

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-19 _____

EXH. JRT-4

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REPRESENTING AVISTA CORPORATION

Capital Additions Description for 2017 and 2018 Generation and Environmental				
Project/Program Name	Expenditure Request Number	Description	2017	2018
Colstrip Thermal Capital	4116	<p>The Colstrip capital additions include Avista's pro rata share of ongoing capital expenditures associated with normal outage activities on Units 3 & 4 at Colstrip. Every two out of three years, there are planned outages at Colstrip with higher capital program activities. For non-outage years, the program activities are reduced. Avista votes its 15 percent share of Units 3 & 4 and its approximate 10 percent share of common facilities to approve or disapprove of the planned expenditures proposed by the plant operator on behalf of all the owners. Avista does not operate the facility nor does it prepare the annual capital budget plan. The current operator (Talen) provides the annual business plan and capital budgets to the owner group every September. The entire body of capital work performed in a calendar year at Colstrip includes a variety of projects that the operator characterizes under the following categories: Environmental Must Do, Sustenance, Regulatory, and Reliability Must Do. Avista reviews these individual projects. Some projects are reclassified to O&M if the work does not conform to our own capitalization policy. Avista does not have a "line item veto" capability for individual projects, but can present concerns during the annual September owners' meeting. Ultimately, the business plan is approved in accordance with the Ownership and Operation Agreement for Units 3 & 4 that all six companies with ownership interests are party to.</p>	\$ 10,425,019	\$ 4,528,292
Coyote Springs 2 – Failed Plant	4133	<p>Aging assets will have replacement need at end of life or early failure. This business case supports replacement of failed plant equipment at Coyote Springs 2.</p> <p>Upon failure, the failed equipment must be replaced immediately or else plant operations will likely be curtailed or suspended indefinitely.</p> <p>The most significant cost of deferring this work upon failure is the market price of energy to replace the lost production at this plant.</p> <p>Past plant failures include faults on the last three generation step-up transformers, and this issue illustrates an ongoing need for this business case.</p>	\$ -	\$ 668,298

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Nine Mile Rehabilitation	4140	The Nine Mile Redevelopment is a continuing capital project to rehabilitate and modernize the four unit Nine Mile Hydro Electric Dam. The existing three MW Units 1 and 2, which were over 100 years old, were recently replaced with two new eight MW generators/turbines. The new units added 1.4 aMW of energy and 6.4 MW of capacity above the original configuration generation levels. In addition to these capacity upgrades, the Nine Mile facility has and will receive multiple other upgrades. The additional work at the plant include upgrades to Units 3 and 4 over the next several years. The Unit 3 and 4 work includes major unit overhaul of the Runners, Thrust Bearings, and Switchgear; upgrades to the Control and Protection Package including Excitation and Governors; and Rehabilitating the Intake Gates and Trash Rack. Also the sediment bypass system will be redesigned to improve sediment passage. At completion, the total powerhouse production capacity will be increased, units will experience less outages, reduced damaged from sediment, and the failing control components will be replaced. Spending began in 2012 and is expected to continue through 2019.	\$ 7,679,798	\$ 8,556,852
Base Load Hydro	4147	The Base Load Hydro program covers the ongoing capital maintenance expenditures required to keep the Upper Spokane River Plants (Post Falls, Upper Falls, Monroe Street, and Nine Mile) operating within 90 percent of their current performance, as well as meeting FERC and NERC mandated compliance requirements. The historical availability for the base load hydro plants has been declining over the past decade due to deteriorating equipment and a need to replace aging equipment and systems. These plants range from 90 to 105 years old. The program focuses on ways to maintain compliance and reduce overall O&M expenses while maintaining a reasonable level of unit availability. Projects completed under this program include replacement of failed equipment and small capital upgrades to plant facilities. Most of these projects are short in duration, and many are reactionary to plant operations issues.	\$ 760,120	\$ 943,795

