneous disconnecting of customers from the system) to maintain compliance with NERC transmission operating standards in the long-range planning horizon. The Company's Engineering Roundtable evaluation and prioritization process has deferred the implementation of the 230kV portion of this project, pending completion of the Westside 230/115kV Substation rebuild project, in an effort to balance our overall investment demands, and is considering other possible alternatives to avoid any NERC transmission planning standard violations.	$ 0	$ 292,596
Noxon 230kV Substation	2532	Today, Avista's Noxon Rapids 230kV Switching Station is subject to a potential fault current of approximately 14,000 amps, which exceeds the 12,500 amp capability of six 230kV circuit breakers in the station. This potential is not only an immediate safety issue, but it also exposes the Company to a violation of NERC standards. Additionally, the existing station is at the end of its useful life based on age and condition of the equipment in the station. The existing bus has suffered a number of failures and is now configured as a single bus with a bus tie breaker separating the East and West buses. The station is the point of integration for the Noxon Rapids Hydroelectric development as well as a principle point of interconnection between Avista and BPA, providing a key point of integration for the Western Montana Hydro Complex and the Company's interconnection with	$ (592,370)	$2,576,358

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		NorthWestern Energy in Montana. The current bus configuration requires Avista to curtail its own hydro generation for unplanned outages of substation equipment to complete work in the station. The reconstructed Noxon Rapids 230kV Switching Station will have a double-breaker double-bus configuration to facilitate required maintenance activities without impacting local generation levels or transfer loads to or from Montana. The Company's Engineering Roundtable process has resulted in the deferral of the broader station rebuild project and the immediate replacement of the over-dutied circuit breakers. This potential is not only an immediate safety issue, but our failure to make the investments needed to meet this remedy this issue will result in the Company having to curtail its own hydroelectric generation and further exposes the Company to a violation of mandatory NERC planning standards.		
Transmission – NERC Low Priority Mitigation	2579	This program was initiated in response to NERC's October 7, 2010 NERC Alert Recommendation to the Industry, titled "Consideration of Actual Field Conditions in Determination of Facility Ratings." It addresses mitigation required on Avista's "Medium Risk" 230kV and 115kV transmission lines, and brings these lines into compliance with National Electric Safety Code (NESC) minimum clearance values. These safety code requirements have been adopted into the State of Washington's Administrative Code (WAC 296-46B-010). This program reconfigures insulator attachments, rebuilds existing transmission line structures, or removes earth from beneath transmission lines to mitigate ratings/sag discrepancies found between facility designs and actual field conditions. If the Company were to fail to make these investments we would fail to meet the NERC-required facility ratings for the safe and reliable operation of these lines.	$ 774,519	$ 744,660

Capital Additions Description for 2018 and 2019 Electric				
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Transmission – NERC Medium Priority Mitigation	2581	This program was initiated in response to NERC's October 7, 2010 NERC Alert Recommendation to the Industry, titled "Consideration of Actual Field Conditions in Determination of Facility Ratings." It addresses mitigation required on Avista's "Medium Risk" 230kV and 115kV transmission lines, and brings these lines into compliance with National Electric Safety Code (NESC) minimum clearance values. These safety code requirements have been adopted into the State of Washington's Administrative Code (WAC 296-46B-010). This program reconfigures insulator attachments, rebuilds existing transmission line structures, or removes earth from beneath transmission lines to mitigate ratings/sag discrepancies found between facility designs and actual field conditions. If the Company were to fail to make these investments we would fail to meet the NERC-required facility ratings for the safe and reliable operation of these lines.	$ (155,480)	$0
Transmission Construction – Compliance	2310, 2556, 2557, 2576	This program reconductors and rebuilds existing transmission lines to maintain compliance with NERC transmission planning standards. Investments mitigate NERC transmission planning standard (TPL-001-4) deficiencies that have already been identified for both our current system and for the Near Term transmission planning horizon (1-5 years). Failure to make these planned investments will result in our failure to comply with mandatory NERC standards. Projects include: ER 2557 – 9th & Central-Sunset 115kV Transmission Line reconductor and rebuild; ER 2576 – Addy-Devils Gap 115kV Transmission Line reconductor and rebuild; ER 2457 – Benton-Othello 115kV Transmission Line reconductor and rebuild; ER 2556 – CDA-Pine Creek 115kV Transmission Line reconductor and rebuild; ER 2564 – Devils Gap-Lind 115kV Transmission Line reconductor and rebuild; and ER 2310 West Plains transmission reinforcement. Required construction on ER 2578, the Hatwai-Lolo #2 230kV Transmission Line has been deferred by the Company's Engineering Roundtable to accommodate the other priority investment demands.	$ 10,845,387	$ 5,883,218

