

ATTACHMENT C
Avista Utilities
Capital Additions Variance Explanation Forms

Witness	Business Case	2022 As-Filed	2022 Actual	Variance \$	Variance %	\$500k &	Attach- ment C
		TTP (1) Gross Plant	TTP (1) Gross Plant	over/(under) Gross Plant	over/(under)	+/- 10% TTP Threshold met?	
Kensok	Basic Workplace Technology Delivery	\$ 813,479	\$ 2,094,785	\$ 1,281,306	158%	yes	2
Thackston	Cabinet Gorge Station Service	\$ 7,761,859	\$ -	\$ (7,761,859)	-100%	yes	13
Thackston	Cabinet Gorge Unit 4 Protection & Control Upgrade	\$ 750,000	\$ 3,312,748	\$ 2,562,748	342%	yes	18
Thackston	Clark Fork Settlement Agreement	\$ 4,839,609	\$ 3,501,188	\$ (1,338,421)	-28%	yes	19
Magalsky	Customer Experience Platform Program	\$ 5,999,915	\$ 4,588,240	\$ (1,411,675)	-24%	yes	20
Magalsky	Customer Transactional Systems	\$ 3,859,166	\$ 2,824,043	\$ (1,035,123)	-27%	yes	21
Rosentrater	Distribution Grid Modernization	\$ 2,165,010	\$ 2,716,701	\$ 551,691	25%	yes	22
Rosentrater	Distribution Minor Rebuild	\$ 11,499,986	\$ 15,056,011	\$ 3,556,025	31%	yes	23
Rosentrater	Downtown Network - Performance & Capacity	\$ 1,100,000	\$ 358,877	\$ (741,123)	-67%	yes	28
Rosentrater	Elec Relocation and Replacement Program	\$ 5,399,944	\$ 8,595,275	\$ 3,195,331	59%	yes	29
Magalsky	Electric Transportation	\$ 2,775,000	\$ 1,997,584	\$ (777,416)	-28%	yes	34
Kensok	Endpoint Compute and Productivity Systems	\$ 3,498,321	\$ 5,713,123	\$ 2,214,802	63%	yes	35
Kensok	Energy Delivery Modernization & Operational Efficiency	\$ 5,560,672	\$ 8,762,727	\$ 3,202,055	58%	yes	38
Kensok	Energy Resources Modernization & Operational Efficiency	\$ 2,727,599	\$ 2,205,670	\$ (521,929)	-19%	yes	45
Kensok	Enterprise & Control Network Infrastructure	\$ 3,243,307	\$ 3,904,831	\$ 661,524	20%	yes	73
Kensok	Enterprise Communication Systems	\$ 1,472,733	\$ 4,267,360	\$ 2,794,627	190%	yes	88
Kensok	Enterprise Network Infrastructure	\$ 2,235,285	\$ 363,051	\$ (1,872,234)	-84%	yes	98
Kensok	Enterprise Security	\$ 972,340	\$ 2,482,395	\$ 1,510,055	155%	yes	112
Kensok	Fiber Network Lease Service Replacement	\$ 1,392,970	\$ 687,525	\$ (705,445)	-51%	yes	118
Rosentrater	Fleet Services Capital Plan	\$ 7,904,640	\$ 6,911,885	\$ (992,755)	-13%	yes	128
Rosentrater	Gas Above Grade Pipe Remediation Program	\$ 682,000	\$ -	\$ (682,000)	-100%	yes	130
Rosentrater	Gas Airway Heights HP Reinforcement	\$ 9,634,502	\$ 7,867,781	\$ (1,766,721)	-18%	yes	131
Rosentrater	Gas ERT Replacement Program	\$ -	\$ 778,042	\$ 778,042	100%	yes	134
Rosentrater	Gas HP Pipeline Remediation Program	\$ 599,998	\$ -	\$ (599,998)	-100%	yes	147
Rosentrater	Gas Isolated Steel Replacement Program	\$ 862,754	\$ 1,424,685	\$ 561,931	65%	yes	148
Rosentrater	Gas Non-Revenue Program	\$ 9,295,000	\$ 10,657,765	\$ 1,362,765	15%	yes	149
Rosentrater	Gas PMC Program	\$ 3,500,004	\$ 1,657,533	\$ (1,842,471)	-53%	yes	150
Rosentrater	Gas Reinforcement Program	\$ 1,299,997	\$ 1,892,133	\$ 592,136	46%	yes	161
Rosentrater	Gas Replacement Street and Highway Program	\$ 3,495,650	\$ 4,847,700	\$ 1,352,050	39%	yes	162
Rosentrater	Gas Transient Voltage Mitigation Program	\$ 875,000	\$ -	\$ (875,000)	-100%	yes	163
Thackston	Generation DC Supplied System Update	\$ 550,001	\$ 18,486	\$ (531,515)	-97%	yes	166
Kensok	Identity and Access Governance (IAG)	\$ 672,255	\$ -	\$ (672,255)	-100%	yes	167
Rosentrater	Joint Use	\$ 2,749,992	\$ 4,340,369	\$ 1,590,377	58%	yes	173
Thackston	KF_Fuel Yard Equipment Replacement	\$ -	\$ 31,118,690	\$ 31,118,690	100%	yes	174
Kensok	Land Mobile Radio & Real Time Communication Systems	\$ 3,569,746	\$ 299,516	\$ (3,270,230)	-92%	yes	188
Rosentrater	N Lewiston Autotransformer - Failed Plant	\$ 5,554,506	\$ 4,394,085	\$ (1,160,421)	-21%	yes	194
Rosentrater	New Revenue - Growth	\$ 73,429,598	\$ 98,845,434	\$ 25,415,836	35%	yes	195
Thackston	Nine Mile HED Battery Building	\$ 800,001	\$ -	\$ (800,001)	-100%	yes	196
Thackston	Nine Mile Powerhouse Crane Rehab	\$ 1,699,988	\$ 1,018,790	\$ (681,198)	-40%	yes	197
Rosentrater	Protection System Upgrade for PRC-002	\$ 80,000	\$ 2,772,398	\$ 2,692,398	3365%	yes	198
Rosentrater	Saddle Mountain 230/115kV Station (New) Integration Project I	\$ 19,962,533	\$ 13,416,440	\$ (6,546,093)	-33%	yes	199
Thackston	Spokane River License Implementation	\$ 629,226	\$ 107,452	\$ (521,774)	-83%	yes	200
Rosentrater	Spokane Valley Transmission Reinforcement Project	\$ 2,000,000	\$ 3,037,762	\$ 1,037,762	52%	yes	201
Rosentrater	Strategic Initiatives - Clean Energy Fund 2	\$ -	\$ 555,858	\$ 555,858	100%	yes	204
Thackston	Strategic Initiatives - Upriver Park	\$ 225,225	\$ 3,823,802	\$ 3,598,577	1598%	yes	216
Rosentrater	Structures and Improvements/Furniture	\$ 3,639,388	\$ 6,384,231	\$ 2,744,843	75%	yes	217
Rosentrater	Substation - New Distribution Station Capacity Program	\$ 5,765,300	\$ 4,266,887	\$ (1,498,413)	-26%	yes	238
Rosentrater	Substation - Station Rebuilds Program	\$ 12,998,326	\$ 10,685,595	\$ (2,312,731)	-18%	yes	239
Rosentrater	Transmission Construction - Compliance	\$ 2,111,069	\$ 4,125,981	\$ 2,014,912	95%	yes	240
Rosentrater	Transmission Major Rebuild - Asset Condition	\$ 5,680,751	\$ 3,549,326	\$ (2,131,425)	-38%	yes	245
Rosentrater	Transmission NERC Low-Risk Priority Lines Mitigation	\$ 2,554,255	\$ 1,146,219	\$ (1,408,036)	-55%	yes	248
Rosentrater	Westside 230/115kV Station Brownfield Rebuild Project	\$ -	\$ 3,292,230	\$ 3,292,230	100%	yes	249

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Basic Workplace Technology

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Basic Workplace Technology business case responds to five essential functions that equip our staff to optimize our business and be responsive to our customers. The five essential functions include: Employee Onboard; Contractor Onboard; Job Function Change; Exchange of equipment; and General Additions. This requires a need to keep a small amount of inventory to meet business value timeframes.

The Basic Workplace Technology Business case was originally funded for 2022 at \$800,000. The demand for basic workplace technology is hard to control and historically the business case is spending above the funding level and transfers-to-plant \$1.2 - \$1.4 million annually. In 2022, this business case transferred approximately \$2M, which represents a variance of approximately \$1.28M of over transfers. A variety of factors contributed to additional transfer-to-plant amount:

- an increase in employee/contractor onboards. The Company experienced a higher attrition rate of employees and contractors than ever before.
- a return to the office in a hybrid working scenario requiring the addition of technology hardware (docking stations, wireless headsets, mouse/keyboard and monitors) for a large number of employees to allow for remote and office working moving forward.
- the completion of the Windows 10 upgrade project, where remaining inventory was transferred to this business case.
- vegetation management group needing radios for contract crews with no cell phone service.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

All projects contained within ET business cases are governed by a steering committee and thus any changes to scope, schedule, or budget are approved by that steering committee and business case governance for prudence. Therefore, any additional costs to the project were prudently documented and approved. Please see the following Capital Planning Group change request documents that represent changes to the plan from the filed general rate case amount. These change requests represent additional spend that was needed, that will ultimately result in additional transfers-to-plant and go into more details regarding the reasons for the additional funding:

BWT - CR01	Onboarding Employees and Contractors	100,000
BWT - CR01	Hybrid Workers	186,000
BWT - CR02	Onboarding Employees and Contractors	445,000
BWT - CR02	Hybrid Workers	55,000
BWT - CR03	Win 10	385,000
BWT - CR03	Vegetation Mgmt.	50,000
No CR	Unplanned Transfer from 2021 Purchase	60,000
		1,281,000

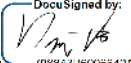
ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

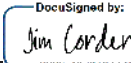
The Basic Workspace technology business case enables the issuance of new technology equipment to users which allows them to perform their job functions with the greatest efficiency. The absence of this equipment would render the user unable to perform their duties effectively, resulting in significant inefficiencies. The Company does not have a method to quantify such a broad indirect saving. Therefore, no indirect savings are included.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

DIRECTOR SIGNATURE:

X  _____

X  _____

Basic Workplace Technology

1.0 CHANGE REQUEST CR01 6.22

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$1,360,000	\$800,000
<i>CR01</i>	\$186,000	\$986,000

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
06-2022	\$474,691	\$800,000	\$186,000	\$986,000

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	6/29/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The average spend over the last two years in this business case has been \$1.2 million. Current 2022 spend is forecast to be similar to previous years, and as a result this business case will need an increase in funding. Please refer to the original business case for further details surrounding the types of costs included.

The immediate need for funding increase relates to efforts of the Workplace 2022 program. The program has resulted in workers returning to the office in various capacities, including as hybrid workers. After considering employee experience, the company chose to provide secondary technology kits for people working in a hybrid capacity.

There are roughly 800 hybrid workers identified within the company as of April, 2022. Each of these Hybrid workers has the opportunity to request a secondary technology kit as of June 3rd, 2022. These secondary technology kits could include any combination of the following:

- docking station
- wireless headset
- mouse/keyboard
- monitor

Currently there are 200 Secondary Technology requests in queue, which is increasing daily. This is identified as our backlog of work. Additionally, we can assume that new onboards working in a hybrid capacity may choose to receive additional technology. In some cases, this could nearly double the technology demand on a per-employee onboard basis. The cost for these equipment is \$122,000.

Running in parallel to the Secondary Technology requests is a project to return CSRs to each of our call center locations. This work effort will provide the CSR team members with a secondary work location in-office, as they will continue to work from home primarily. The result is a

Basic Workplace Technology

request for 150 docking stations, keyboards, and mice. The estimated cost for this equipment is \$64,000.

Based on the current hybrid technology demand, the business case needs funding to accommodate purchase and delivery of these items. If supply exceeds demand after all secondary kits are fulfilled the equipment will be used for onboard primary kits, and subsequent requests for secondary kits. We are seeking a funding increase of \$186,000 to accommodate this new demand for secondary technology.