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Regulating Hydro	4148	The Regulating Hydro program covers the capital maintenance expenditures required to keep the Long Lake, Little Falls, Noxon Rapids and Cabinet Gorge plants operating at their current performance levels. The program works to improve plant operating reliability so unit output can be optimized to serve load obligations or sold to bilateral counterparties. Work is prioritized according to equipment needs. Sustaining this asset management program is crucial as these facilities age and are ramped more frequently to meet load fluctuations associated with renewable energy integration and changing load dynamics. Additional, efforts in this program improve ancillary service capabilities from these generating assets. This includes installing blow down systems to allow for units to be on responsive stand by and able to provide spinning reserves, moving load following demands to all of these plants, voltage regulating needs, and frequency response. The program also includes some elements of hydro license compliance as related to plant operations and equipment.	\$ 5,520,850	\$ 6,330,403
Base Load Thermal Plant	4149	The Base Load Thermal Plant program is an ongoing program necessary to sustain or improve the operation of base load thermal generating plants, including Coyote Springs 2, Colstrip, Kettle Falls, and Lancaster. Capital projects include replacement of items identified through asset management decisions and programs necessary to maintain reliable operations of these plants. As this asset maintenance program matures, it is expected to decrease forced outage rates and forced de-ratings of these facilities by one standard deviation less than the current average. As these plants continue to age and are called upon to ramp more frequently to meet variations associated with renewable energy integration, their operating performance begins to degrade over time resulting in increased forced outage rates, which increases exposure to the acquisition of replacement energy and capacity from the market. Having a mature asset management program for these thermal facilities helps minimize plant degradation and market exposure. The program also includes initiatives associated with regulatory mandates for air emissions and monitoring, and projects to meet NERC compliance requirements.	\$ 2,666,663	\$ 2,218,870

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Peaking Generation	4150	The Peaking Generation program focuses on the ongoing capital maintenance expenditures required to keep Boulder Park, Rathdrum CT, and Northeast CT operating at or above their current performance levels. The program maximizes the ability of these units to start and run efficiently when requested. The reliability of these assets will decline over time, resulting in failure to start, non-compliant emissions, or inefficient operation without this type of program. It is critical that these facilities start when requested to reduce exposure to high market prices or the loss of other Company resources. The program includes initiatives to meet FERC, NERC and EPA mandated compliance requirements.	\$ 628,596	\$ 110,416
Little Falls Plant Upgrade	4152	This is an ongoing multi-year project to replace the Little Falls equipment that ranged in age from 60 to more than 100 years old. Forced outages at Little Falls because of equipment failures have significantly increased from about 20 hours in 2004 to several hundred hours in the past few years. This project replaces nearly all of the older, unreliable equipment with new equipment, including replacing two of the turbines, all four generators, all generator breakers, three of the four governors, all of the automatic voltage regulators, removing all four generator exciters, replacing unit controls, changing the switchyard configuration, replacing the unit protection system, and replacing and modernizing the station service. Without this focused replacement effort forced outages and emergency repairs would continue to increase, reducing the reliability of the plant. At some point, personnel may need to be placed back in the plant adding to the operating costs. The Asset Management group analyzed the age and condition of all of the equipment in the plant. All of the equipment has been qualified as obsolete in accordance with the obsolescence criteria tool. There are many items in this 100 year old facility which do not meet modern design standards, codes and expectations. This replacement effort will allow Little Falls to be operated reliably and efficiently. Upgrades and replacements associated with two of the four units at Little Falls have been completed. The replacements associated with the remaining two units will be performed over the next two to three years.	\$ 10,258,268	\$ 7,892,001

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Cabinet Gorge Unit 1 Refurbishment	4161	This is the final capital portion of a major overhaul project completed on Cabinet Gorge Unit #1. The runner hub had significant mechanical issues and needed to be replaced to allow for frequent cycling associated with the integration of intermittent renewable resources. The previous automatic voltage regulator provided a relatively slow response due to its hybrid design and had no limiters for generator protection. The new system provides faster response and adds limiters. The new machine monitoring allows for better analysis of machine condition for this important unit. Rehabilitation of this unit allows flexibility to operate under minimum river flow for fish habitat.	\$ 47,178	\$ -
Post Falls South Channel Gate Replacement	4162	<p>This project involves the maintenance of the south channel gates to comply with FERC Dam Safety directives. A pre-construction underwater investigation revealed that the condition of the concrete structure was very poor and would not handle the planned work. This resulted in an effort to evaluate options. The project entails removing most of the existing concrete structure and replacing it with a new concrete, new spillway gates, and new hoist systems to automate gate operation.</p> <p>The initial estimated completion date for this project was May of 2015. This was based on our observation of the dam condition, dive inspections, and estimates of the concrete suitability for rehabilitation. Once construction started, the Company encountered several unforeseen issues directly related to working in areas that are normally submerged and part of a 100 year old structure. For example, during installation of the coffer dam, the north bank was found to have a severe undercut that required significant efforts to secure before any reconstruction work could begin. Once removal of the existing concrete began, the condition of this concrete dictated further efforts to provide an adequate foundation for the new concrete. This significantly impacted the scope of project, requiring additional design, permits, and construction work. These delays resulted in concrete work to be performed later in the year, further slowing construction as winter pouring is a slower process. In addition, issues with a vendor supplied gate hoist delayed the project.</p>	\$ 10,213	\$ -

