BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-22_____

DOCKET NO. UG-22_____

EXH. DRH-4

DAVID R. HOWELL

REPRESENTING AVISTA CORPORATION

Capital Additions for 2021-2024 by Plant Group
Howell

WA GRC Plant Group	Business Case	2021 TTP (System)	2022 TTP (System)	2023 TTP (System)	2024 TTP (System)	Exh. DRH-4 Page #
Wildfire	Wildfire Resiliency Plan	$ 17,278,280	24,544,986	27,000,000	29,000,001	2
Total Wildfire		**$ 17,278,280**	**$ 24,544,986**	**$ 27,000,000**	**$ 29,000,001**	
Exh. DRH-1T Total 2021-2024 Capital Additions		**$ 17,278,280**	**$ 24,544,986**	**$ 27,000,000**	**$ 29,000,001**	

Wildfire Resiliency Plan (December 2021)

EXECUTIVE SUMMARY

The threat of wildfires poses a significant risk to utilities across the western United States. In May of 2020, Avista published its "**2020 Wildfire Resiliency Plan**" which details programs and actions Avista is taking to mitigate the risk of wildfire. The Plan is focused on protecting human lives, physical assets, and property against the threat of wildfires, preparing and training for wildfire events, and aligning Company operations with fire threat conditions. The Plan details a 10-year time horizon. The $348,487,638 (**Capital - $281,880,949** and Operating Costs - $66,606,689) Plan includes investments in four areas. Note that projected capital costs are shown in total over the ten-year period and are based on current estimates of work as defined by the updated Wildfire Resiliency Plan.

Enhanced Risk-Based Vegetation Management

No capital within this mitigation category

Situational Awareness

Fire-Weather Dashboard ($373,000)
Dry Land Mode Automation ($6.3 million)
Dry Land Mode 100% Substation SCADA ($29 million)

Operations and Emergency Response

Fire Ignition Tracking System ($2,510)

Grid Hardening & Dry Land Mode

Transmission Inspection & Construction ($1.7 million)
Transmission Grid Hardening/Steel Conversion ($38.1 million)
Distribution Grid Hardening ($206.4 million)

Wildfire Plan (CapX 2020-2029) $ 281,880,949

The 10-year accumulated current risk of wildfire is estimated between $8.05 and $18.2 billion dollars. The mitigated risk (with controls) is estimated between $0.5 and $2.3 billion dollars accumulated over a 10-year period. The risk reduction is estimated at between 8X and 16X with a cost/benefit ratio between 22.9 and 48.6 including $66 million dollars of O&M expense.