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Tribal Permits and Settlements	2301	The Company currently owns and operates approximately 82 miles of transmission facilities and a significantly greater amount of distribution facilities on Tribal lands. The failure to complete this work and to attain proper permitting or easement rights on Tribal lands would require the Company to relocate its facilities. This would be cost-prohibitive for its transmission facilities and not viable for distribution facilities considering the Company's obligation to serve its retail customers. Current renewals are being negotiated for terms of from 30 to 50 years. Renewal costs include labor, appraisals, field work, legal review, GIS information, negotiations, survey (as needed), and applicable fees for easements and permits.	$ 87,307	$1,251,484
SCADA – Install/Replace	2277	In order to provide the Company's System Operations group with the necessary Supervisory Control and Data Acquisition (SCADA) capability for reliable system operation, this project will complete the installations of SCADA and EMS/DMS (Energy Management System/Distribution Management System) capability to all Avista substations. This capability will provide full visibility of system conditions and operations, system status indication, and operator control at each substation. The communication infrastructure for SCADA will enable the installation of automation on applicable distribution feeders. Furthermore, SCADA capability to each substation will provide real time and historical system performance data to the Transmission System Planning, Asset Management, Operations and Engineering groups to enable efficient, flexible and safe design and operation the Company's transmission and distribution systems in the future. The failure to make these investments in the timeframe planned will result in the Company losing information connectivity with its transmission system and risk being in violation of NERC transmission planning standards, and subject to financial and other penalties.	$ 528,722	$ 508,435
Substation – Capital Spares	1006,2000	This program maintains our fleet of power transformers and high voltage circuit breakers, which have very long procurement lead times. Consequently, a sufficient inventory level needs to be maintained to ensure the Company has required equipment for construction projects and can quickly replace failed critical equipment. This critical equipment is capitalized upon receipt and placed in service for both planned and emergency installations as required. Annual program expenditures may vary significantly in years when a 230/115kV autotransformer is purchased.	$ 3,554,960	$ 830,327

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Project/Program Name	**Expenditure Request Number**	**Description**	**2018**	**2019**
Substation – New Distribution Stations	2252, 2274, 2275, 2294, 2336, 2443, 2481, 2492, 2561, 2587	This program adds new distribution substations to the system in order to serve new and growing load as well as to provide increased system reliability and operational flexibility. New substations under this program require planning and operational studies, justifications, and approved project diagrams prior to funding. Planned new projects include substation sites in downtown Spokane, the Spokane west plains area, north Spokane and the Pullman/Moscow state line area. The failure to complete these projects in this planning horizon will result in equipment overloading and reliability issues, which are impossible to quickly rectify once they occur.	$ 636,661	$ 3,768,440
Harrington Conversion to 13kV	2289	Harrington is the last area Avista serves at the legacy 4 kV voltage, This voltage is obsolete for serving utility distribution system sand we have very limited spare equipment to continue service at this voltage. The substation is very old and the transformer will be difficult and time consuming to replace if it fails. We do not have4 kV on our mobile substations, so all the customers served by Harrington feeders will be out of service until the transformer is replaced.	$ 143,563	$ (10,497)
Westside 230/115kV Substation Rebuild Phase I	2531	This project is necessary to mitigate our current noncompliance with mandatory NERC transmission planning standards during heavy summer loading conditions. Failure to make these planned investments will result in our failure to comply with mandatory NERC standards. We will continue to overload the Westside #1 230/115kV transformer during Phase I of this project, which overloading will extend to the existing Westside Substation 115kV and 230kV buses, to allow for installation of a new 250MVA 230/115kV Autotransformer. The additional transformation capacity is necessary to eliminate transformer overload contingencies in the Spokane area. This project has two additional planned phases to complete the entire rebuild of the station. The Company's Engineering Roundtable has deferred the Garden Springs 230/115kV Substation integration due to the timing of the planned completion of this project.	$ 9,559,989	$ 650,861

Capital Additions Description for 2018 and 2019 Electric				
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Saddle Mountain Substation and Wind Project Integration	2605	This project is the result of a joint regional transmission planning study team under ColumbiaGrid and resolves a number of NERC transmission planning standard violations in the Grant County PUD transmission system that are exacerbated by the Company's load in the Othello area. Apart from the Grant County PUD system, the Company's Othello area load is supported by only a single 115kV transmission line connection to the Bonneville Power Administration. If Avista does not complete this project in the timeframe planned, then the Company will be subject to possible litigation before the FERC for failing to timely complete a project that has been specified by the sub-regional transmission planning process under the Company's Open Access Transmission Tariff (OATT). The 230kV portion of the Saddle Mountain 230/115kV Substation is also required to integrate a proposed 126MW wind generation project in the Othello area.	$ 2,554,495	$ 8,943,952
Ninth & Central Substation - New 230kV Yard	2615	The Spokane area transmission system is dependent on the Beacon Station. The Beacon Station is networked to the Bell Station and has eight 115 kV transmission lines to serve load in the area. The Ninth & Central 230 kV Station Integration project includes the construction of new 230 kV infrastructure at the existing Ninth & Central Station to reduce the dependence on Beacon Station. The project will mitigate several TPL-001-4 performance criteria violations in the Spokane area. The worst performance criteria violation mitigated is the P2 event of the Beacon A600 bus tie breaker failure. P6 events include the loss of 230/115 kV transformation cause overloads on the Beacon 230/115 kV transformers. The proposed project adds additional transformation capacity to the system and mitigates P1 violations of the Beacon 230/115 kV transformer overloads identified in the Long Term horizon. System performance analysis indicates an inability of the System to meet the performance requirements in Table 1 of NERC TPL-001-4 in scenarios representing 2017 Heavy Scenarios for P2, and P6 contingencies and future P1 contingencies. This business case is important to customers because its completion likely allows customers to continue to receive electrical service with the reliability that they have grown accustomed to receiving.	$	$ 273,542