This business case does anticipate needing to request additional funding later in 2022 in order to meet our expected spend of \$1.3 million. Our request will be re-evaluated in quarter 3.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The purchase of this secondary technology is needed as soon as possible, as employees are beginning to return to the office and will be working both at home and at the office. In addition, in order to stay ahead of supply chain issues and the typical cadence of work within this business case funding is requested at this time. If this request is not approved, it could impact the employee experience.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Please see section 1.1.1

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

As a result of these requests and the overall volume of work the Basic Workplace Technology team as, staff augmentation was required.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.


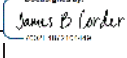
1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No Change to justification narrative.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Basic Workplace Technology

Name	Role	Signature	Date
Dave Husted	BC Owner		Jun-10-2022
Jim Corder	BC Sponsor		Jun-10-2022
	FP&A		

7:41 AM PDT

8:23 AM PDT

Basic Workplace Technology

1.0 CHANGE REQUEST CR02 9.22

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$1,360,000	\$800,000
<i>CR01</i>	\$186,000	\$986,000
<i>CR02</i>	\$500,000	

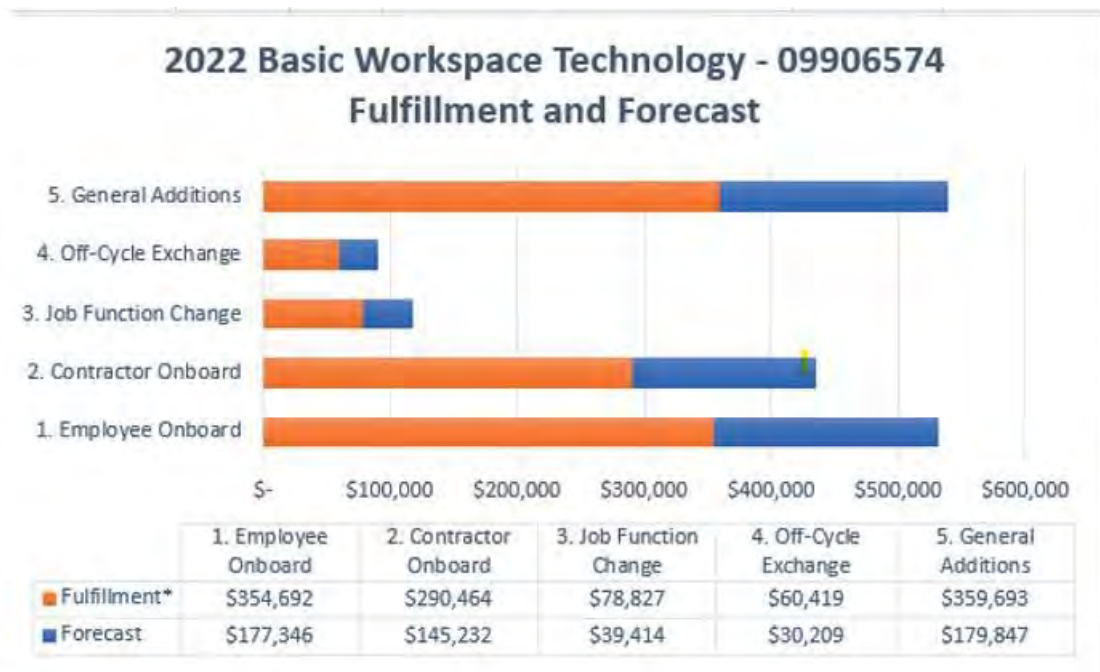
Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
09-2022	\$1,029,480	\$986,000	\$500,000	\$1,486,000

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	8/31/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The business case dashboard (below) illustrates the five business driver categories and the associated year to date spend. The categories record the fulfillment activity and cost, this data is used to calculate the end of year forecast. The forecast total is roughly \$500,000, matching this change request.



Basic Workplace Technology

The forecast includes technology products, contractor service, and employee labor. The technology products are purchased in lots to maintain inventory levels that ensure requests can be fulfilled in a timely manner. Supply chain issues have made forecasting more difficult this year, product ship/receive timeframes are highly volatile. The YTD spend represents an unexpected product receipt in August of \$141,903.

Furthermore, the return to office and hybrid worker has increased demand for basic workplace technology. The hybrid worker has increased the number of workplace locations, creating the need for additional (secondary) technology products. The company-wide hybrid worker estimate is 800, the business case has received 300 secondary technology requests and fulfilled 274. Change order 01 included \$186,000 for secondary technology. This change request (CR02) includes \$55,000 for secondary technology. Most of the secondary technology fulfillments are recorded in category (5) General Additions. The record of secondary technology activity to date is below:

Secondary Kit Fulfillment

Progress as of 9/19/2022	
• Currently in queue	11
• Assigned to worker	15
• Total fulfilled Capital	200
• Total fulfilled Expense	74
• Total requests	300
• Capital Units distributed	1064



Fulfillment Costs

Progress as of 9/19/2022	
• Capital fulfillment	\$185,050
• Capital Labor	\$21,400
• Total Capital	\$206,450
• Expense fulfillment	\$17,950
• Expense labor	\$8,600
• Total Expense	\$26,550
• Grand total:	\$233,000

Breakdown of Secondary technology product unit counts as of end of August:

- 316 docking stations
- 148 wireless headsets
- 319 mice/keyboards
- 214 monitors

This business case does anticipate one more request for funding in the final quarter of 2022. Technology products purchased in the Endpoint Compute Business Case will be repurposed to meet inventory and fulfillment demand in Basic Workplace Technology.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The purchase of this secondary technology is needed as soon as possible, as employees are beginning to return to the office and will be working both at home and at the office. In addition, to stay ahead of supply chain issues and the typical cadence of work within this business case funding is requested at this time. If this request is not approved, it could impact the employee experience.

Basic Workplace Technology

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Please see section 1.1.1

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

As a result of these requests and the overall volume of work the Basic Workplace Technology team has, staff augmentation was required.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

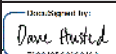
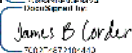
1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No Change to justification narrative.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Dave Husted	BC Owner		Sep-20-2022
Jim Corder	BC Sponsor		Sep-20-2022
	FP&A		

3:58 PM PDT

1:59 PM PDT

Basic Workplace Technology

1.0 CHANGE REQUEST CR03 10.22

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$1,360,000	\$800,000
<i>CR01</i>	\$186,000	\$986,000
<i>CR02</i>	\$500,000	\$1,486,000
<i>CR03</i>	\$535,000	

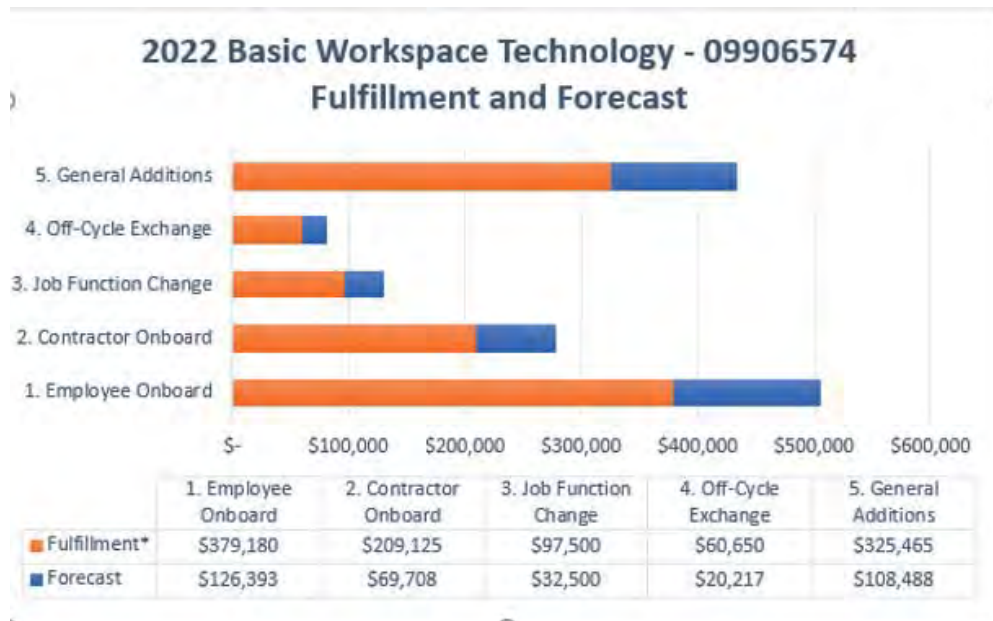
Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
10-2022	\$1,193,082	\$1,486,000	\$535,000	\$2,021,000

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	10/28/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

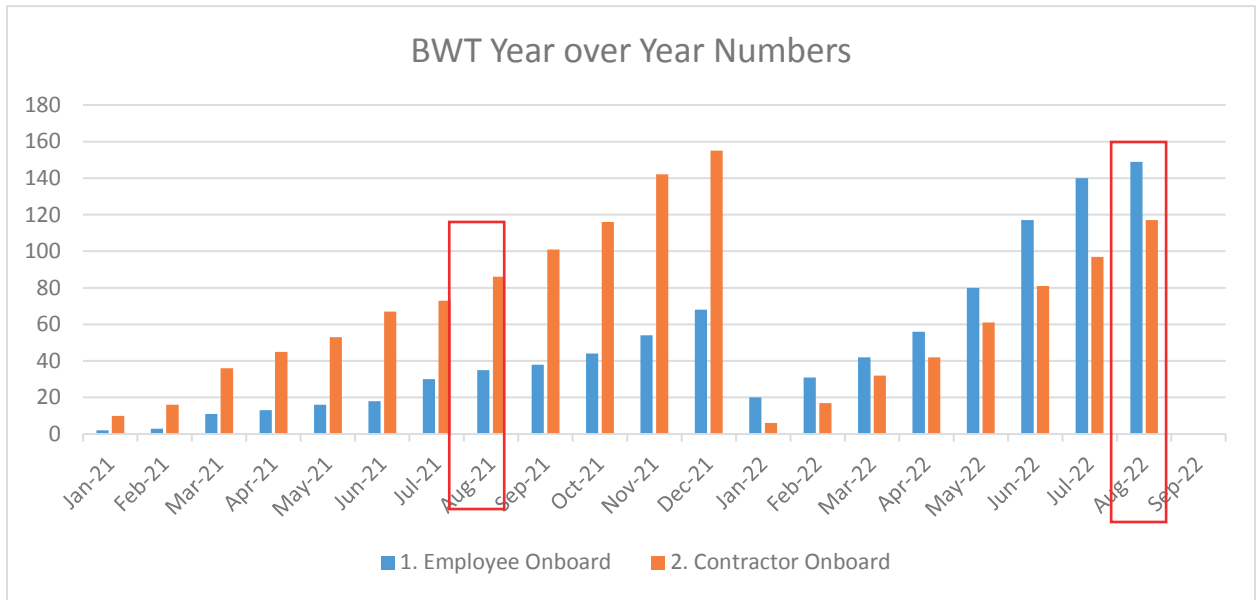
1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The business case dashboard (below) illustrates the five business driver categories and the associated year to date spend. The categories record the fulfillment activity and cost, this data is used to calculate the end of year forecast.



Basic Workplace Technology

The forecast includes technology products, contractor service, and employee labor. The technology products are purchased in lots to maintain inventory levels that ensure requests can be fulfilled in a timely manner. Supply chain issues have made forecasting more difficult this year, product ship/receive timeframes are highly volatile. There has also been an increase in employee and contractor onboard requests compared to previous years, which is creating an unforeseen increase in funding needs. The increase in onboarding is largely due to overall higher employee attrition the Company has been experiencing over the last few years. The chart below illustrates this increase.



In addition, The Windows 10 Phase 3 project is closing and had a surplus inventory of laptops, monitors and other hardware items that are not needed. The most appropriate use for this inventory is in the Basic Workplace Technology business case. This inventory will be used to fulfill the existing use cases in this business case, such as new hires and continuing deployment of secondary technology kits. In order to accommodate this transfer, we request \$385,000 in funding be transferred from the Endpoint Compute and Productivity business case into the Basic Workplace Technology business case.