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Long Lake Plant Upgrades	4164	<p>The Long Lake Plant Upgrade is a multiyear project to replace and improve plant equipment and systems that range from 20 to more than 100 years old. The effort will begin with the project design in 2018 and expected project completion in 2024. Forced outages at the plant have increased annually from almost zero in 2011 because of equipment failures on multiple pieces of equipment. Specifically, a turbine failed in 2015 and there have been problems with servicing and sourcing parts for the failing 1990 vintage control system. This has caused O&M spending to increase in recent years with a projected upward trend. Prior upgrades to the project are reaching the end of their useful life and have placed additional stress on the plant. There are also safety issues involved with moving station service from one generator to the other that need to be addressed. This project will replace the existing major unit equipment in kind including generators, field poles, governors, exciters, and generator breakers. The generators are currently operated at their maximum temperature which stresses the life cycle of the already 50 plus-year-old windings. Inspections of other components of the generator show the stator core is “wavy”, which is a strong indication higher than expected losses are occurring in the generator. Finally, maintenance reports have identified that the field poles on the rotor have shifted from their designed position over the years. The Generator Step Up (GSU’s) transformers are over 30 years old and operating at the high end of their design temperature. The GSU’s are approaching the end of their useful life and need to be replaced proactively rather than waiting for a failure. Personnel safety is another significant driver for this. The switching procedure for moving station service from one generator to the other resulted in a lost time accident and a near miss incident in the past five years. In addition, the station service disconnects represent the greatest arc-flash potential in the company. This project will reconfigure the system to eliminate requiring personnel to perform this operation and avoid the arc-flash potential area.</p>	\$ -	\$ 3,488,539

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Noxon Station Service	4171	All generation facilities require Station Service to provide electric power to the plant. Station Service components include Motor Control Centers, Load Centers, Emergency Load Centers and various breakers. Station Service is an elaborate system with multiple built-in redundancies designed to protect the plant's electrical operation. In the fall of 2013, studies in response to an electrical overcurrent coordination issue found that a majority of the Station Service components at Noxon Rapids require replacement due to electrical capacity and rating issues stemming from the added loads at the plant and the growth of the electric system in the 50 years of service. This project seeks to create a more reliable Station Service system with the replacement of multiple components in order to avoid forced outages and to modernize the electrical delivery system in the plant. Additionally, this effort will provide remote operation and monitoring capabilities, incorporate previously incomplete service expansions, support future system expansion, improve operator safety and ensure regulatory compliance. If no action is taken, there is a risk of catastrophic switch gear failure and generator unit forced outages for up to a year. Without replacement forced load shedding under certain operational scenarios could be necessary which has an impact on plant operations. Multiple alternatives were considered for this project including do nothing. The chosen alternative replaces and upgrades the equipment described above.	\$ 3,536,726	\$ 253,910
Kettle Falls Stator Rewind	4172	The KFGS Stator Rewind project aims to rewind the 30 plus year old stator, which is at the end of its expected life. Field inspections performed by GE and Avista using industry standard megger tests have shown a decline in the winding insulation resistance. A 2014 report prepared by the Asset Management group demonstrated the prudence of replacing the winding before it fails in service. Failing in service would significantly extend the outage time and the cost to repair. Scheduled work to rewind the stator is a proactive measure to ensure uninterrupted and efficient operations. This project consists of monitoring the existing machine, developing a rewind contract, manufacturing replacement coils, disassembly, coil removal, new coil installation, reassembly, startup, testing and commissioning. The consequences of a stator failure include an unscheduled outage with lost generation, loss of renewable energy credits required for compliance with the Energy Independence Act, long term interruption of fuel supply, potential collateral damage to the core and hydrogen cooling, and poses a significant safety hazard.	\$ 4,154,695	\$ 1,544