Capital Additions Description for 2018 and 2019 Electric				
Project/Program Name	**Expenditure Request Number**	**Description**	**2018**	**2019**
Lind Solar Project Interconnection	2609	Avista is required through the WA Interconnection service Tariff to conduct engineering studies and identify any facilities required for interconnection of the proposed generating facility. The interconnection study process concludes with a Small Generator Interconnection Agreement between Avista and generator developer. Prior to the Lind Solar interconnection request Avista issued a Request For Proposals (RFP) on March 20, 2017, for a solar resource to be located within Avista's service territory. Lind Solar was the winning bidder of Avista's RFP. The facilities requiring upgrade for interconnection of Lind Solar are identified in the System Impact Study conducted by Avista's engineering group. The Interconnection Facilities Study details the design, cost estimate, construction timeline, and cost allocation of the identified facilities.	$ 1,335,341	$ 16,907

Capital Additions Description for 2018 and 2019 General Plant and Other Plant				
Project/Program Name	**Expenditure Request Number**	**Description**	**2018**	**2019**
Fleet Capital Replacement Program	7000	Avista's replacement of its service vehicles and heavy equipment is based on the analysis of total life cycle costs, optimized to achieve the lowest total cost of ownership. To perform this analysis, the Company relies on the "Vehicle Replacement Model" provided by Utilimarc. The model uses benchmarking information, purchase and auction sales data, combined with a range of nationwide vehicle statistics, to produce a robust estimate of the optimum timing for replacement of vehicles based on its residual value, the maintenance required to keep the vehicle in service, and the cost of a replacement. Capital project requests are created for each vehicle and piece of equipment to be replaced and the prioritization of projects is based on minimizing our overall business risk and costs of ownership. This approach to replacing assets based on condition, prior to its likely failure, has helped the Company avoid numerous incidents of vehicles failing while in service, resulting in extended vehicle and crew down time, high cost for parts and labor required for emergency repairs, and unplanned replacements. These costly incidents would be the result if the Company were to fail to make the investments in its service vehicles and equipment planned during this timeframe.	$ 8,560,627	$ 6,662,890
Structures and Improvements/ Furniture	7001, 7003	This ongoing capital program funds lifecycle equipment replacements and needed improvements at more than 40 Avista offices and service facilities (exceeding 900,000 square feet). These needs are compiled, evaluated and prioritized based on need and asset condition and lifecycle standards, designed to address: 1) Lifecycle asset replacements (examples: roofing, asphalt, electrical, plumbing); 2) Lifecycle furniture replacements and new furniture additions (to support growth), and 3) Business additions or site improvements (examples: adding a welding bay, vehicle storage canopy, expanding an asphalt yard, and can sometimes include property purchases to support site expansions). The replacements based on asset condition are intended to achieve a more stable and predictable level of capital requirements, and to avoid peak investments caused by coincident and large-scale failures. The failure to make these timely investments will result in reduced efficiency, safety issues, accelerated deterioration and failure of assets, such as roofing or HVAC systems, which can result in major damage to the facilities, and a bow-wave of needed investments to the future.	$ 3,931,029	$ 1,558,328