Finally, the vegetation management group requested the use of radios for their contractor crews for use in areas with no cell phone service. This group has not had access to radios for the last several years, and this has been identified as a safety risk. The total amount for these radios is roughly \$50,000. The total request for increase in funding is \$535,000.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

Basic workplace is already utilizing the surplus inventory, if this transfer is not approved the business case will risk being over budget. In addition, the surplus hardware will not be appropriately accounted for within each of the business cases. Avista would also be impacted as well by potentially not having enough inventory to deploy to new employee/contractor onboards, as lead times for much of the product in Basic Workplace has been difficult to predict recently.

Basic Workplace Technology

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Please see section 1.1.1

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

No Impacts. Due to supply chain issues, the inability to use already purchased inventory from a different business case could result in employees and contractors not receiving hardware necessary to perform day to day work functions.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

If the Basic Workplace Technology business case is not able to use these additional inventory, then the company would incur additional expense as this inventory would need to be written off to expense. Avista would also be impacted as well by potentially not having enough inventory to deploy to new employee/contractor onboards, as lead times for much of the product in Basic Workplace has been difficult to predict recently.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.



This transfer is prudent as it allows the business to utilize surplus inventory.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No Change to justification narrative.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Dave Husted	BC Owner		Oct-18-2022 8:37 AM PDT
Jim Corder	BC Sponsor		Oct-18-2022 8:09 AM PDT
	FP&A		

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Cabinet Gorge Station Service

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5-year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Cabinet Gorge Station Service equipment is original and was installed in 1951. The project objective is to improve the level of service, operability, reliability, and redundancy of station service power at the HED by replacing the following components; Transformers, Power Centers, Motor Control Centers, Load Centers, Emergency Generators, Emergency Load Centers, and various breakers.

This project underspent in 2022 because it was put on hold in June of 2020 and new core team was initiated in July 2021. Since the project paused over one year, the original spending forecasts and transfer to plant dates forecasted are no longer valid. The new team was assembled to resolve key project issues and determine a path to completion.

During the course of the project restart, the project team experienced material delays associated with supply chain issues and resource constraints which pushed costs to FY 2023. See referenced FCRs below.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

During FY 2022, the project team submitted two Funds Change Requests which gave back \$1,000,000 due to resource availability, and the engineered component specification process had taken additional unplanned time impacting material order dates. Additionally, increased material lead-times pushed some material delivery to FY 2023 and FY 2024. See FCR 1 & 2 submitted with this explanation form.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

The replacement of this equipment will result in continued safe operation of Cabinet Gorge HED, ensuring we provide reliable and affordable energy to our customers. The calculated indirect savings considers the condition of the asset, the probability of failure, the probable consequence of failure and other risk factors such as personnel and public safety, environmental impacts, and unplanned outages and repairs. Due to the delay of this project, any indirect savings will be realized in 2024 and beyond.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

xChris Clemens

DIRECTOR SIGNATURE:

x Alexis Alexander

Cabinet Gorge Station Service Project (30405102)

1.0 CHANGE REQUEST #1 – 10/14/2022

Previous Requests	Requested	Approved
5-Year Plan	\$0	\$0

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
09-2022	\$1,041,085	\$5,371,800	-\$500,000	\$4,871,800

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	10/17/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

Several tasks were delayed on this project including; panel fabrication due to resource availability and the engineered component specification process has taken additional unplanned time which has impacted material order dates. Because of these delays, spending in 2022 will be reduced. Some panel fabrication and material delivery will be shifted into 2023 and will increase funding requirements accordingly.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

Some Work will be deferred to 2023.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Additional supporting information available on request.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

No business functions will be impacted other than additional funds will be needed in 2023 to cover the funds given back in 2022.

Cabinet Gorge Station Service Project (30405102)

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

Funds were released to be utilized on other projects since they would not be spent on the Station Service project in 2022.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

The Station Service replacement project is still a valid use of funds and is required to mitigate component failure and unplanned outages due to the system age.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The justification narrative is still valid.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Chris Clemens	BC Owner	<i>Chris Clemens</i>	10/17/2022

Cabinet Gorge Station Service (30405102)

1.0 CHANGE REQUEST #2 – 12/05/2022

Previous Requests	Requested	Approved
5-Year Plan	\$0	\$0

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
12-2022	\$1,389,812	\$4,871,800	-\$500,000	\$4,371,800

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	12/9/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

Cable and conduit actual costs were lower than engineering estimates by \$402,000. Additionally, cable tray material lead-time has pushed the delivery to 2023. This moved \$100,000 to the 2023 budget for a total impact of -\$502,000 to the 2022 budget.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The intent of this FCR is to document the difference between estimated and actual costs, as well as noting some work has been deferred to 2023. The team has been aware of project budget risk for some time, but could not actualize the costs until quotes and lead-times were final.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Current spend end of November is \$1,389,812.

Power Centers, Transformers, Wire, and additional panel material totaling \$2,416,000 will arrive in December 2022, project labor and overheads will comprise the remaining expected spend for December which totals \$2,982,000.

Additional supporting information available on request.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

No business functions will be impacted other than additional funding will be needed in 2023 to cover the funding requirements shifted to 2023.

Cabinet Gorge Station Service (30405102)

- 1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).**

Funds were released to be utilized on other projects since they would not be spent on the Station Service project.

- 1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.**

The Station Service replacement project is still a valid use of funds and is required to mitigate component failure and unplanned outages due to the system age.

- 1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.**

The justification narrative is still valid.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Chris Clemens	BC Owner	<i>Chris Clemens</i>	12/5/22

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Cabinet Gorge Unit 4 Protection & Control Upgrade

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5-year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Cabinet Gorge Hydroelectric Dam was designed for base load operation, but today is called on to not only provide load but to quickly change output in response to the variability of wind generation, changing customer loads and other regulating services needed to balance the system load requirement and assure transmission system reliability. In order to respond to these new demands, it is necessary to upgrade protection and controls equipment at the dam.

The Cabinet Gorge Unit 4 Protection & Control Upgrade project was prioritized for installation and commissioning being placed into plant in late 2021, with small closing costs trailing into early 2022. However, this project was dependent on the completion of other work occurring at Cabinet Gorge, which was not completed in time for the planned start of the Cabinet Gorge Unit 4 Protection & Control Upgrade project. Therefore, the start had to be delayed a few months with the project going into service in April 2022, rather than late 2021 as originally planned.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

This business case was monitored by a steering committee made up of a cross-department group who met each month through its execution. Although this business case variance was an issue of timing, if there had been significant cost overruns, it would have been discussed at the steering committee and a decision on the best path forward would have been made.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

Maintenance costs will not be reduced, however, unit reliability will be improved through decreased outages. Because this project was placed into service within a few months of the originally planned date (Dec. 2021 to Apr. 2022), the reported indirect offset assuming a risk cost reduction for decreased outages can continue to be expected. Indirect savings relate to the condition of the asset, the probability of failure, the probable consequence of failure and other risk factors such as personnel and public safety, environmental impacts, and unplanned outages and repairs.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

 Digitally signed by Kristina (go cougs)
Date: 2023.03.14 16:03:19 -07'00'

DIRECTOR SIGNATURE:

 Digitally signed by Alexis Alexander
Date: 2023.03.15 13:43:29 -07'00'

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Clark Fork Settlement Agreement

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Clark Fork Settlement Agreement (CFSA) and License include funding commitments to help achieve long-term resource goals in the Clark Fork and related watersheds. Some items are relatively predictable each year; many others are dynamic, depending on potential projects, natural resource conditions and evolving resource management goals. Most projects are implemented with collaborating agencies and Tribes, often with multiple funding sources.

Each year's budget is established internally at Avista in late summer prior to the actual capital work plan approved by the signatories to the CFSA the following March. In addition, resource conditions, permitting and other issues impact work plan implementation each year. As a result, regular "truing up" is required, often in April and again in September/October time frames.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

The CFSA governance is multi-faceted and includes over 20 other parties, including the States of Idaho and Montana, various federal agencies, five Native American tribes, and numerous Non-Governmental Organizations. In addition, we coordinate with numerous internal stakeholders, such as GPSS and Power Supply. Many funding decisions require the approval of the CFSA Management Committee.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no direct or indirect offsets associated with this project. Avista is required to comply with all terms of the License. Non-compliance would risk Avista's operational flexibility and could cause FERC to re-open the License resulting in significant financial impacts. Avista would suffer reputational risks in not complying with the License and its attendant agreements.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X Monica Ott
3/13/2023

Signed by: Ott, Monica

DIRECTOR SIGNATURE:

X Ann Stead

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Customer Experience Platform (CXP) Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The purpose of the Customer Experience Platform is to bring together a multitude of disparate specialty systems to enable a more seamless and improved customer experience across all Avista's supported channels. Significant work was completed and transferred to plant in 2022 and includes, but not limited to the following: Customer 360 Dashboard (C360) Production Deployment, CSR Email Communication Automation, Questline Email Campaign transition (furnace filter program communications), Electric Vehicle Charger Commercial Application Process Automation, and Social Care integration (enable ability to respond and track customer inquiries via social media).

The transfer to plant variance observed was primarily due to the delay of the following projects within the business case: Inbound Voice Channel (replacement of the call center inbound voice calling system) was delayed from 2022 and moved to 2023. This delay was necessary to accommodate call center change management and staffing needs.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

No costs overruns were associated with this business case for 2022. More specifically, the total capital spend for this business case came in under budget in 2022. If a significant cost overrun were to occur, the business case leadership team would seek approval from both the Customer Experience Platform Governance team and additional capital requests would also be routed through the Capital Planning Group for approval.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no revised offsets associated with this change as the delays in schedule did not impact costs offsets forecast for 2022.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X Matt Halloran

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Customer Transactional Systems (CTS) Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The purpose of the Customer Transaction System program is to enhance and maintain the systems used to support the day-to-day operational needs of our customers, internal users, third party partners and our regulators. Significant work was completed and transferred to plant in 2022 and includes, but not limited to the following: Real time address validation, Account closing bill generation enhancements, Payment Plan and Payment Arrangement enhancements, FCS Mobile Solution Upgrade, Meter Data Extract Enhancements, Field Activity & Service Order Management (SOM) processing improvements.

The transfer to plant variance observed was due to the delay of the following projects within the business case: CC&B application upgrade (Oracle version update) & Meter Data Management application upgrade (Oracle version update). These projects were delayed to a go-live in February 2023. This delay was required to accommodate other technology implementations taking place concurrently and to reduce risk to business operations.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

No costs overruns were associated with this business case for 2022. More specifically, the total capital spend for this business case came in under budget in 2022. If a significant cost overrun were to occur, the business case leadership team would seek approval from both the Customer Transactional Systems Governance team and additional capital requests would also be routed through the Capital Planning Group for approval.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no revised offsets associated with this change as the business case does not include forecasted offsets. This is because the business case addresses a required investment to implement updates from software providers and regular security patches to ensure customer data is protected. Additionally, this investment is required to meet business requirements to service Avista customers (such as billing and customer support), maintain compliance with state and federal rules and regulations, and to meet the requests of our third-party partners

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

3/14/2023

X Matt Halloran

DIRECTOR SIGNATURE:

X 

Signed by: Halloran, Matt

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Distribution Grid Modernization -ER 2470

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Distribution Grid Modernization Program seeks to systematically evaluate and address aging infrastructure to improve Avista's 11,300 circuit miles of overhead and underground primary electric distribution infrastructure. The goals of the program are to address service reliability and cost avoidance through the replacement of equipment and materials that have increased energy losses, improvement of line losses, load balancing, and the addition of devices and equipment that improve circuit efficiency. In 2022, the Grid Modernization program estimated transfers to plant (TTP) to be \$2,165,000 which was equal to the 2022 Budget Amount. Beacon 12F2 construction commenced in April 2022 and the project was placed into Service. What was not accounted for in the 2022 TTP forecast was a \$454k balance in Construction Work in Progress (CWIP) that accrued leading up to FY 2022 that was realized in plant when the project was placed into service. This was not forecasted, thus the major contributor to the variance. A second contributing factor to the variance was \$45k of Grid Modernization follow-up work per scope on the Rathdrum 233 circuit.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

There were no significant cost overruns incurred in design or construction for this project. This Business Case and associated projects are monitored through the year and reviewed by the established Steering Committee. If a cost overrun were to occur, a discussion and decision would direct appropriate corrective actions.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

The Company estimated O&M offsets related to the planned work in this business case for 2022 at approx. \$27k. However, based on the actual work and efficiencies gained, the Company is able to update the estimated O&M offset to approx. \$115k.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE: Heather Webster

DIRECTOR SIGNATURE:

X 

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Distribution Minor Rebuild

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5-year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

Distribution Minor Rebuild is an ongoing program that focuses on keeping the distribution system in a reliable condition for customers and safe conditions for workers. It ensures responsiveness to unplanned damages on distribution assets not related to weather events, as well as small customer driven rebuilds. Throughout the entire distribution system minor rebuilds or replacements of asset units are needed to maintain system reliability and safety.