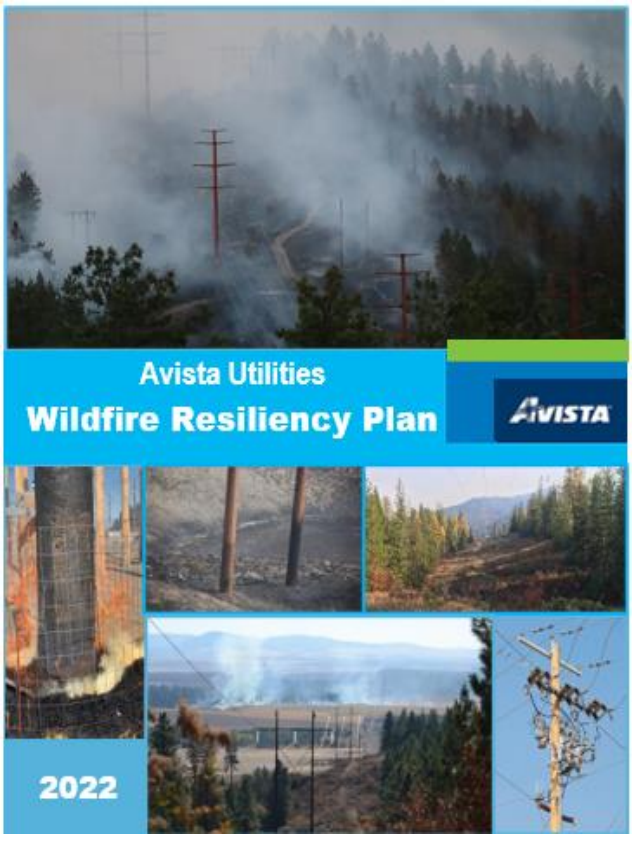
VERSION HISTORY

Version	Author	Description	Date	Notes
0	David James	Initial Submission to Capital Planning	April 1, 2020	Initial submission
1	David James	Refresh using 2020 BC narrative template	July 29, 2020	No revision to capital requirements
2	Lisa La Bolle	Update to latest Budget numbers	12/29/2021	

Wildfire Resiliency Plan (December 2021)

GENERAL INFORMATION

Requested Spend Amount	$281,880,949 (2020-2029) CAPX $66,606,689 (2020-2029 OPX) *for information*
Requesting Organization/Department	Electric Operations
Business Case Owner	David Howell
Business Case Sponsor	Heather Rosentrater
Sponsor Organization/Department	Electric Operations
Category	Program
Driver	Customer Service Quality & Reliability



1. BUSINESS PROBLEM

1.1 What is the current or potential problem that is being addressed? The risk of wildfires is increasing throughout the western United States. Data from the U.S. Forest service indicates a 300% increase in the number of wildfires since 1970. Data specific to fires in Washington and Idaho fires suggest that fire size has increased 400-500% over the last several decades. Though the number of utility-involved wildfires remains relatively low (5-7% WA DNR statistics, 1990-2015), wildfire is differentiated from natural disasters in that 'cause and origin' investigations often lead to claims for fire suppression costs, property damage, timber loss, and personal injury. In the fall of 2018, a small team of Avista employees was assembled to assess the risks, develop defensive strategies, and implement a Wildfire Resiliency Plan. This business case reflects the 10-year strategy to build defense strategies against wildfire.

1.2 Discuss the major drivers of the business case and the benefits to the customer? Wildfire does not align well with the existing business case drivers. Unlike most asset replacement programs, Wildfire Resiliency is a risk-based, not a condition-based program. Therefore, it is best aligned with Customer Service Quality & Reliability and is expected to reduce risk exposure by at least $7.5 billion dollars over a 10-year period.

1.3 Identify why this work is needed now and what risks there are if not approved or is deferred – Avista has published a "2020 Wildfire Resiliency Plan" and have committed to implementation at the highest levels of the Company including the Board of Directors. It is a Tier 1 Enterprise Level risk.

1.4 Identify any measures that can be used to determine whether the investment would successfully deliver on the objectives and address the need listed above – As part of Wildfire Resiliency, performance metrics will be tracked including, fire ignition events, to measure the efficacy of the program. Transmission and Distribution Operations tracks system outages including cause-code, duration, and impacted customers. The primary goal of the program is to limit the number of spark-ignition events and the reduction in outages will enhance customer experience.

1.5 Supplemental Information

1.5.1 Please reference and summarize any studies that support the problem

Several supporting documents are available for review:

2022 Avista Wildfire Resiliency Plan (December 2021)
2021 Wildfire Year in Review (December 2021)
2020 Avista Wildfire Resiliency Plan (June 2020)
Wildfire Resiliency Cost Plan (January 2020)
Wildfire Risk Assessment (September 2019)
Wildfire Plan Charter (May 2019)

1.5.2 For asset replacement, include graphical or narrative representation of metrics associated with the current condition of the asset that is proposed for replacement.

Wildfire Resiliency Plan (December 2021)

Wildfire Resiliency is a comprehensive, risk-based program and includes targeted equipment replacement. Condition based metrics are not considered.