Capital Additions Description for 2018 and 2019 General Plant and Other Plant				
Project/Program Name	**Expenditure Request Number**	**Description**	**2018**	**2019**
Capital Tools & Stores Equipment	7005,7006	Avista's capital tools program provides Company employees with proper tooling and equipment needed to safely and efficiently construct, monitor, manage system integrity, and properly repair and maintain our electric, gas, communications, fleet, facilities, and generation infrastructure. If the Company fails to provide its employees proper tools and equipment when they are needed, we would be unable to provide our customers with adequate, reliable and cost effective services that meet their expectations for quality and value. These tools and equipment also support the safety of our employees.	$ 2,717,260	$ 1,771,563
Productivity Projects	7050	The productivity program is available for a limited amount of flexible funding beyond annual capital guidance. The types of projects included in this area are the Avista Decision Support System, Quality Assurance & Automated Testing Program and Application Performance Management. Projects must be evaluated to determine if they provide a customer internal rate of return above 12 percent and if the investment is deemed to be innovative. Customer benefits for consideration may be "hard" savings, or costs that may be reduced. Benefits may also be "soft" savings, such as time savings from a new tool that may not result in a reduction of labor but rather an increase in work completed. The limit is currently $10 million granted per year. For a multi-year project request, the total cost is counted against the limit in the year of request as opposed to annual dollar values.	$ 7,098,685	$ 3,592,802
Strategic Initiatives	7060	The strategic program is available for a limited amount of flexible funding beyond annual capital guidance. The types of projects included under this business case meet the Company's specific strategic plan. Some examples of the types of projects that have been included under this business case are Electric Vehicle Supply Equipment Pilot, Clean Energy Fund 2, and Battery Energy Storage Project. The limit for Strategic projects is currently $5 million granted per year. For a multi-year project request, the total cost is counted against the limit in the year of request as opposed to annual dollar values. Projects may need greater flexibility and quicker response than the normal capital planning cycle, and may not fit within the investment drivers. For instance, an agency such as the Department of Energy may issue a grant request. The company may prepare and file a proposal for projects such as for smart grid or battery demonstration.	$ 1,056,725	$ 775,452

Capital Additions Description for 2018 and 2019 General Plant and Other Plant				
Project/Program Name	**Expenditure Request Number**	**Description**	**2018**	**2019**
Compressed Natural Gas (CNG) Fleet Conversion	7127	This program supports the continuing conversion of a portion of Avista's fleet vehicles to run on compressed natural gas (CNG). The use of natural gas by our vehicles helps Avista reduce vehicle emissions and lower our operating costs. Operating our natural gas-powered fleet has also allowed us to provide our customers and others, who have been considering a natural gas powered vehicle, with practical experience on the requirements of owning and operating natural gas fueled vehicles. Importantly, we also use our natural gas compression system to fuel our truck and trailer-mounted natural gas storage tanks that allow us to maintain natural gas service to our customers when the distribution system has been damaged or is being serviced by the Company.	$ 75,174	$0
COF Long-Term Restructuring Plan 2	7131	Phase 2 of this plan is a continuation of the long-term program to meet our ongoing and future operating needs by renovating, improving and expanding our existing central office and operating facilities. This phase is composed of three major projects that include re-routing a city street adjacent to our campus in 2017, constructing a new building for our fleet operations in 2017 and 2018, and constructing a parking garage in 2018. These three projects are interdependent because of their location, timing of construction and their relationship to the overall design of our central campus. These projects support Avista's objectives of 1) consolidating the footprint of our central facilities, which today consists of several disjointed parcels; 2) modernize and expand our aging fleet facilities to handle today's needs efficiently, meet compressed natural gas fleet compliance, better manage environmental concerns, and provide the space required for efficient queuing of fleet equipment; 3) Provide adequate campus parking for employees, which is currently short by about 400 spaces, and consolidate parking on company-owned land, improving employee and public safety by eliminating our parking sprawl, and 4) separate currently shared traffic routes for our construction vehicles and equipment and pedestrians to improve safety and increase workflow efficiency. Avista selected this plan from several options evaluated by the facilities group for meeting these combined needs. The failure to implement these plans in the timeframe proposed will result in work being terminated mid-stream on work underway, adding significantly to future costs to complete these projects, will require Avista to make alternative investments to mitigate the operational and environmental limitations of our existing fleet operations, and fail to resolve significant issues related to our current employee parking.	$ 12,304,512	$ 16,130,430

Capital Additions Description for 2018 and 2019 General Plant and Other Plant				
Project/Program Name	**Expenditure Request Number**	**Description**	**2018**	**2019**
Dollar Road Service Center Addition and Remodel	7132	This planned investment would replace the existing natural gas operations service center at the existing site. The Dollar Road Service Center is the main natural gas operations center serving approximately 300,000 customers in the greater Spokane area, performed by approximately 70 field crews and administrative support employees. The service center also provides support for local gas crews from the Ritzville, Colville, and Davenport districts, which serve an additional 50,000 customers. The existing Dollar Road Service Center is approximately 22,000 square feet and was constructed in 1956. Our business needs have changed substantially since that time as a result of industry advances and growth in customers. In addition to work flow, many of the main building components, systems, and equipment have deteriorated with age and are past their useful service life. The Dollar Road Service Center scored the second lowest among the Avista facilities rated for asset condition in 2012. If the Company fails to make this investment as planned, we will continue to operate at the level of efficiency currently limited by this facility, we spend increasing amounts of capital and expenses for heavy maintenance, replacement of internal systems, and repair of structures and systems that fail prior to replacement.	$ 17,195,902	$ 7,038,810
New Deer Park Service Center	7135	The Deer Park Service Center seryes as the main electrical and gas operations facility for approximately 16,500 customers in the Deer Park and surrounding area, such as Colbert, Chattaroy, Elk, and Loon Lake. Approximately 10 Avista field crew and administrative support employees are based out of the site. This facility also supports our local operations during storms and power outages in the north Spokane County and Stevens County regions to help serve an additional approximately 34, 000 customers. The existing Deer Park Service Center was constructed in approximately 1971 , and many of its building components, systems, and equipment have deteriorated over time. Over the decades, previous capital projects included new and replacement asphalt for exterior storage yards, re-roofing, a vestibule addition, a new pole building for service vehicle truck parking, etc. ln 2011, Facilities prepared a survey of several of our existing sites that created an Asset Condition score. The Deer Park Service Center scored the third lowest in terms of Asset Condition.	$ 0	$ 6,270,744