This business case transfers to plant monthly based on actual spend.

Our budget need for 2022 was forecasted as \$11.5m. In May we had an approved budget increase of \$1.375m that put our spend budget at \$12.875m to account for union retro pay that was due to contract ratification that was split between multiple business cases.

In July we had spent 69% of our budget and forecasted that our spend amount for the year would be closer to \$15m. This was based on the work shown in updated capital spends, higher costs from inflation, and future projections. We were spending more than initially anticipated and submitted a request for an additional \$2.3m to bring our spend to \$15.175m. This same scenario occurred again in October when we had hit 82% of our budget and there was still work that needed to be completed to ensure the reliability and safety of our system. So, in November we made a request for an increase of \$1.325m that once approved put our budget at \$16.5m.

Overall, our variance was due to an unforeseen increase in workload that had to be completed to maintain reliability and safety for our customers and an unprecedented rise in inflation.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Any decisions to continue investment in the Business Case/Project were first determined and then requested at the director level in our Operations Round Table (ORT) meeting. An in-year change request was then completed and approved by the Business Case Owner and Sponsor and sent to the Capital Planning Group (CPG) for final approval.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

None. Due to the way this program functions (transfers to plant monthly) there are no offsets associated.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X Katie Snyder

DIRECTOR SIGNATURE:

X David Howell

Minor Rebuild

1.0 CHANGE REQUEST 10/13/2022

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$13,000,000	\$11,500,000
<i>CR-1</i>	\$1,375,000	\$12,875,000
<i>CR-2</i>	\$1,325,000	\$16,500,000

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
10-2022	\$12,695,458	\$15,175,000	\$1,325,000	\$16,500,000

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	10/19/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The Dx Minor Rebuild forecast for the end of the year is nearly \$15,000,000 based on the work shown in updated capital spends and our projections. We are requesting more funds due to higher costs from inflation. Overall, we are spending more than initially anticipated.

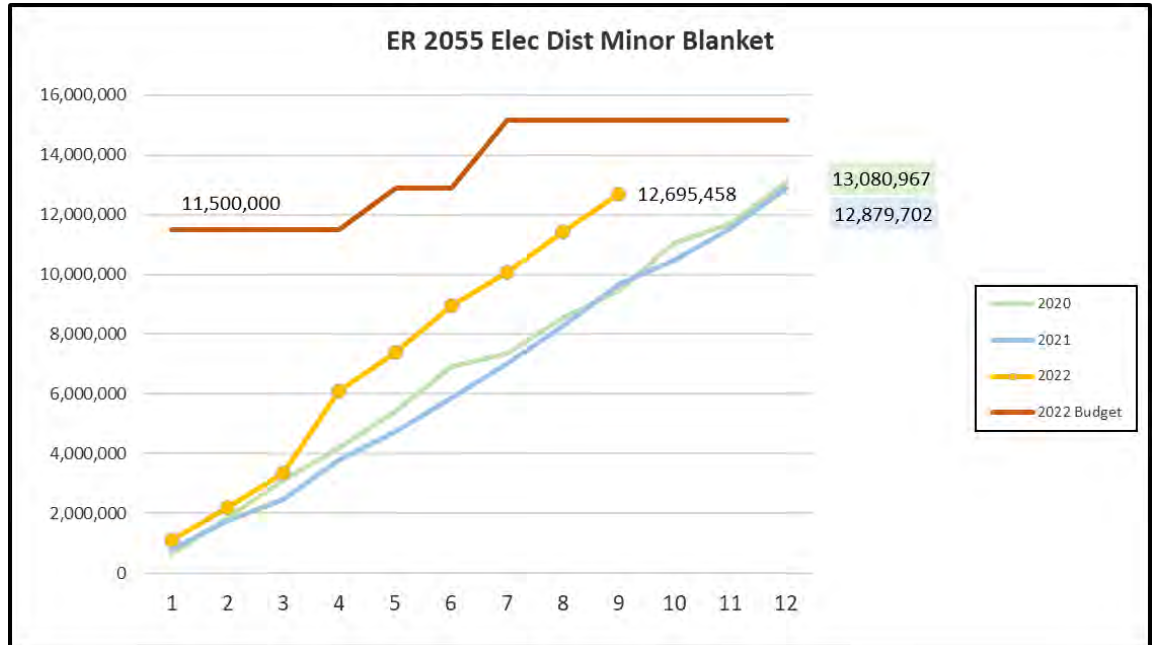
1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

Distribution Minor Rebuild work is one of the many components that support the overall reliability of the distribution system as well as responsiveness to customer requested service demands and system safety. Safety is of utmost concern for linemen and the general public, and the minor rebuild business case provides the funding for work such as replacement of a car-hit pole in the alley, a broken cross-arm, a burned-up transformer, and other safety related projects. In addition, if the business case is not funded, this will also affect the ability to respond to customers' needs for modifications to their electrical service. It is acknowledged some minor rebuilds left unrepaired will not result in immediate catastrophic failures to the distribution system, but over time an adverse accumulation of unrepaired assets would greatly put line workers and the public at risk as minor asset failures begin to deteriorate within areas of the distribution system.

Minor Rebuild

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Spend YTD 2022 – forecasting over budget spend by December 2022



1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

Distribution Minor Rebuild reaches across multiple departments in Engineering and Operations. The business involves operation area engineers, local customer project coordinators, and construction technicians who work directly with customers and perform all the designs for the business. Once the minor projects are designed and ready for construction, field personnel such as a Foremen, Journeyman Linemen, Line Servicemen, Meter men, Equipment Operators execute the work.

Not receiving the additional funding would have a significant impact on business functions and processes as other areas would be responsible for the work and it would also impact the ability to respond to customers' needs for modifications to their electrical service.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

The other alternative that was considered is not requesting additional funding for the business case however, the needed work will continue to occur. These costs would need to be covered under other business cases. The body of work within the Distribution Minor Rebuild business case consists of very small unplanned projects across the entire distribution system in response to a variety of factors (customer requested, trouble related work, deteriorated pole replacements, and general rebuilds), therefore the alternatives are generally not available to analyze. Typically, as each project arises, any alternatives available for individual rebuild projects are evaluated during the design phase by the designer.

Minor Rebuild

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

The Distribution Minor Rebuild business maintains flexibility for the utility to address small, unplanned asset failures and customer driven modifications to the distribution system but, excludes fixes to the system considered to be maintenance. While the work is unplanned, minor rebuilds to the distribution system occur on a regular basis every year to maintain system reliability and safety. The Distribution Minor Rebuild business case provides a solution for the utility to address those small unplanned asset failures and customer driven modifications to the distribution system. Safety is of utmost concern for linemen and the general public, and the minor rebuild business case provides the funding for work. Some minor rebuilds left unrepaired may not result in an immediate catastrophic failure. Over time an adverse accumulation of unrepaired assets would greatly put line workers and the public at risk as minor asset failures begin to deteriorate pockets of the distribution system.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The justification narrative previously submitted is still valid with this change request of additional funding. The scope of the business case has not changed. This request is asking for additional funding due to an overspend forecast.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Katie Snyder	BC Owner	<i>Katie Snyder</i>	10/14/2022
David Howell	BC Sponsor	<i>David Howell</i>	10/14/22
	FP&A		

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Downtown Network - Performance & Capacity

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

There is one project being performed under this business case that does not TTP monthly: the Vault Integration Project. TTP on this project occurs when major milestones are met that cause part of the system to become "used and useful". We did not meet a major milestone in 2022 due to lack of cross-departmental support for commissioning, plus lack of available crew time. We expect to commission the next part of the system (Post St East network) in 2023 if all goes well, which will allow us to TTP all spend in the project up to that point.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

There are no significant cost overruns, just schedule delays due to lack of resources.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no changes to the offsets, other than a slight delay to when they may be fully realized (due to the delay in completing the project). That being said, we are no longer doing patrol work during switching on the 60% of the system that has been commissioned, so some of the offsets are being realized presently.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:



DIRECTOR SIGNATURE:

X David Howell

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Electric Replacement and Relocation

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5-year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Electric Replacement and Relocation program, also known as Road Moves, is driven by compliance that is mandated by the “Franchise Agreement” contracts with the city, state entities and permits entered by railroad owners. With road moves, as soon as the spend happens and the work is complete it provides an immediate benefit to the customer.

Our transfer to plant variance from what was filed in 2021 for 2022 was due to an unprecedented increase of mandatory work required in our service territories. At the beginning of 2022 the approved budget and forecasted TTP was approx. \$5.4m. By Jul 2022 we had already TTP \$6.8m and needed to request an increase. The increase put our annual budget and forecasted TTP at \$8.4m. In July 2022 the TTP had reached \$7.9m and it was apparent, based on the scope of the work remaining for 2022, that another increase was needed. An increase of \$1.7m was requested and resulted in an annual budget/TTP total of \$10.1m. Two more increases were requested in 2022 – one in October for \$400,000 and one in November for \$1m when it was apparent based on the actual spend and TTP accrued thus far and the work remaining in 2022 that an increase would be needed. The result was an annual budget and anticipated TTP amount of \$11.5m.

The increases in spend were needed to complete mandated work. Had we not been able to complete work requested by local entities and railroad owners we would have fallen out of compliance mandated by the franchise agreement.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Each increase was first discussed at the Operations Round table with the director, Business case owner, and others with knowledge of what jobs have been completed and will need to be completed. Once a decision to submit a change request was made it was presented to the CPG for final approvals.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

None.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X *Katie Snyder*

DIRECTOR SIGNATURE:

X *David Howell*

Electric Replacement and Relocation

1.0 CHANGE REQUEST #4 11-09-22

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$6,400,000	\$5,400,000
<i>In Year - CR</i>	\$3,000,000	\$3,000,000
<i>In Year - CR</i>	\$400,000	\$400,000
<i>In Year - CR</i>	\$1,000,000	

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
<i>011/2022</i>	\$10,368,108	\$10,500,000	\$1,000,000	\$11,500,000

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	11/16/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

This business case has a total expected spend of \$11.5M for this year. The major contributors to this is the Downtown Network has with several City of Spokane driven jobs that still need to be completed.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