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Generation DC Supplied System Upgrade	4174	The Generation DC Supplied System Upgrade is a multiyear project to update existing plant DC systems to meet Avista's current Generation Plant DC System Standard. This program will make compliance with the NERC PRC-005 Reliability Standard more tenable and significantly reduce plant outage times now required for periodic testing to meet the standard. The project changes DC System configurations to more easily comply with the NERC requirements for inspection and testing. It addresses battery room environmental conditions to optimize battery life. The project replaces legacy UPS systems with an inverter system and addresses auxiliary equipment based on its life cycle. The Company is currently addressing Battery Bank replacement based on the manufacturers recommended life cycle, which is based on ideal operating conditions. For temperatures fifteen degrees F over the normal operating temperature, the life cycle decreases 50 percent. Component failure, utilization from multiple extended outages and manufactures quality are problems we have experienced on these systems. The alternative approach of replacing components as they fail and gradually building out to Avista's current standard may reduce program costs, but adds significant risk of unpredictable full system failures leading to forced plant outages. This program covers both thermal and hydro generation assets. Each planned project will take approximately 16 to 18 months to complete. Added complexity, cost, and time may be needed if extensive work is required to address the temperature and other environmental issues with the location of each new battery system.	\$ 43,251	\$ 2,435,491
Kettle Falls Reverse Osmosis System	4175	The Kettle Falls Generating Station needs a long term solution to achieve environmental permit compliance, improve the well water supply chemistry, and replace an aging demineralization system. Currently, several short term solutions have been employed with increasing and unsustainable operation costs, which includes the use of chemicals at a cost of \$40,000 per month and risk associated with a deionization system. This project will design and install a new water treatment system at Kettle Falls. If this project is not completed, it could result in plant discharge permit violations.	\$ -	\$ 2,855,598

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Kettle Falls CT Control Upgrade	4177	<p>This project will replace the Solar Combustion Turbine HMI software and hardware, upgrade PLC controls platform, and replace the Fire Protection system. The current controls are outdated, with spare parts and software support no longer available. Without this project, the system will continue to deteriorate, increasing the risk of forced outages. In 2002, KFGS added a second 7 MW generating unit at the facility that can operate in simple or combined cycle modes. Operation of this CT, the associated heat recovery steam generator (HRSG) and fire protection is done remotely through the Solar TTX controls system. The controls platform is legacy equipment and the control program is no longer supported. Additionally, the installed version of the Allen Bradley control network has not been supported for many years. The Human Machine Interface (HMI) control system used by operations functions on Windows 2000 software, which is no longer available or supported. The desktop operating computer recently failed and the plant is now operating without a spare. With this failed HMI, the HRSG cannot be operated from the local control panel at the turbine enclosure. If the remaining HMI fails, the CT will only be able to be operate in the simple cycle mode as there will not be any communication with the HRSG system. The fire protection system is no longer supported and the unit will not be operated without the fire protection system in service due to insurance requirements. The unit posted its third and fourth highest forced outage rates in the past 15 years in 2013 and 2014. The higher forced outage rate was mostly attributed to components failing within the fire protection system. The upward failure trend is expected to continue. With an increase in plant operations and increasing forced outage rate, mostly attributed to control devices failing on the fire protection system, various options were discussed. Doing nothing will eventually put the combustion turbine in an unreliable and unsafe mode. The option chosen includes installation of new software and hardware in conjunction with upgrading the fire protection system with the newest turbine controls. Completion of this project will increase unit reliability while maintaining safe operations.</p>	\$ -	\$ 541,721

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Automation Replacement	4180	<p>The Automation Replacement project systematically replaces the unit and station service control equipment at our generating facilities with a system compatible with Avista’s current standards for reliability. Upgrading control systems within our generating facilities allows us to provide reliable energy. The Distributed Controls Systems (DCS) and Programmable Logic Controllers (PLC) are used to control and monitor Avista’s individual generating units as well as each total generating facility. The DCS and PLC work is needed now to reduce the higher risk of failure due to the aging equipment. The DCSs are no longer supported and spare modules are limited. The modules in service have a high risk of failure as they are over 20 years old. The computer drivers that are needed to communicate to the DCSs will not fit in new computers with Windows 10 operating systems, creating a cyber-security issue. The software needed to view and modify the logic programs only runs on Windows 95. Avista has a very limited supply of Windows 95 laptops and they also continue to fail. Replacing aging DCSs and PLCs will reduce unexpected plant outages that require emergency repair with like equipment. A planned approach allows engineers and technicians to update logic programs more effectively and replace hardware with current standards.</p> <p>Avista’s hydro facilities were designed for base load operation, but are now called on to quickly change output in response to the variability of wind generation, to adjust to changing customer loads, and other regulating services needed to balance the system load requirements and assure transmission reliability. The controls necessary to respond to these new demands include speed controllers (governors), voltage controls (automatic voltage regulator a.k.a. AVR), primary unit control system (i.e. PLC), and the protective relay system. In addition to reducing unplanned outages, these systems will allow Avista to maximize ancillary services within its own assets on behalf of its customers rather than having to procure them from other providers.</p>	\$ 289,863	\$ 1,231,420