Capital Additions Description for 2018 and 2019 General Plant and Other Plant				
Project/Program Name	**Expenditure Request Number**	**Description**	**2018**	**2019**
New Airport Hanger	7136	This project is to build an Avista-owned hangar on leased land at Spokane International Airport. This facility will replace the hangar we currently sublease, which will be demolished after our sublease is withdrawn in July 2018. Avista's facilities group considered four options for securing a hangar for the aircraft, which included building a new hangar, extending use of the current leased hangar, relocating to another airport, and co-use of an existing hangar. The solution to construct a hangar on land leased from the Spokane International Airport was selected for several reasons, including the location, site security, cost, efficiency and cost of aircraft maintenance, and operational safety and efficiency. The failure to make this investment in the timeframe planned will require Avista to adopt an alternative from among those already evaluated and determined to be inferior.	$ 1,951,555	$ 288,331
Downtown Campus	7139	The Downtown Campus project includes several related sub-projects discussed below. In the first phase of this plan in 2015 Avista purchased an existing office building with 22,000 square feet of space situated on a 2.3 acre parcel in Spokane. The office space was renovated in a second phase in 2016, and several employee project teams were relocated to this space, freeing up needed office space in our central office facilities. In considering an alternative to purchasing and renovating this property, the Company evaluated the cost of leasing office space and approximately 100 parking spaces, but determined that the lifetime cost of purchasing and renovating this facility, including the ability to expand operations at this site, was less than the long term expense associated with leasing. The third and final phase of this project, estimated to be completed in late 2017, includes the construction of an operations center for the Company’s electric network staff, craft workers, vehicles, equipment and materials storage. This project will consolidate the downtown crews and equipment onto one integrated site, improving safety, efficiency and our response to network reliability issues.	$ 7,893,920	$ 22,210

Capital Additions Description for 2018 and 2019
General Plant and Other Plant

Project/Program Name	Expenditure Request Number	Description	2018	2019
Noxon & Clark Fork Living Facilities	7143	This project includes the total rehabilitation of two living facilities at Clark Fork, Idaho and Noxon, Montana, to address deteriorating condition of the facilities and their systems, extend the life of the facilities, and update them to a more modern and energy efficient state. The project combines required repair work with the facility renovation to avoid duplicating efforts and saving costs on contractor mobilization and re-work. The living facilities were constructed in 1983 and 1984 and have been in use for more than 30 years. They are 16-room bunkhouses with a common space containing a kitchen, dining hall and laundry facility. Because of the limited availability of lodging in this rural area, Avista crews and personnel lodge at these facilities when performing work at Noxon Rapids Dam, Cabinet Gorge Dam, or on other Avista equipment in the area. During inspections in 2015, extensive issues were found with the facilities, including structural and water damage to the siding and framing due to water penetration, inadequate and antiquated electric heating systems, HVAC deficiencies and non-compliant electric breaker panels and inadequate insulation. This project would address the structural and water damage, bring the building up to modern code, and extend the life of the facility. The completed facilities would provide years of additional service, increase the efficiency of energy usage, reduce annual O&M costs to maintain the structures, and provide a suitable environment for housing our workforce at these remote sites. Disregarding the continuing water penetration was not an option as this would render portions of, and eventually the entire facility, uninhabitable over time. Maintenance and upgrade work is ongoing at both dams and is planned for the foreseeable future. This work is essential to maintaining the reliability of our power generation and associated infrastructure in the region. Without the continued availability of the living facilities, it's estimated that it would cost more than $300,000 annually to procure lodging at alternate sites for work at the plants, likely in Sandpoint or Thompson Falls, about an hour drive one way from the plant. With a centralized workforce based out of Spokane, the ability to provide lodging near our worksites maximizes available working hours.	$ 524,385	$ 1,604,558
Community Solar - Boulder Pk	7140	To continue to engage with customers interested in solar energy and to give Avista a chance to learn about solar permitting, construction, operation, and maintenance we intend to build a 423 kW community solar array and enroll customers in a program leveraging the WA state incentives.	$ 147	