In May and June of 2019, a series of risk workshops were held to identify potential defensive strategies to reduce the risk of wildfire. These workshops were facilitated by the Business Process Improvement team with support from Senior Risk Manager, Bob Brandkamp, and Asset Management Analyst, Jeff Smith. Over the course of 6-workshops, 160 mitigation strategies were identified. 60 of those were analyzed in detail and ultimately, 28 strategies were adopted into the plan including transmission and distribution grid hardening, a comprehensive review of dry land mode operating strategies, and systems to actively monitor fire-risk. These 28 strategies were combined into four primary areas as noted above. In addition to internal processes, Avista participated in several utility forums sponsored by the Western Energy Institute including the Wildfire Planning & Mitigation workshop. In general, the approach to fire mitigation is consistent throughout the utility sector.

Option	Capital Cost	Start	Complete
Wildfire Resiliency Plan	*$281,880,949*	*07 2020*	*12 2029*

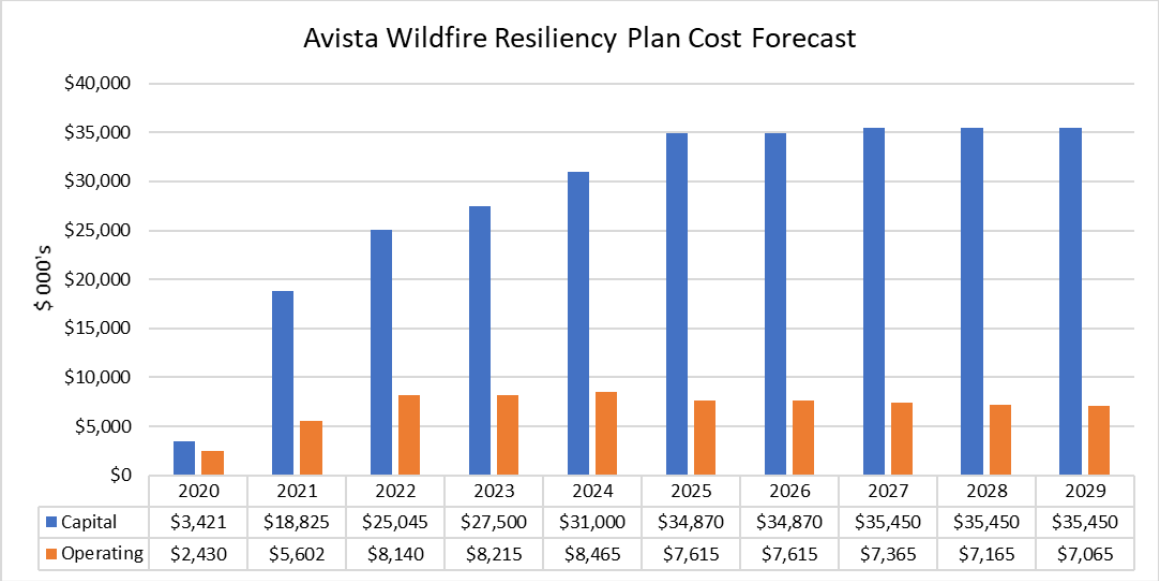
2.1 Describe what metrics, data, analysis or information was considered when preparing this capital request.

Wildfire Resiliency is a risk-based plan. Existing and mitigated (future) risks were assessed in three categories:

- Financial (the cost of replacing T&D infrastructure associated with wildfire events and response to third party and other claims for fire suppression and damages)
- Customer (the cost impact to customers including outage duration and societal disruption)
- Safety (costs associated with worker and public injuries)

2.2 Discuss how the requested capital cost amount will be spent in the current year (or future years if a multi-year or ongoing initiative). (i.e. what are the expected functions, processes or deliverables that will result from the capital spend?)**. Include any known or estimated reductions to O&M as a result of this investment.**

The illustration indicates the estimated capital and operating investments. Though we do expect outage rates associated with vegetation and equipment failures to trend downward, O&M 'offsets' are not a significant factor. The primary focus of this plan is risk reduction and to protect the financial viability of the Company.