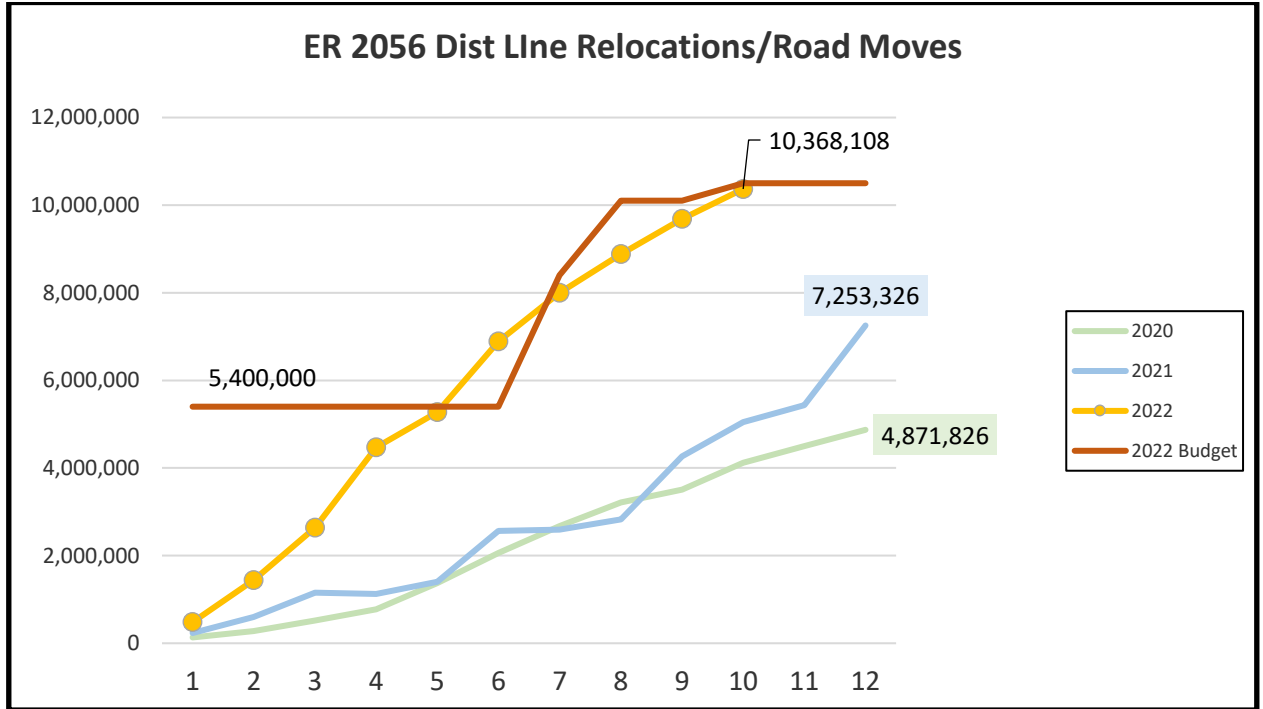
This program has been funded for several years and ensures compliance with our Franchise agreements and/or Railroad permits. If funding is not available, we will be out of compliance with our Franchise agreements and/or Railroad permits.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

The Electric Relocations business is unplanned work, contractually obligated, and adds high risk to the company if not completed, no alternative analysis is considered. This program is demand driven and unplanned work. Funding allocation is based on historical spending trends.

Electric Replacement and Relocation

Spend YTD 2022



1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

If funded, the outcome of this Business Case will have minimal impact on existing operations. This funding has been in place for several years to maintain compliance with our franchise agreements and Railroad permits. If not funded, the work is required to maintain compliance with our franchise agreements and/or railroad permits and will need to occur.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

The work covered by this funding is mandatory to maintain compliance with our franchise agreements and/or Railroad permitting. Because the Electric Relocations business is unplanned work, contractually obligated, and adds high risk to the company if not completed, no alternative analysis is considered. This program is demand driven and unplanned work.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

The work covered by this funding is mandatory to maintain compliance with our Franchise Agreements and/or Railroad permitting.

Electric Replacement and Relocation

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The justification narrative previously submitted is still valid with this change request of additional funding. The scope of the business case has not changed. This request is asking for additional funding due to an overspend forecast.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Katie Snyder	BC Owner	<i>Katie Snyder</i>	11/09/2022
David Howell	BC Sponsor	<i>David Howell</i>	11/10/22
	FP&A		

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Electric Transportation (Washington)

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5-year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Electric Transportation business case supports beneficial electrification in alignment with the Company's comprehensive Transportation Electrification Plan and accompanying programs authorized by tariff schedule 077, including investments in charging infrastructure, education and outreach, community and low-income support, load management, and fleet advisory services. In 2022, transfer to plant was estimated at \$2,775,000 compared to an actual of \$1,997,584, resulting in a variance of \$777,416 less than estimated.

This is explained primarily by a lower number of completed DC fast charging installations. Delayed installations were due to a number of factors, including supply chain disruptions and protracted negotiations with property owners to obtain legal site agreement contracts and property easements.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

No significant cost overruns have occurred, although the cost of materials and labor has increased substantially and is being monitored closely, with oversight provided by a sponsor committee. Costs and overall program effectiveness are also monitored via detailed annual reports provided to the UTC.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

No direct offsets are associated with this business case. Indirect benefits include beneficial revenue growth associated with electric transportation charging loads and reduced emissions and air pollution from the transportation sector which benefit the general public.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

3/14/2023

X 

Signed by: Farley, Rendall

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Endpoint Compute and Productivity Systems

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Endpoint Compute and Productivity Systems business case include, but are not limited to, technology required day-to-day to automate and enable business processes, such as Personal Computer (PC) hardware and their operating systems, various handheld devices, printers, configuration and management systems for all endpoints, productivity tools (e.g. Office 365), etc.

The Endpoint Compute and Productivity Systems business case had planned to transfer-to-plant approximately \$3.5M when Avista filed the 2022 Washington GRC. This business case ended up transferring approximately \$5.7M to plant in 2022. This resulted in additional transfers-to-plant of approximately \$2.2M.

The main reason for this variance is Microsoft O365 Licenses – This project is to support the capital costs associated with Microsoft licensing and was originally budgeted as capital in 2021, however a review of the licensing term shifted the cost to January 2022.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE

PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

All projects contained within ET business cases are governed by a steering committee and thus any changes to scope, schedule, or budget are approved by that steering committee and business case governance for prudence. Therefore, any additional costs to the projects listed above were prudently documented and approved. Please see additional governance documentation located in the Business Case Change Request Endpoint CR0101.2022 attached.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

The indirect savings associated with this business case are related to avoided costs associated with lost work time by employees for having to use manual systems and tasks to communicate. The above projects and additional transfers-to-plant did not change these expected indirect offsets.

my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

DIRECTOR SIGNATURE:

X DocuSigned by:
Walter Roys
28978793A9C84D0...

X DocuSigned by:
Jim Corder
7002E1872104419...

Endpoint Compute and Productivity Systems

1.0 CHANGE REQUEST #CR01 01/2022

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$5,516,000	\$3,480,000
<i>CR01</i>	\$1,791,073	

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
01-2022	\$0	\$3,480,000	\$1,791,073	\$5,271,073

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	1/31/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

Purchase of Microsoft Office licenses was originally planned during the 2021 budget year based on the fact that the previous year's agreement started at the end of December 2018. During processing the final paperwork for the Microsoft renewal it was discovered this contract will start January 1, 2022. Therefore, payment for this invoice will be made in January of 2022. This is an unplanned expense in the 2022 budget year, and the business case is requesting an additional \$1,791,073 in funding to cover this cost.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

This cost is necessary to provide access to a variety of crucial tools Avista uses to function on a day to day basis, including Exchange and Teams for email, phone and meetings. If this request is not funded, the business case will instead need to delay planned high priority in progress project work, such as the Rugged Refresh project or the Microsoft Product Updates project. Both of these projects are updating versions of the Microsoft operating system which is end of support this year and is crucial to meet Avista's security and operating standards.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

If this funding request is not approved, it will impact Endpoint Compute's ability to purchase necessary hardware for the Rugged Refresh and Windows 10 Phase 3 project, both of which

Endpoint Compute and Productivity Systems

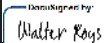
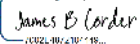
are replacing devices that are end of support this year. It could also impact staffing levels within the Endpoint Compute business case.

- 1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).
- 1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.
- 1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

Justification narrative is still valid.

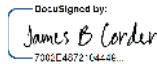
2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Walter Roys	BC Owner		Jan-12-2022
Jim Corder	BC Sponsor		Jan-14-2022
	FP&A		

1:25 PM PST
9:48 AM PST

James B Corder



Jan-14-2022 | 9:48 AM PST

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Energy Delivery Modernization and Operational Efficiency

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

Energy Delivery Modernization and Operational Efficiency (EDMOE) as a business case supports both existing and new technologies leveraged by the Energy Delivery business areas including Gas Engineering & Operations, Electric Engineering & Operations, Asset Management & Supply Chain, Facilities, Fleet Operations & Metering.

The Energy Delivery Modernization and Operational Efficiency (EDMOE) business case had planned to transfer-to-plant approximately \$5.56M when Avista filed the 2022 Washington GRC. EDMOE ended up transferring approximately \$8.76M to plant in 2022. This resulted in a difference in transfers-to-plant of approximately \$3.2M.

The following projects make up most of the additional transfers-to-plant:

- ESRI License - The purchase of this license was an unplanned capital addition that was targeted to hit in 2021, however, due to timing of purchase was moved into 2022 of approximately \$1.85M.
- Schneider ELA 2022 – This project is to support the capital costs associated with the Schneider licensing and was originally budgeted as expense and deemed to be capital during 2022. The unplanned cost of this shift from expense to capital is approximately \$894k.
- GIS Enhancements Package 2 - The delay in the ADMS project is allowing our teams to work on our GIS Enhancement backlog at a greater rate than forecast and resulted in approximately \$330K in transfers-to-plant to support. Conversely, this results in a reduction to the ADMS and an increase to EDMOE.
- AMI Enhancements/AMI Development environment -Unplanned additional work for the Washington AMI system of approximately \$115k.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

All projects contained within ET business cases are governed by a steering committee and thus any changes to scope, schedule, or budget are approved by that steering committee and business case governance for prudence. Therefore, any additional costs to the project were prudently documented and approved. Please see the attached change request and governance documents for further detail on the above items:

1. EDMOE CPG Change Request January 2022.
2. EDMOE CPG Change Request #2 - 05-17-22

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

Most of the increased transfer to plant was a shift in timing of one month that represents a license that is needed to continue with automated processes. Therefore, the original indirect offsets calculated for this business case have no changes due to the above increase in transfers-to-plant.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X DocuSigned by:
Mike Mudge
44C0BE3C52404B4... _____

DIRECTOR SIGNATURE:

X DocuSigned by:
Hossein Mhdel
E4E2D9C7EE4747F... _____

Energy Delivery Modernization & Operational Efficiency Technology

1.0 CHANGE REQUEST #1– [01/2022]

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$4,650,000	\$4,950,000
<i>CR #1</i>	\$1,800,000	

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
01-2022	\$0	\$4,950,000	\$1,800,000	\$6,750,000

Type of Change	In-year Update
Primary Reason for Change	Timing Change, Externally Driven
Response needed by	1/19/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The purchase of the ESRI licenses was originally planned during the 2021 budget year, since the previous agreement started at the end of December. During processing the final paperwork for the ESRI renewal, it was discovered this contract was to start January 1, 2022. This means payment for this invoice will be due in the 2022 budget year. This is an unplanned expenditure in the 2022 budget year, and the business case is requesting an additional \$1,800,000 in funding to cover this necessary renewal.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

These licenses are necessary to provide access to our Geospatial Information System (GIS) used to manage our Electric Distribution System and our Gas System on a day to day basis. If this request is not funded, the business case would need to delay planned project work, such as the Distribution Integrity Management Program (DIMP), as well as delay the Advanced Distribution Management System (ADMS) project (outside of this business case). Both projects are a priority and align with our strategy to provide safe, reliable, and affordable energy solutions.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

- Advanced Distribution Management System (ADMS) Business Case Justification Narrative: [OMS ADMS Business Case Justification Narrative](#)

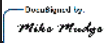
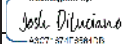
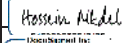

Energy Delivery Modernization & Operational Efficiency Technology

- 1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.
- 1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).
- 1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.
- 1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The justification narrative is still valid. This is a timing change.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Michael Mudge	BC Owner		Jan-19-2022
Josh DiLuciano	BC Sponsor		Jan-19-2022
Hossein Nikdel	BC Sponsor		Jan-19-2022
Heather Rosentrater	BC Sponsor		Jan-19-2022
	FP&A		

7:20 AM PST
7:02 AM PST
8:04 AM PST
8:16 AM PST

Energy Delivery Modernization and Operational Efficiency

1.0 CHANGE REQUEST #2 - 05-17-22

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$4,650,000	\$4,950,000
<i>CR-01</i>	\$1,800,000	1,800,000
<i>CR-02</i>	\$2,400,000	

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
01-2022	\$3,762,021	\$6,750,000	\$2,400,000	\$9,150,000

Type of Change	In-year Update
Primary Reason for Change	Scope Change
Response needed by	5/31/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

This change request consists of the following changes and is requesting to be an offset to the ADMS business case release due to this work being completed by the same resources as the ADMS business case:

Work	Amount
Schneider ELA	\$ 872,000
GIS Enhancement Backlog	318,000
TWACs Upgrade	423,000
MV90 Upgrade	72,000
PCI Logging	450,000
AiDash Outage Forecasting	150,000
AMI Enhancements	115,000
Total Change Request	\$ 2,400,000

Each of the above are described below in detail:

The Schneider ELA was originally budgeted as expense and deemed to be capital. The cost of this shift from expense to capital is \$872K and should be funded from the EDMOE business case. This change is to support the capital costs associated with the Schneider licensing. These licenses

Energy Delivery Modernization and Operational Efficiency

support our electric and gas network design capabilities, fiber network management and Gas Control room functionality.