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Purchase Certified Rebuilt Cat D10R Dozer	4182	<p>Kettle Falls Generation Station utilizes two D10 CAT dozers to move nearly 500,000 green tons of waste wood around the storage area year-round. Semi-trucks move wood waste from area mills to the plant where it is moved via a conveyor system. The dozers move the material from underneath the conveying system to the storage pile. If the dozers break down and material is not moved from the conveying system, trucks back up in the yard and possibly create issues on Highway 395. Maintaining the waste wood receiving equipment at the plant is critical to the plant operations. The Fuel Equipment Operators also use the dozers to move wood to be burned for the plant operations. The facility cannot operate on wood waste without the use of a dozer. The plant may operate on natural gas at 50% capacity but is then not classified as a renewable source and the REC's are lost. The generator is also less efficient and not designed to operate on natural gas for extended periods.</p> <p>Normally one dozer operates while the other is in standby until the 250 hour service is needed. Typically the dozer operates 10-12 hours each day with each machine operating 2,000 hours per year. Major overhauls require shipment over 80 miles to the nearest service center in Spokane. This work is planned and scheduled around the annual maintenance outage to reduce the risk to plant availability due to the loss of the standby dozer. Data over the past 20 years show the engine on the D10R has never reached 9,000 hours of operation between failures and the transmission has never reached 10,000 hours of operation between failures. The CAT D10R dozer has over 36,000 operating hours on the machine chassis. Major components have been rebuilt and are planned on a time base maintenance schedule. Minor components in the auxiliary systems are run until failure. Discussions with the equipment manufacture service representative identified three options to consider: major rebuild of critical components, a complete certified rebuild, and purchase of new equipment. The fourth, doing nothing, was not viable as the motor had failed and the transmission will fail at some point. The recommendation is to complete a Certified Rebuild of the CAT D10R dozer. The rebuild will be completed during the schedule annual maintenance outage and will be finished two weeks prior to the plant startup. The Certified Rebuild on our existing D10R will reset the time based maintenance of the major and minor equipment. Reliability on the D10R will increase with the complete rebuild and new brakes and steering will improve safe operation.</p>	\$ 727,541	\$ -

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Post Street Substation Transformer Cooling	4185	<p>Inside the Post St. Substation are 4 large power transformers, two of which are Generator Step Up transformers for the Upper Falls and Monroe St. Hydroelectric Developments and the other two are for downtown Spokane power distribution. Since these transformers are located inside the Post St. Substation within fire containment enclosures, they do not have air movement for cooling purposes. The transformers have been cooled by cycling Spokane River water through a heat exchanger on the transformers. This is a very efficient means of cooling these transformers but it does transfer slightly warmer water back into the river.</p> <p>The Washington Department of Ecology implements the CWA on a State level. WA RCW 90.48 prohibits discharge to surface water without a permit. Discharges require a NPDES Permit (Clean Water Act, 33 U.S.C. 1251). Avista's Post St. Substation currently discharges non-contact cooling water into the Spokane River without benefit of such a permit. Due to temperature constraints, obtaining a permit is unlikely.</p> <p>While obtaining a permit is unlikely, there is still a risk of a transformer oil to cooling water barrier failure. This failure would allow oil into the water flow stream and ultimately could discharge small amounts of oil into the river as part of the normal water discharge.</p>	\$ -	\$ 943,042
Resource Metering, Telemetry, and Controls Upgrade	4191	<p>Joining a sub hourly dispatch (i.e., CAISO EIM) market, requires adherence to the market operator metering and controls standards. The CAISO EIM dispatches resources in 5 minute intervals and an EIM member will economically settle any generation imbalance to dispatch request on a 5 minute basis. The EIM member entity is required to and advantaged by having accurate reliable meter data, control equipment and telemetry to accurately account for the generation output in each of these 5 minute dispatch increments. The metering required to satisfy the accurate accounting are posted on the CAISO EIM Metering and Telemetry Business Practice Manual and the CAISO Tariff section 10, as well as various additional resources on the CAISO EIM website. Avista does not currently meet all of the required metering device types. Avista is currently undertaking a long term program to update all generation metering to the SEL-735 Intermediate meter, which is an approved CAISO meter. This metering upgrade plan accelerates the upgrading and replacement of metering to ensure Avista is prepared for organized market entry in the near future.</p>	\$ -	\$ 165,998