	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Capital	$3,421	$18,825	$25,045	$27,500	$31,000	$34,870	$34,870	$35,450	$35,450	$35,450
Operating	$2,430	$5,602	$8,140	$8,215	$8,465	$7,615	$7,615	$7,365	$7,165	$7,065

Cost breakdown by year and project:

GRID HARDENING	Actual	Expected	Projected								10-Yr. Total
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Capital											
Distribution Hardening	$3,114,920	$11,075,000	$18,595,000	$21,150,000	$23,150,000	$25,520,000	$25,520,000	$26,100,000	$26,100,000	$26,100,000	$206,424,920
Trans. Grid Hardening Steel Conversion	$73,567	$6,000,000	$4,000,000	$4,000,000	$4,000,000	$4,000,000	$4,000,000	$4,000,000	$4,000,000	$4,000,000	$38,073,567
Transmission Inspection/Construction	$1,272	$75,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$1,676,272
TOTAL CAPITAL	***$3,189,759***	***$17,150,000***	***$22,795,000***	***$25,350,000***	***$27,350,000***	***$29,720,000***	***$29,720,000***	***$30,300,000***	***$30,300,000***	***$30,300,000***	***$246,174,759***
O&M											
Wood Pole Fire Resistant Mesh Wrap	$178,000	$617,000	$550,000	$550,000	$550,000	$550,000	$550,000	$550,000	$550,000	$550,000	$5,195,000
Transmission Inspection/Construction	$137,372	$330,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$1,667,372
TOTAL O&M	***$315,372***	***$947,000***	***$700,000***	***$700,000***	***$700,000***	***$700,000***	***$700,000***	***$700,000***	***$700,000***	***$700,000***	***$6,862,372***
TOTAL	***$3,505,131***	***$18,097,000***	***$23,495,000***	***$26,050,000***	***$28,050,000***	***$30,420,000***	***$30,420,000***	***$31,000,000***	***$31,000,000***	***$31,000,000***	***$253,037,131***

Notes:
** Steel conversion dollars based on 17% of transmission in WUI risk red/orange and 25k/structure 230 and 15k/structure 115.*
** Transmission Inspection budget includes follow-up work.*
** Genic fire mesh $90/pole (assume H-frame $500/structure 500 structures/year - 8 structure/miles - 62.5 miles/year)*

RISK VEGETATION MGMT.	Actual	Expected	Projected								10-Yr. Total
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
O&M											
Transmission Digital Data LiDAR (GeoDigital)	$491,422	$500,000	$750,000	$750,000	$750,000	$750,000	$750,000	$750,000	$750,000	$750,000	$6,991,422
Distribution Digital Data Satellite (AiDASH)	$59,282	$250,000	$535,000	$535,000	$535,000	$535,000	$535,000	$535,000	$535,000	$535,000	$4,589,282
Fuel Reduction Partnerships	$0	$0	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$2,400,000
Distribution Annual Risk Tree	$1,239,113	$3,600,000	$5,050,000	$5,049,500	$5,050,000	$4,200,000	$4,200,000	$4,200,000	$4,200,000	$4,200,000	$40,988,613
Customer Choice Right Tree Right Place	$0	$0	$350,000	$500,000	$750,000	$750,000	$750,000	$500,000	$300,000	$200,000	$4,100,000
TOTAL O&M	***$1,789,817***	***$4,350,000***	***$6,985,000***	***$7,134,500***	***$7,385,000***	***$6,535,000***	***$6,535,000***	***$6,285,000***	***$6,085,000***	***$5,985,000***	***$59,069,317***
TOTAL	***$1,789,817***	***$4,350,000***	***$6,985,000***	***$7,134,500***	***$7,385,000***	***$6,535,000***	***$6,535,000***	***$6,285,000***	***$6,085,000***	***$5,985,000***	***$59,069,317***
Notes:	* Transmission LiDAR Costs based on GeoDigital $450/mile with full system inspection in 2022.										
	* Fuel Reduction Partnership dollars are estimated at ~$1k per acre.										
	* Distribution Risk Tree estimate from based on 100% Risk Tree coverage for Dx system.										
	* Customer Choice Right Tree includes Public Outreach, Media messaging, and remove/replace program.										
	* Distribution imaging costs based on AiDash Contract at 70$/miles for 7650 miles OH System (2021 reflects a negotiated price to establish baseline).										