Capital Additions Description for 2018 and 2019
General Plant and Other Plant

Project/Program Name	Expenditure Request Number	Description	2018	2019
COF HVAC Improvement	7101	The HVAC Renovation Project began in 2007 and 2008. The HVAC Project is a systematic replacement of the original 1956 Heating, Ventilation and Air Conditioning System for the Service Building, Cafeteria/ Auditorium and General Office Building. The original HVAC equipment has been operating 24/7 since original construction in 1956. The Project entails a floor by floor evacuation and relocation of employees and a complete demolition of each floor; including a massive Asbestos Abatement component, and removing the original fire proofing on the basic steel structure. The Project requires exhaustive demolition and reconstruction of each floor. Sustainable energy savings and conservation are built into the Project as we apply for LEED certification for each floor. The 5th, 4th, and 3rd floor has obtained LEED-CI Gold status recognizing all of the renewable strategies we employed during the design and construction phases. The goal of this project is to re-purpose and recycle the entire Facility for the next generation of Avista employees to use for 50 more years. Life cycle costs weighed heavily on our Construction Specifications and equipment choices during the design phase. The design team chose energy efficient equipment that was designed for 30 to 50 year life cycles.	$	$ 276,872
Ergonomic Equipment	7144	It is the Company's goal to help our employees be more engaged with maintaining their health, wellness and work productivity. An important step has been the introduction of ergonomic programs, office equipment and education. This effort reduces workplace injuries and other health impacts and helps Avista avoid the associated health costs. This program provides employees with ergonomic equipment and training.	$ 1,024,405	$ (51,203)
Apprentice Craft Training	7200	This investment consists of on-going capital facility improvements needed to support required training for apprentice, pre-apprentice, and journey level craft workers, ensuring they are prepared to safely meet the specialized technical needs to build and properly maintain electric and natural gas utility systems. Expenditures include expanding existing or constructing new facilities, purchase of training equipment, and the construction and maintenance of actual utility infrastructure designed specifically for the training of employees.	$ 136,695	$ 1,890
Jackson Prairie Storage	7201	These projects include various capital improvements that Avista and its partners will complete at the Jackson Prairie facility. The Company is one-third owner in the Jackson Prairie Storage Facility and as such, is a part of the Jackson Prairie Storage Management Committee that meets annually to discuss and approve the capital and O&M projects needed for this facility. The Company's failure to make these	$ 2,351,222	$ 2,489,056

Capital Additions Description for 2018 and 2019 General Plant and Other Plant				
Project/Program Name	**Expenditure Request Number**	**Description**	**2018**	**2019**
		investments in the timeframe planned would place us in violation of the joint owners' agreement to make these needed investments.		
Company Aircraft Capital	7207	This investment is to purchase the 18-year old Cessna Citation VII aircraft that the Company has leased since 2000. In March 2018, the current lease will expire, which provides for an end-of-term purchase option that applies prior lease payments toward the purchase in a lump-sum amount. In addition to the purchase price of approximately $2.5 million, the planned investment also includes updating the avionics to comply with new FAA mandates at a cost of approximately $500,000, and self-funding the parts plan for the aircraft. The planned purchase option will save approximately $1.1 million in annual expenses. Approximately 50% of flights made each year directly support the Company's utility regulatory activities and the remainder supports travel to Avista's regional offices and other business requirements. A large portion of these destinations is not served by a commercial airline.	$ 6,197,768	$0

Capital Additions Description for 2018 and 2019
Natural Gas

Project/Program Name	Expenditure Request Number	Description	2018	2019
New Revenue Growth	1001, 1050, 1051	This annual program addresses costs to serve new loads for natural gas service. This program includes the cost of new meters, new natural gas piping, new regulators, new encoder receiver transmitters (ERTs), and the associated installation cost of these investments. Avista is required by its service tariffs to make the investments necessary to connect customers when requested.	$ 38,321,873	$ 32,272,771
Cheney HP Reinforcement	3311	Load studies performed by the Gas Planning department as well as pressure monitoring during cold weather events has shown that there is insufficient pressure at the south end of the Cheney High Pressure (HP) pipeline that supplies gas to the town of Cheney, Washington. During a recent winter, cold weather drove the pressures at the end of the supply line to 136 pounds per square inch (psig). The line starts out at 240 psig at the source approximately 12 miles away. Sufficient capacity is defined as pressures at or above 90 psig on the HP system on a design day analysis. Without a reinforcement project, Avista will not have sufficient capacity to serve the approximately 1400 Firm customers in the Cheney area on a design day scenario. In addition, there is a large industrial customer (Firm rate) that has expressed interest in increasing their load. Avista would not be able to meet the new request unless a reinforcement was completed.	$	$ 3,048,353
Gas Op Qual - Tooling, Vehicles and Material	7208	As an operator of gas infrastructure, Avista Utilities is required by regulation to minimize the impact of safety and integrity of the pipeline facilities due to human error that may result from an individual's lack of knowledge, skills, or abilities during the performance of certain activities, or covered tasks. Craft Training and Gas Operations are responsible for ensuring a qualified and competent workforce. This is partially accomplished by evaluating and qualifying internal and contract employees on Operator Qualification tasks specific to Avista's natural gas infrastructure. This business case will provide the tooling, vehicles, and equipment necessary to enable internal Avista Evaluators to evaluate Avista "non-peer" employees and contract personnel under the PHMSA regulations for Operator Qualification. Not providing the needed tools and equipment would result in the Evaluators being unable to perform their duties, possibly resulting in regulatory penalties and incidents that impact Avista's customers and the public.	$	$ 248,710