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HMI Control Software	4192	<p>The existing Human Machine Interface (HMI) software, Wonderware sold by Schneider Electric, will not be supported after 2017. New control screens will need to be developed using a new software platform. The major driver for the HMI Control Software business case is the Asset Condition. This project aligns with Avista's Safe & Reliable Infrastructure strategy. The existing HMI control software has reached end of life. HMI control Software is used to develop control screens are used to control generating systems within Avista Hydroelectric Developments and Thermal Generating facilities. They allow an operator to run the station from a computer in a control room rather than from the equipment on the generating floor.</p> <p>New HMI control software is needed now to prevent limitations going forward that will introduce security risks. The existing HMI software runs on Windows 7. Microsoft will not be supporting Windows 7 after the year 2020. If we do not stay current with supported operating systems then cyber security risks increase. Replacing unsupported HMI software will allow upgrading control computers to supported operating systems such as Windows 10.</p>	\$ -	\$ 54,541
Hydro Safety Minor Blanket	6001	<p>The Hydro Generation Minor Blanket funds periodic capital purchases and projects to ensure public safety at hydro facilities both on and off water, for FERC regulatory and license requirements. The types of projects include barriers and other safety items like lights, signs and sirens. Section 10(c) of the Federal Power Act authorizes the FERC to establish regulations requiring owners of hydro projects under its jurisdiction to operate and properly maintain such projects for the protection of life, health and property. Title 18, Part 12, Section 42 of the Code of Federal Regulations states that, "To the satisfaction of, and within a time specified by the Regional Engineer an applicant, or licensee must install, operate and maintain any signs, lights, sirens, barriers or other safety devices that may reasonably be necessary". Hydro Public Safety measures includes projects as described in the FERC publication "Guidelines for Public Safety at Hydropower Projects" and as documented in Avista's Hydro Public Safety Plans for each of its hydro facilities.</p>	\$ 99,587	\$ 242,972

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Clark Fork Settlement Agreement	6100, 6103	The Clark Fork Protection, Mitigation and Enhancement (PM&E) measures include funding for the implementation of programs done through the License issued to Avista Corporation for a period of 45 years, effective March 1, 2001, to operate and maintain the Clark Fork Project No. 2058. The License includes hundreds of specific legal requirements, many of which are reflected in License Articles 404-430. These Articles derived from a comprehensive settlement agreement between Avista and 27 other parties, including the States of Idaho and Montana, various federal agencies, five Native American tribes, and numerous Non-Governmental Organizations. Avista is required to develop, in consultation with the Management Committee, a yearly work plan and report, addressing all PM&E measures of the License. In addition, implementation of these measures is intended to address ongoing compliance with Montana and Idaho Clean Water Act requirements, the Endangered Species Act (fish passage), and state, federal and tribal water quality standards as applicable. License articles also describe our operational requirements for items such as minimum flows, ramping rates and reservoir levels, as well as dam safety and public safety requirements. More details are discussed in the hydro relicensing section of this testimony.	\$ 2,958,929	\$ 2,076,672

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Spokane River License Implementation	6107	This capital spending category covers the ongoing implementation of PM&E programs related to the FERC License for the Spokane River including Post Falls, Upper Falls, Monroe Street, Nine Mile and Long Lake. This includes items enforceable by FERC, mandatory conditioning agencies, and through settlement agreements. Additional details concerning the PM&E measures for the Spokane River license are included in the hydro relicensing section later in this testimony. This License defines how Avista shall operate the Spokane River Project and includes several hundred requirements that must be met to retain this License. Overall, the License is issued pursuant to the Federal Power Act. It embodies requirements of a wide range of other laws, including the Clean Water Act, the Endangered Species Act, and the National Historic Preservation Act, among others. These requirements are also expressed through specific license articles relating to fish, terrestrial resources, water quality, recreation, education, cultural, and aesthetic resources at the Project. In addition, the License incorporates requirements specific to a 50-year settlement agreement between Avista, the Department of Interior and the Coeur d'Alene Tribe, which includes specific funding requirements over the term of the License. Avista entered into additional two-party settlement agreements with local and state agencies, and the Spokane Tribe; these agreements also include funding commitments. The License references our requirements for land management, dam safety, public safety and monitoring requirements, which apply for the term of the License.	\$ 814,264	\$ 415,863