The delay in the ADMS project is allowing our teams to work on our GIS Enhancement backlog at a greater rate than forecast and requires \$318K in funding to support. These enhancements support our Gas and Electric field operations.

The move of the TWACS upgrade (\$423K) and MV90 upgrade (\$72K) from 2021 into 2022 was not in our original EDMOE budgets for 2022. This request is to support that work.

PCI Logging is an opportunity to modernize our transmission logging, replace Crow and prepare for Generation to move from paper-based logging into a digital solution. This work is estimated at \$450K and will be performed largely by the PCI operations team with support from PCI the vendor.

AiDash – Outage Forecasting – \$150K. This is an opportunity to create a standardized mechanism for measuring the potential impact of a weather forecast on our electric distribution system. There is a need to have a system that can monitor, alert, and provide a forecast of expected outages and associated restoration times. This tool will monitor and alert Avista stakeholders when potential wide scale events are likely to occur to allow for appropriate planning.

AMI Enhancements/AMI Development environment - \$115K. This work is coming in above expected spend. This work supports the AMI Smart meter solution and includes upgrade, enhancement and environment costs. Costs are coming in higher than forecast for this work.

The impact on Transfers-to-Plant is an increase of \$0.9M for a total of \$8.5M in 2022, an increase of \$2.5M for a total Transfer of \$5.9M in 2023, and a reduction of \$2.4M for a total Transfer of \$3.4M in 2024.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The Schneider ELA purchase is necessary to continue to use and develop with the Schneider Electric Design solution. Non payment would eliminate this capability, thus preventing the continuing design of our Electric and Gas Distribution systems, management of the fiber network and Gas Control room functions.

Under funding the GIS enhancement package would delay the ability of the team to support our Energy Delivery teams that rely on the GIS solution for their work. Additionally, these teams would need to be reduced in size to meet budget. These teams would then need to be increased to support ADMS work when it commences, putting at risk our ability to support the ADMS work.

The TWACS and MV90 head ends (Meter head ends that support obtaining meter reads for billing purposes) are past support and are at risk both from a security and an operational point of view. If not funded, these solutions will continue to pose both a security and operational risk.

The logging of Transmission events today is done in Crow. With the implementation of PCI in support of EIM we have an opportunity to eliminate CROW and more tightly couple our logging of events with the Transmission Outage Management Solution (TOMS) increasing efficiency and reducing the potential for error. If not performed, we will need to continue to support this work in CROW and navigate duplicating information already found in TOMS.

For AiDash, if we don't do this, Avista will continue the status quo of individual judgement calls of weather forecast risk assessment and outage event preparation will continue to be an event that takes place only hours before impact of weather.

If AMI Enhancement/Development environment work is underfunded we will delay the opportunity to improve AMI meter reading, keep up with upgrades and risk operating on unsupported software and hardware solutions.

Energy Delivery Modernization and Operational Efficiency

1.1.3 Please reference analysis or information that support the problem and attach to this document.

All detailed documentation is being housed within the ET PMO documentation process and can be provided upon request.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

For the GIS enhancement work, the resources were originally forecast on the AMDS project and thus are directly offset by a reduction in the costs in the ADMS business case.

The PCI logging work is intended to eliminate the need for CROW and thus will be offset by a reduction in CROW licensing and support. (\$15K/year)

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

This is the best and least cost alternative due to the efficient use of current resources. There would be additional costs to releasing resources and rehiring for the ADMS project as well as time lost and risk of not being able to rehire resources with experience.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

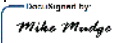
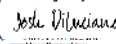
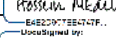
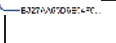
This investment is still prudent as it is a shift of funds from the ADMS business case due to resources completing a backlog of work instead of working on the ADMS project.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The Justification narrative will need to be updated to reflect the changes in scope. This will be done as a part of the 5 year planning process and complete by August 1st.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Michael Mudge	BC Owner		May-18-2022
Josh DiLuciano	BC Sponsor		May-18-2022
Hossein Nikdel	BC Sponsor		May-18-2022
Heather Rosentrater	BC Sponsor		May-18-2022
	FP&A		

7:59 AM PDT
9:13 AM PDT
9:44 AM PDT
9:59 AM PDT

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Energy Resources Modernization and Operational Efficiency (ERM OE)

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Energy Resources Modernization and Operational Efficiency (ERM OE) Technology Business Case sponsors the technology related applications that support the Energy Resources business areas operational and strategic initiatives. This business case is necessary to maintain the applications and licenses necessary to meet internal and external business processes and objectives, as well as strategic focus areas.

This business case planned to transfer approximately \$2.7M to plant in 2022 and ended up transferring approximately \$2.2M, with a variance of approximately \$522k under-transferred. There are a few scenarios that occurred in Q4 of 2022 that have impacted Transfer to Plant.

1. 378k - Aurora & Plexos License renewal: The capital portion of the Aurora and Plexos License renewal (2-year agreement) was forecasted and planned to transpire In December of 2022, for the amount of \$378k. There was a timing error related to the journal entry and the entire license purchase posted in January of 2023. This resulted in an under transfer of \$378k in 2022 and subsequently increased the 2023 TTP estimate by that amount.
2. 180k - Oracle Primavera Cloud (OPC) Unifier: The Oracle Phase 2 Unifier project did not TTP in 2022 due to the risk associated to the limited testing capacity and availability at the end of the year. The amount of time needed to fully test and work through resolution in each iteration was greater than forecasted in addition to the vendor that was out of the office the last week of the year. The TTP occurred the first week of January when the team could ensure they would be able to successfully implement the required deliverables and business need. OPC was originally estimated at 250k at Initiation and was reduced to 180k after further planning. The project transferred to plant in January at 180k (including warranty and closing costs).

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

All projects contained within ET business cases are governed by a steering committee and thus any changes to scope, schedule, or budget are approved by that steering committee and business case governance for prudence. Therefore, any additional costs to the project were prudently documented and approved. The following business case change requests and governance documents are attached with further details surrounding the above explanations.

- ERM OE In Year Business Case Funds Change Request – 2023
- ERM OE BC Governance – January 2023
- Message from Project Accounting regarding Aurora Plexos licenses
- Oracle Phase 2 Unifier Steer Co slides – December 2022

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

The above lag in transfers-to-plant does not impact indirect offsets that have been calculated for applications such as the Avista Decision Support System or the Nucleus Energy, Trading and Risk Management System projects.

BUSINESS CASE OWNER SIGNATURE:

DocuSigned by:
X Brian Hoerner
3AE7BA99E1F54CF...

DIRECTOR SIGNATURE:

DocuSigned by:
X Hossain Mkedel
E4E2D9C7EE4747F...



Energy Resources Modernization and Operational Efficiency (ERM OE) Technology

Business Case Governance & Financial Overview

January 2023

Leianne Raymond / Brian Hoerner

Agenda



2022 Business Case Financial Summary
2022 Financials by Quarter
Transfer to Plant (TTP) Forecast
2023 Financial Overview
Five Year Plan – Summary Five Year Plan – by Project
Decision Log
Q & A

Business Case Financial Summary

Actuals through: 12/31/22

Current or Previous Year? i <input type="text" value="Previous"/>		2022 Business Case Financials					
Business Case	CPG Approved Spend	YTD Actual Spend	Forecast Spend	Exp. Annual Spend	Variance	% CPG Apprv. Spent	
Energy Resources Modernization &	\$2,800,000	\$2,376,708	\$0	\$2,376,708	\$423,292	84.88%	
Grand Total	\$2,800,000	\$2,376,708	\$0	\$2,376,708	\$423,292	84.88%	



Financials by Quarter - 2022

Current or Previous Year? Previous		Actuals	Forecast	2022 Project Actuals/Forecasts as of 1/17/2023					
Business Case	Project	Phase	Q1	Q2	Q3	Q4	Actual 2022	Grand Total	
Energy	ADSS Enhancements 2022 Pkg. 2 (5/16/22-12/31/22) - ..	Execution		\$271,234	\$310,666	\$529,450		\$1,111,350	
Resources	Aurora & PLEXOS License Renewal: 2 years - 09806242	Closing				\$164,738		\$164,738	
Modernizatio..	Nucleus Enhancements Package 2022 - 09906980	Execution	\$152,619	\$210,807	\$194,830	\$159,835		\$718,092	
	GPSS Maximo Expansion 2022 - 09907000	Execution	\$29,083	\$44,332	\$41,304	\$61,085		\$175,804	
	Oracle Primavera Phase 2: Unifier - 09806230	Execution		\$172	\$24,410	\$59,643		\$84,224	
	LIMS/WeighWiz/LabWiz Upgrade 2022 - 09806226	Execution		\$11,282	\$32,769	\$44,751		\$88,802	
	Stackvision Upgrade 2022 - 09806238	Execution				\$16,657		\$16,657	
	Oracle Primavera Implementation (OPC): Phase 1 - 098..	Complete	\$1,895					\$1,895	
	Nucleus Enhancements Package 2021 - 09906798	Complete	\$14,589					\$14,589	
	GPSS Mobile Solution - Maximo Anywhere 09806019	Complete	(\$1,365)					(\$1,365)	
	GPSS Maximo Expansion 2021 - 09906800	Complete	\$2,583					\$2,583	
	ABB Sendout System Replacement (Plexos) - 09906887	Complete	(\$660)					(\$660)	
	Total		\$198,743	\$537,827	\$603,980	\$1,036,158		\$2,376,708	
Grand Total			\$198,743	\$537,827	\$603,980	\$1,036,158		\$2,376,708	

Variations

❖ Aurora Plexos Licenses - 2 year annually paid agreement

- Aurora Plexos License Agreement - Capital estimate provided (with tax) – \$377,597
- Aurora Plexos License Posted Actuals in 2022 = \$164,738
- Aurora Plexos License Variance = \$212,859
 - Only the 1st year's invoice posted to project, per error with journal entry.
 - It will get corrected this month, but now will hit 2023.

When we have software agreements that are paid on an annual basis for 2 or more years, PA has to create a journal entry to post the full capitalized portion (based on the agreement) to capital project and offset to a liability account. When the annual invoices are paid, they are to coded to the liability account and not the project.