Capital Additions Description for 2018 and 2019
Natural Gas

Project/Program Name	Expenditure Request Number	Description	2018	2019
Gas ERT Replacement Program	1053	The majority of the Company's natural gas meters are equipped with an electronic device that records the amount of natural gas used by the customer and wirelessly transmits that usage to Avista for billing purposes. This device, known as an encoder receiver transmitter (ERT), is battery powered, and when these batteries fail, customer's estimated usage must be collected and entered into the billing system manually. Besides the additional cost, this manual process can lead to high rates of customer dissatisfaction because of potential error associated with estimating the customers' bill. Finally, given the Company has so many of these units in service, the replacement of batteries as they failed would quickly become unmanageable, as the entire population of batteries reach the end of their useful life. The failure to make these planned investments would eventually have an unsustainable impact on Avista's natural gas billing system and would result in substantially greater costs for replacement, compared with the systematic approach.	$ 3,427,690	$ 1,148,080
Gas Reinforcement	3000	This ongoing program supports investments for smaller projects needed to reinforce the capacity of our natural gas distribution system in all our jurisdictions. Our failure to make these investments would expose our customers to the loss of their natural gas service on a design day, and would prevent Avista from meeting future load growth due to inadequate pressure and capacity.	$ 1,767,984	$ 795,172

Capital Additions Description for 2018 and 2019
Natural Gas

Project/Program Name	Expenditure Request Number	Description	2018	2019
Gas Regulator Station Reliability Replacement	3002	Investments made under this program replace or upgrade Avista's natural gas regulator stations and industrial meter sets that are at the end of their service life, or are obsolete and no longer supported, based on the Company's performance standards. Avista's regulator stations require federally-mandated annual maintenance, and if the equipment at the stations is obsolete and replacement/maintenance parts are no longer commercially available, then proper maintenance cannot be completed. These investments also enhance the performance of our stations, improving natural gas system safety, reliability, and operations. Failure to timely inspect our regulators and industrial meter sets, and to perform required maintenance and replacements, would render them less reliable; and unsafe, and expose the Company to regulatory and other consequences, as a result of choosing to not make such investments.	$ 1,067,355	$ 996,497
Gas Replacement Street and Highway Program	3003	Nearly all of Avista's natural gas distribution pipelines are located in public utility easements provided for such service, which are under the control of local jurisdictions administered through the Company's franchise agreements. Avista is mandated under these agreements to relocate its facilities, at our cost, whenever local jurisdictional projects require such a move. While Avista has the opportunity to discuss these requirements and to suggest ways to avoid or minimize the cost to our customers, we have no choice but to move our facilities if required. Our failure to make such required investments would put the Company in violation of its franchise agreements, could subject us to penalties for the delay of a project, legal action, or the revocation of our franchise to provide utility service in that jurisdiction.	$ 4,704,048	$ 7,592,120
Cathodic Protection	3004	Cathodic protection involves making in-ground metal structures like steel pipelines part of a direct current (DC) electrical circuit that prevents them from corroding. Avista is required by federal and state regulations to have effective cathodic protection systems on all steel natural gas piping in its system. Since these systems have a finite lifespan, and must be replaced when they are nearing the end of their service life, failing to timely replace them renders the underground steel lines vulnerable to corrosion. This failure would also expose the general public, our customers, and our employees to increased safety risks and would place the Company in violation of mandatory regulations.	$ 311,249	$ 784,320