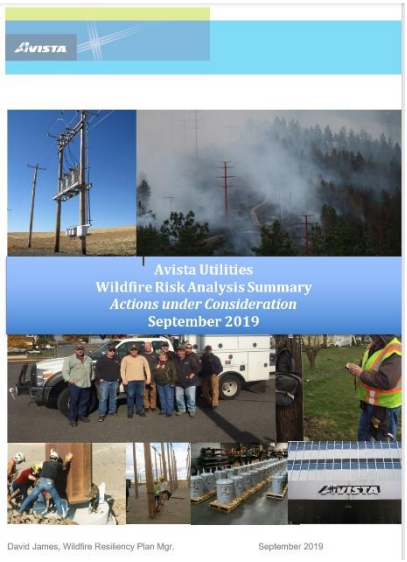
SITUATIONAL AWARENESS	Actual	Expected	Projected								10-Yr. Total
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Capital											
Fire Weather Dashboard	$197,750	$175,000	$0	$0	$0	$0	$0	$0	$0	$0	$372,750
Dry Land Mode 100% Substation SCADA	$400	$500,000	$1,500,000	$1,500,000	$3,000,000	$4,500,000	$4,500,000	$4,500,000	$4,500,000	$4,500,000	$29,000,400
Automate Dry Land Mode / Midline Reclosers	$30,530	$1,000,000	$750,000	$650,000	$650,000	$650,000	$650,000	$650,000	$650,000	$650,000	$6,330,530
TOTAL CAPITAL	***$228,680***	***$1,675,000***	***$2,250,000***	***$2,150,000***	***$3,650,000***	***$5,150,000***	***$5,150,000***	***$5,150,000***	***$5,150,000***	***$5,150,000***	***$35,703,680***
O&M											
Fire Weather Dashboard	$0	$0	$150,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$675,000
TOTAL	***$228,680***	***$1,675,000***	***$2,400,000***	***$2,225,000***	***$3,725,000***	***$5,225,000***	***$5,225,000***	***$5,225,000***	***$5,225,000***	***$5,225,000***	***$36,378,680***

EMERGENCY OPERATIONS & RESPONSE	Actual	Expected	Projected								10-Yr. Total
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Capital											
Emergency Operation Plan (EOP)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fire Ignition Tracking/Metrics	$2,510	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,510
TOTAL CAPITAL	***$2,510***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$2,510***

2.3 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented.

Implementation has and will impact many areas of the Company including electric operations, engineering, supply chain, IT, asset management, finance and accounting. However, great care has been taken to leverage existing workflow processes and technologies to minimize disruption to the organization. This is an enterprise level program.

2.4 Discuss the alternatives that were considered and any tangible risks and mitigation strategies for each alternative.

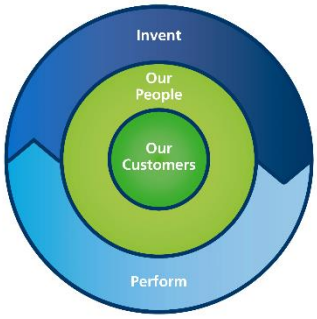


A complete list of alternatives is included in the September 2019 publication entitled, "Wildfire Risk Analysis Summary – actions under consideration". This document focuses on the risks and costs of viable alternatives and laid the groundwork for actions adopted in the Resiliency Plan.

2.5 Include a timeline of when this work will be started and completed. Describe when the investments become used and useful to the customer.