❖ OPC Phase 2 Unifier

- Oracle PS and labor estimate higher than actuals
- Oracle invoice posted in January 2023 instead of December



Transfer to Plant (TTP) Forecast



OPC Unifier
LIMS Upgrade
Nuc/GPSS Max/ADSS (overall lower spend)

Project: (All) *Use the project filter to exclude projects from both the table below and the bar chart above. Hover over the 'Business Function' header and click the '-' to roll-up and the '+' to drill-down*

Year (Table): 2022 [How to download this data](#)

Business Fu..	ER + Desc	BI + Desc	Project	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
ET	5019 -	18W02 -	ADSS Enhancements 2022 Pkg. 2 (5/..												\$1,111,350	\$1,111,350
Subfunction	Energy	Energy	Stackvision Upgrade 2022 -											\$10,121	\$6,535	\$16,657
	Resources	Resources ..	Oracle Primavera Implementation (O..	\$700	\$1,195											\$1,895
	Modernizati..	19W01 -	GPSS Maximo Expansion 2022 -												\$158,484	\$158,484
	Energy		Nucleus Enhancements Package 202..	\$21,161	\$41,958	\$89,500	\$66,814	\$62,420	\$81,573	\$33,713	\$63,467	\$97,650	\$18,180	\$75,173	\$66,483	\$718,092
	Resources		Nucleus Enhancements Package 202..	\$174	\$14,415											\$14,589
	Modern & Op		GPSS Mobile Solution - Maximo Any..	\$78		\$1,517										\$1,595
	Efficiency		GPSS Maximo Expansion 2021 - 099..	\$183,093	\$576											\$183,669
	CDA		ABB Sendout System Replacement (...)	\$1,351	(\$2,010)											(\$660)
Grand Total				\$206,556	\$56,134	\$91,017	\$66,814	\$62,420	\$81,573	\$33,713	\$63,467	\$97,650	\$18,180	\$85,294	\$1,342,852	\$2,205,670



Project Status Reports

Project	Phase	Year of Latest ..	Status Report Update	Key Accomplishments	Upcoming Activities	Budget Status	Schedule Status	Scope Status
Aurora & PLEXOS License Renewal: 2 years - 09806242	Closing	2023						
ADSS Enhancements 2022 Pkg. 2 (5/16/22-12/31/22) - 09806227	Execution	2023	-Time cards for this project shut down in favor of the new 2023 ADSS project.	-TTP accepted -SIA Approved -Release – Hotfix 8.0.1 deployed	-Complete Closing documents -NIA in progress -TFS story 499328			
GPSS Maximo Expansion 2022 - 09907000	Execution	2022	-Time keeping has switched from this 2022 project (09907000) to the 2023 project (09907194)	-Barcoding feature now available for use. -SIA approved -TTP processed -NIA Network Impact assessment filed	-Complete on Closing documents -NIA			
LIMS/WeighWiz/LabWiz Upgrade 2022 - 09806226	Execution	2023	-1.13.23 LIMS core team meeting -1.12.23 Meeting with 3log to review upgrade	-CR 09806226-CR02 approved 10.31.22 -CR 09806226-CR03 approved 12.09.22 -12.1.22 Steerco	-1.25.23 LIMS January steerco -SIA Story 501276 -NIA Story 511534			
Nucleus Enhancements Package 2022 - 09906980	Execution	2021	Update -Time keeping has switched from this 2022 project (09906980) to the 2023 project (09907193) ..	-SIA Approved	-Complete Approval to close documents -NIA			
Oracle Primavera Phase 2: Unifier - 09806230	Execution	2023	-Unifier Admin training	-NIA Approved -SIA Approved -12.15.22 Unifier Steerco	-1.17.23 Steerco for Jan -Complete TTP with new form now that training is completed			
Stackvision Upgrade 2022 - 09806238	Execution	2023	-1.13.23 meeting with Data vendor SRSS	-Upgrade complete, required reporting for 10.22.22 done. -11.10.22 Next steps meeting -SIA approved..	NIA -determine where to extend this project or move remaining work on data delivery to new project			

2023 Financial Forecast

Current or Previous Year? Current		2023 Business Case Financials				
Business Case	CPG Approved Spend	YTD Actual Spend	Forecast Spend	Exp. Annual Spend	Variance	% CPG Apprv. Spent
Energy Resources Modernization &	\$2,800,000	\$0	\$2,896,592	\$2,896,592	(\$96,592)	0.00%
Grand Total	\$2,800,000	\$0	\$2,896,592	\$2,896,592	(\$96,592)	0.00%

Current or Previous Year? Current		Actuals	Forecast	2023 Project Actuals/Forecasts as of 1/17/2023				Grand Total
Business Case	Project	Phase	Forecast 2023				Grand Total	
			Q1	Q2	Q3	Q4		
Energy Resources Modernization	Aurora & PLEXOS License Renewal: 2 years - 09806242	Closing	\$2,392				\$2,392	
	ADSS Expansion 2023 - 09806250	Execution	\$408,168	\$229,768	\$226,775	\$205,289	\$1,070,001	
	GPSS Maximo Expansion 2023 - 09907194	Execution	\$18,557	\$75,093	\$86,584	\$69,767	\$250,000	
	LIMS/WeighWiz/LabWiz Upgrade 2022 - 09806226	Execution	\$31,906	\$3,455			\$35,361	
	Nucleus Enhancements Package 2022 - 09906980	Execution	\$11,552				\$11,552	
	Nucleus Expansion 2023 - 09907193	Execution	\$228,258	\$244,376	\$243,566	\$233,800	\$950,001	
	Oracle Primavera Phase 2: Unifier - 09806230	Execution	\$92,556				\$92,556	
	Stackvision Upgrade 2022 - 09806238	Execution	\$3,445				\$3,445	
	GPSS Log Books	Queued				\$51,283	\$51,283	
	Hazardous Waste Tracking (Intelex)	Queued		\$30,063	\$34,791	\$35,147	\$100,000	
	Matterport Subscription	Queued		\$14,912	\$25,087		\$40,000	
	Oracle Primavera Cloud (OPC) - Phase 3	Queued		\$57,592	\$109,625	\$82,783	\$250,000	
	Stackvision Upgrade 2023 (Q2)	Queued		\$16,233	\$8,767		\$25,000	
	Stackvision Upgrade 2023 (Q4)	Queued				\$15,000	\$15,000	
Total			\$796,835	\$671,492	\$735,195	\$693,069	\$2,896,592	
Grand Total			\$796,835	\$671,492	\$735,195	\$693,069	\$2,896,592	



Five Year Plan (2023-2027)

Year	Requested Amount	CPG Approved Amount	Requested vs. Approved Variance	% of allocation received	Current Forecast	CPG Approved vs. Forecast Variance	Details
2024	\$3,025,000	\$2,800,000	\$225,000	93%	\$3,668,672	(\$868,672)	Added Aurora/Plexos License Renewal / Stackvision Upgrade
2025	\$2,940,000	\$2,800,000	\$140,000	95%	\$2,960,080	(\$160,080)	Ignition added and Stackvision Upgrade (large upgrade – Saas?)
2026	\$3,395,000	\$3,250,000	\$145,000	96%	\$3,877,259	(\$627,259)	Added Aurora/Plexos License Renewal / Gurobi License Renewal
2027	\$3,060,000	\$2,800,000	\$260,000	92%	\$2,985,000	(\$185,000)	
2028							
Total	\$15,492,400	\$11,650,000	\$770,000	93%	\$13,491,012	(\$1,841,012)	

5 Year Roadmap – 2024

Business Case	Project	Goal	Projects 2023+				Grand Total
			Q1	Q2	Q3	Q4	
Energy	ADSS Expansion Package 2024	Run the Business	\$239,900	\$340,055	\$246,977	\$364,068	\$1,191,000
Resources	Aurora & PLEXOS License Renewal 2024	Run the Business				\$398,954	\$398,954
Modernization & Operational Effi	GPSS Log Books	Run the Business	\$226,912	\$41,805			\$268,717
	GPSS Maximo Expansion 2024	Run the Business	\$1,218	\$69,255	\$95,677	\$93,850	\$260,000
	Ignition (HMI) Expansion 2024	Run the Business	\$6,653	\$49,380	\$53,724	\$75,244	\$185,000
	LIMS/WeighWiz/LabWiz Upgrade - 2024	Run the Business		\$17,543	\$22,457		\$40,000
	Nostradamus Upgrade- 2024	Run the Business		\$13,625	\$26,375		\$40,000
	Nucleus Expansion Package 2024	Run the Business	\$299,929	\$251,178	\$214,708	\$234,185	\$1,000,000
	Oracle Primavera Cloud (OPC) - Phase 4	Grow the Business		\$33,364	\$110,100	\$106,536	\$250,000
	Stackvision Upgrade 2024 (Q1)	Run the Business	\$13,155	\$6,846			\$20,000
	Stackvision Upgrade 2024 (Q4)	Run the Business				\$15,000	\$15,000
	Total			\$787,765	\$823,052	\$770,018	\$1,287,837



5 Year Roadmap – 2025/2026

2025

Business Case	Project	Goal	2025	Grand Total
Energy	ADSS Expansion Package 2025	Run the Business	\$1,225,500	\$1,225,500
Resources	GPSS Maximo Expansion 2025	Run the Business	\$269,579	\$269,579
Modernization & Operational Effi	Ignition (HMI) Expansion 2025	Run the Business	\$185,000	\$185,000
	Nucleus Expansion Package 2025	Run the Business	\$1,050,000	\$1,050,000
	Oracle Primavera Cloud (OPC) Unifier License Renewal	Run the Business	\$100,000	\$100,000
	Oracle Primavera Cloud Expansion 2025	Run the Business	\$50,000	\$50,000
	Stackvision Upgrade 2025	Run the Business	\$80,000	\$80,000
Total			\$2,960,080	\$2,960,080

2026

Business Case	Project	Goal	2026	Grand Total
Energy	ADSS Expansion Package 2026	Run the Business	\$1,300,000	\$1,300,000
Resources	Aurora & PLEXOS License Renewal 2026	Run the Business	\$410,923	\$410,923
Modernization & Operational Effi	GPSS Maximo Expansion 2026	Run the Business	\$285,000	\$285,000
	Gurobi Optimization License Renewal 2026 (5 year)	Run the Business	\$441,334	\$441,334
	Ignition (HMI) Expansion 2026	Run the Business	\$185,000	\$185,000
	LIMS/WeighWiz/LabWiz Upgrade - 2026	Run the Business	\$70,000	\$70,000
	Nostradamus Upgrade- 2026	Run the Business	\$60,000	\$60,000
	Nucleus Expansion Package 2026	Run the Business	\$1,075,000	\$1,075,000
	Oracle Primavera Cloud Expansion 2026	Run the Business	\$50,000	\$50,000
Total			\$3,877,259	\$3,877,259



5 Year Roadmap –2027/2028

2027

		Projects 2023+		
Business Case	Project	Goal	2027	Grand Total
Energy	ADSS Expansion Package 2027	Run the Business	\$1,350,000	\$1,350,000
Resources	GPSS Maximo Expansion 2027	Run the Business	\$295,000	\$295,000
Modernization & Operational Effi	Ignition (HMI) Expansion 2027	Run the Business	\$190,000	\$190,000
	Nucleus Expansion Package 2027	Run the Business	\$1,100,000	\$1,100,000
	Oracle Primavera Cloud Expansion 2027	Run the Business	\$50,000	\$50,000
Total			\$2,985,000	\$2,985,000

2028

TBD



Decision Log - 2023

Month	Decision	Action	Approval	Date Approved
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

Decision Log - 2022

Month	Decision	Action	Approval	Date Approved
January	SteerCo addition to represent LIMS	Added Tom Dempsey	SteerCo Team	01/2022
February	NA			
March	NA			
April	NA			
May	Remove Nucleus Replacement (ETRM) from ERMOE	Remove Nucleus Replacement (ERM) from ERMOE - (Megan requested in 5-year planning, and Scott agreed)	SteerCo Team	05/22
June	NA			
July	NA			
August	NA			
September				
October	Add Aurora Plexos License Renewal in 2022? Or, remove and return funds to CPG?	Proceed with license renewal in 2022	Holland, Dempsey, Hoerner, Lang	10/17/22
November	NA			
December	NA			