Capital Additions Description for 2018 and 2019 Natural Gas				
Project/Program Name	**Expenditure Request Number**	**Description**	**2018**	**2019**
Gas Non-Revenue Program	3005	The investments made under this program are responsive to issues identified by the Company in real time, which is why the expected capital spend each year is estimated based on historical trends. Typical activities include, increasing the depth of existing gas lines that are identified as not meeting the required depth, performing customer-requested relocates, making leak repairs on mains and service lines, installing meter barricades, eliminating farm taps from the system, and relocating facilities as required (other than street and highway). Our failure to regularly perform these activities would result in a greater likelihood of our shallow pipe being damaged, which could result in citizen, customer, and employee safety, and prevent us from prudently managing our natural gas system.	$ 8,811,389	$ 8,173,893
Overbuilt Pipe Replacement	3006	There are instances where our customers have constructed or placed structures, sheds and decks, etc., directly over sections of our natural gas distribution system. As a result of these "overbuilds", the Company may not have adequate access to operate, repair and safely maintain our system (such as conducting the annual leak survey of our system). Avista is required by Federal code to remediate these overbuilds. This program is focused mainly on identifying and addressing these issues in mobile home parks, where we experience the highest incidence rates and risks. Avista's failure to make these planned investments will expose our customers to risks associated with our inability to access our system, and will place the Company in violation of its mandatory federal requirements, and potential penalties.	$ 85,263	$ 755,731
Gas Isolated Steel Replacement	3007	The program identifies and documents areas in our natural gas system where we currently have steel pipe sections, including risers that are "isolated" from steel piping in cathodically-protected zones. Even though these isolated sections may be currently protected, the Company is required by Federal code and by agreement with the Commission to replace each riser or pipeline section within a specified timeframe once it has been identified. This program was initiated in our Washington service territory in November 2011, requiring the Company to replace isolated steel risers at a rate of at least 10% per year, and to replace short sections of isolated steel main within one year of when they are identified. Our program in Washington will be completed in 2021, and Avista will be extending this program to its Oregon and Idaho service territories. Our failure to make these required investments will place the Company in violation of its stipulated agreement with the Commission.	$ 1,416,008	$ 1,459,659

Capital Additions Description for 2018 and 2019
Natural Gas

Project/Program Name	Expenditure Request Number	Description	2018	2019
Gas Facilities Replacement Program (Aldyl A)	3008	The Company is continuing its program to systematically remove and replace select portions of the DuPont Aldyl A medium density polyethylene pipe in its natural gas distribution system in the states of Washington, Oregon and Idaho. Avista's asset management group identified this piping as prone to the increased potential of leaking as it ages, and based on the risks to our customers resulting from these leaks, Avista implemented its Priority Aldyl A Pipe replacement program. In addition to the Company's own analysis, this piping has also been identified as the highest threat to the integrity of Avista's natural gas system. Renamed the Gas Facilities Replacement Program, this effort fulfills the Company's obligation to mitigate such threats on its natural gas system.	$ 21,914,044	$ 22,002,672
Gas Planned Meter Change-Out (PMC) Program-Capital Replacements	3055	Avista is required by Commission rules and tariffs to test a portion of our meters each year for accuracy to ensure proper metering performance. Costs included under this program include labor and minor materials. Major materials (meters, pressure regulators, and encoder receiver transmitters) are charged to the appropriate capital programs. Our failure to make these investments would increase the likelihood that our customers' billing would be inaccurate and would place the Company in violation of its tariffs, with the attendant consequences of non-compliance.	$ 2,863,796	$ 2,852,374
Gas Telemetry	3117	Projects under this program include the installation of natural gas telemetry throughout our natural gas system. Telemetry is the combination of communications and sensing systems that allow Avista to remotely monitor system pressures, volumes, and flows from areas of special interest such as Gate Stations (supply points into Avista's system), natural gas transportation customers, regulator stations (where operating pressure is reduced), selected large industrial customers, and distribution systems that are served by more than one source of natural gas. Having this detailed "visibility" of the natural gas transmission and distribution systems provides a more rapid response and better decision making by the Company when any abnormal operation or emergency situation strikes. The failure to timely make these investments would reduce the reliability of our system for customers resulting from low or high pressure situations, and the related safety risks, and a higher likelihood of equipment failures that impact our service.	$ 214,943	$ 159,810

Capital Additions Description for 2018 and 2019
Natural Gas

Project/Program Name	Expenditure Request Number	Description	2018	2019
Gas North Spokane Hwy 2 HP Main Reinforcement	3237	Avista has identified an issue with the capacity of our distribution system in North Spokane. Based on load studies performed by our Natural Gas Planning group, the Company does not have sufficient pipeline capacity to meet our customer load obligations on a design day standard. Further, Avista is currently not able to reliably serve an existing industrial customer load in that area on a seasonal basis due to the capacity limitations of our system. As planned, this project will install 12,000 feet of new High Pressure pipe and a new regulator station to adequately reinforce our capacity in this area. If the Company fails to make this planned investment we will continue to have insufficient capacity to serve the existing industrial customer load and will expose approximately 4,300 of our customers to the risk of loss of service on a design day.	$ 42,168	$0
NSC Greene St HP Gas Main	3304	Due to the planned construction of Spokane's North-South Corridor (transportation) Project, the Company may be required to relocate a section of its 20-inch Green Street high pressure main. The scope and schedule for this project are not finalized, and the Company is currently working with the Washington Department of Transportation, the city, and Burlington Northern Santa Fe Railway to develop a final plan that minimizes the impact to our line. This work is identical to projects conducted under our street and highway relocation program; however, this large project has been planned for and budgeted as a specific infrastructure project. Avista's failure to make the investment required to relocate our high pressure line would expose the Company to violations of its franchise, potential litigation and financial exposure for delay of the transportation project, and would severely damage our ability to continue to work effectively with these important entities.	$ 2,905,791	$ 0