The scope of this plan is considerable. Both transmission and distribution grid hardening projects will be ramped from 2020 through 2025 and then levelized through 2029. Other efforts including technology projects such as the fire-weather dashboard, digital data collection, and the risk analysis will be conducted throughout the ten-year horizon.

2.6 Discuss how the proposed investment aligns with strategic vision, goals, objectives and mission statement of the organization.



The stated goals of the resiliency plan are:

- Protect human lives, physical assets, and property against the threat of wildland fires through the implementation of Plan programs and Company operations.
- Prepare and train for episodic wildfire events, ensure emergency preparedness, and align operating practices with fire threat conditions.
- Protect Avista's energy delivery infrastructure and mitigate the probability and consequence of direct financial and liability costs associated with large scale fire events.

The effort to develop a comprehensive wildfire mitigation strategy has been fully embraced by Avista's Board of Directors and executive management. The Board has requested quarterly updates since early 2020.

2.7 Include why the requested amount above is considered a prudent investment, providing or attaching any supporting documentation. In addition, please explain how the investment prudency will be reviewed and re-evaluated throughout the project

Prudency is a fundamental tenant of cost recovery. Avista has engaged directly with Idaho and Washington Utility Commissioners and their staffs. Avista's rates

department recently petitioned the IPUC for deferral treatment of all wildfire related costs (capital and O&M). In 2021 the Washington Commission approved the Wildfire Plan and associated expenditures, including a deferral account. SUPPLEMENTAL INFORMATION

2.7.1 Identify customers and stakeholders that interface with the business case

Avista electric customers located in Wildland Urban Interface zones 2 & 3 will be directly engaged via the process. Grid hardening and enhanced vegetation management strategies will be focused in those areas. In addition, Avista is coordinating with local and regional stakeholders including fire protection agencies, electric utilities, the Washington department of natural resources (DNR), the Idaho department of lands (IDL), and groups with an interest in or impacted by Avista's plan.

2.7.2 Identify any related Business Cases

N/A

3.1 Steering Committee or Advisory Group Information

Since February of 2019, a Wildfire Steering Committee has actively engaged in the formation and adoption of the Plan. That committee remains active and will guide efforts throughout the life of the program. Members include:

Name	Title
David Howell	Director, Electric Operations (Business Case Owner)
Bruce Howard	Sr. Director, Environmental Affairs and Real Estate
Greg Hesler	Vice President, General Counsel & Chief Compliance Officer
Heather Webster	Manager, Asset Maintenance
Elizabeth Andrews	Sr. Manager, Revenue Requirements
Bob Brandkamp	Sr. Manager, Risk
Annie Gannon	Manager, Communications
Casey Fielder	Manager, Corporate Communications

3.2 Provide and discuss the governance processes and people that will provide oversight

The Wildfire Resiliency Plan will adapt and evolve to align with risk conditions and available technologies to mitigate those risks. Governance and oversight will be a consistent element throughout the life of the Plan including direct involvement by senior management and oversight via the Board of Directors.

3.3 How will decision-making, prioritization, and change requests be documented and monitored

Program management is a prescribed function of the Wildfire Plan Manager position. Monthly status reports will include status of costs, production, and forecasts including resource requirements. This plan will adapt over time as we gain experience with new elements including risk-based vegetation management, digital data collection, grid hardening, and emergency operations tactics specific to fire response.

Wildfire Resiliency Plan (December 2021)

The undersigned acknowledge they have reviewed the ***Wildfire Resiliency Plan business case*** and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:	David Howell	Date:	12/30/21
Print Name:	David Howell		
Title:	Director, Electric Operations		
Role:	Business Case Owner		

Signature:	Heather Rosentrater	Date:	12/29/21
Print Name:	Heather Rosentrater		
Title:	Sr Vice President, Energy Delivery & Shared Services		
Role:	Business Case Sponsor		

Signature:	David Howell	Date:	12/30/21
Print Name:	David Howell (on behalf of WFRES Steering Group)		
Title:			
Role:	Steering/Advisory Committee Review		