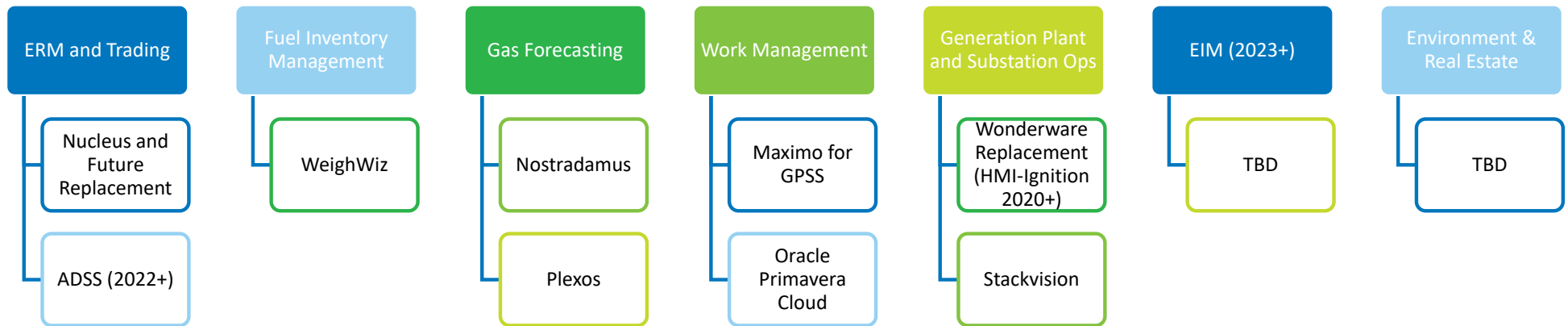
Q&A



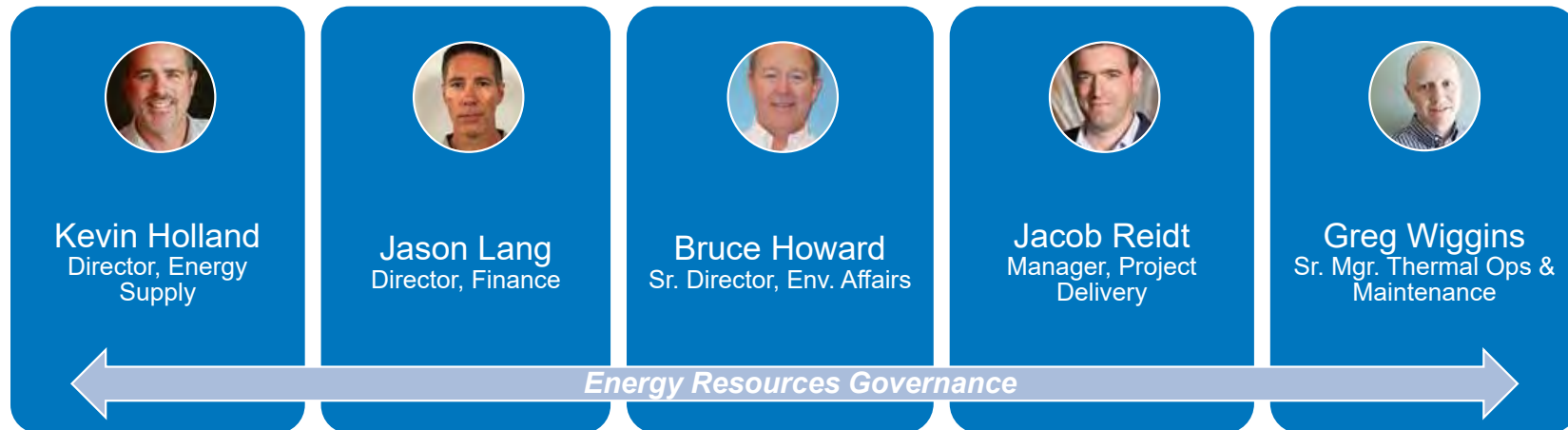
Thank you!

ERMOE Overview

The Energy Resources Business Program supports the application-related technology initiatives for all areas within Energy Resources. These areas include Power Supply, Gas Supply and Generation Production Substation Support (GPSS).



ERMOE Team



Kevin Holland
Director, Energy Supply

Jason Lang
Director, Finance

Bruce Howard
Sr. Director, Env. Affairs

Jacob Reidt
Manager, Project Delivery

Greg Wiggins
Sr. Mgr. Thermal Ops & Maintenance

Energy Resources Governance



Brian Hoerner
Business Case Owner

Brandon Naccarato
Business Technology Analyst

Leianne Raymond
IS/IT Program Manager

Ryan Surface
Project Manager (contracted)

ET Partners for Energy Resources



Energy Resources Modernization & Operational Efficiency (ERMOE) Technology

1.0 CHANGE REQUEST #1 – 01/23/23

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$3,072,400	\$2,800,000
<i>CR#1</i>	\$212,854	

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
01/2023	\$355,911	\$2,800,000	\$212,854	\$3,012,854

Type of Change	In-year Update
Primary Reason for Change	Timing Change, Internally Driven
Response needed by	2/15/2023

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The capital portion of the Aurora and Plexos License renewal (2-year agreement) was forecasted and planned to transpire In December of 2022, for the amount of \$377,597. Per the capital licensing process, a Capital Project Request (CPR) and corresponding Charter was submitted, a project number was assigned on 11/17/22, and was provided to IT Finance / Procurement for purchase and coding that same day.

When project actuals for December 2022 were received, only \$164,743 posted, which is \$212,854 less than our estimate. Upon inquiry to Projects & Fixed Assets Accounting (PFAA) and IT Finance as to the large variance, it appears that the full capital portion did not get posted to the project in December and a distribution correction needed to be made. This was an error related to the journal entry associated with the payment terms and offset liability coding.

Fortunately, this can be corrected, but unfortunately, due to timing, the remainder of the license purchase is now posted in January of 2023, a new budget year. ERMOE had the funds preserved for the purchase to occur in the 2022 budget year but does not have enough funding for the 2023 budget year to absorb these costs. This reduced the Transfer to Plant (TTP) for 2022 and now adds that amount (\$212,854) to our forecasted 2023 TTP. This Change Request is to secure the funding necessary to replenish the 2023 unplanned costs associated with the Aurora/Plexos license renewal purchase.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The license purchase posted in January and ERMOE does not have funding to absorb these costs. This creates a funding concern for the other planned and prioritized projects in the ERMOE Business Case.

Energy Resources Modernization & Operational Efficiency (ERMOE) Technology

1.1.3 Please reference analysis or information that support the problem and attach to this document.

PFA had performed an AP distribution for the invoice of \$164,743 moving it out of capital and to the liability account in January 2023 and posting the full amount from the journal entry into January 2023 GL period. These transactions and the history are recorded in the GL.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

O&M was not impacted.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

The desire is to make the correction to the 2022 financials, but the timing of the budget closure impacted the ability to make those changes.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

The investment is still prudent, this is timing driven.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The justification narrative is still valid, as this is timing driven.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Brian Hoerner	BC Owner	<small>DocuSigned by:</small> Brian Hoerner	
Scott Kinney	BC Sponsor	<small>DocuSigned by:</small> Scott Kinney	
	FP&A		



Oracle Primavera Phase 2: Unifier Steering Committee

Update

December 15th, 2022

Confidential – For Discussion Purposes Only

Agenda

- **Dashboard & Financials Review**
- **Deliverables Status**
- **Schedule Review**
- **Risks/Issues Review**
- **Questions**





ET and Security Project Dashboard

Last Update: 12/15/2022 6:01:01 AM

Business Unit	Business Functi...	Business Case	Project Manager	Project	Project Phase	Project Forecas...	Planned Project	Accounting Year	Point in Time
ET	ET Subfuncti...	Energy Reso...	Surface, Ryan	Oracle Prima...	Execution	Include	Planned	2022	12/15/2022

Breakdown **Project Financials**

	Actual	Forecast	Total
AFUDC	\$504	\$1,500	\$2,004
ET Labor	\$18,671	\$36,748	\$55,418
Non-ET Labor	\$3,464	\$3,059	\$6,523
Other	\$56	\$757	\$813
Product	\$14,606	\$0	\$14,606
Prof Services	\$30,825	\$130,000	\$160,825
Totals	\$68,125	\$172,064	\$240,188

Business Case	Project	Project Number	Phase	LTD Budget	LTD Actuals	YTD Spend	Estimate To Comple..	Estimate At Compl..	Variance
Energy Resources Modernization & O..	Oracle Primavera Phase 2: Unifier - 09806230	09806230	Execution	\$250,000	\$68,125	\$68,125	\$172,064	\$240,188	\$9,812
	Total			\$250,000	\$68,125	\$68,125	\$172,064	\$240,188	\$9,812
Grand Total				\$250,000	\$68,125	\$68,125	\$172,064	\$240,188	\$9,812

Project	Project Manager	Phase	Latest TTP Date	Status Report Update	Key Accomplishments	Upcoming Activities	Budget Status	Schedule Status	Scope Status
Oracle Primavera Phase 2: Unifier - 09806230	Surface, Ryan	Execution	12/15/2022	-12.8.22 SSO issues for the admin resolved -12.6.22 SSO meeting with Oracle to work on issue 12.7.22 Meeting with Oracle on Cost breakdown Structure.	-9.20.22 Oracle Unifier initial Workbook session with Oracle and the GPSS team -10.17.22 Oracle Primavera Phase 2 - Unifier Stee..	-SIA Story 521227 -NIA Story 524240 -12.14.22 Touch base with Oracle on Go li..	Budget Status	Schedule Status	Scope Status

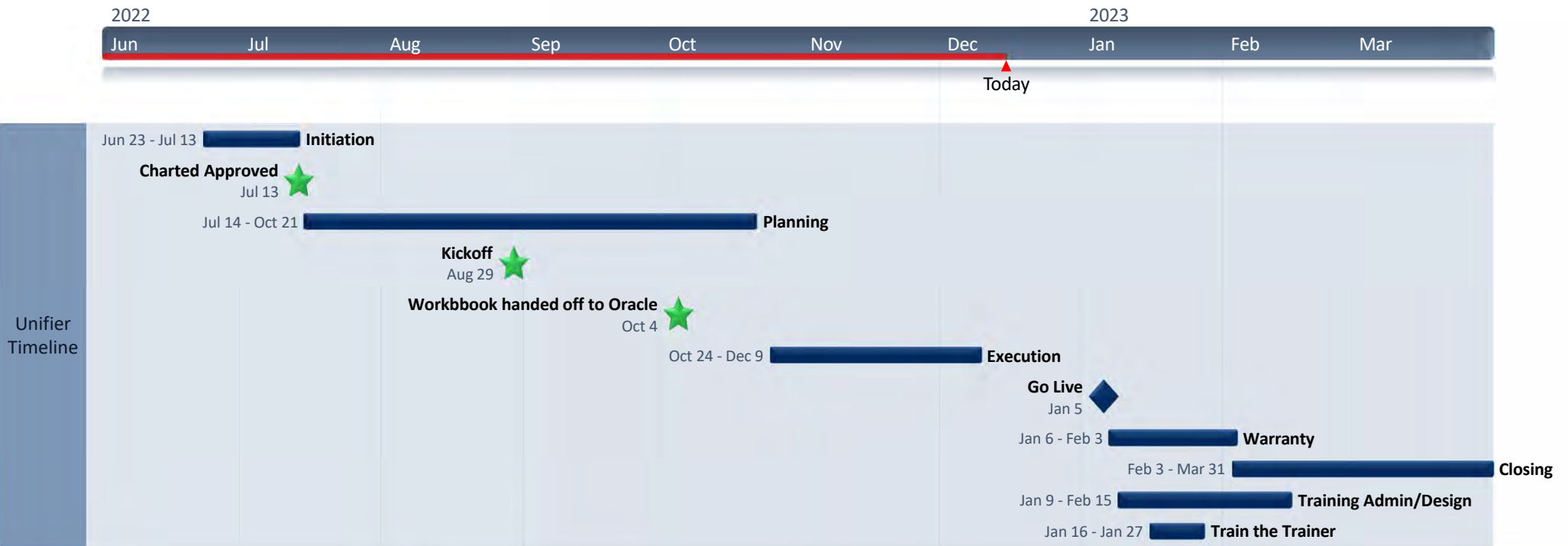


Oracle Primavera Phase 2: Unifier– Project Scope/Deliverables

- Primavera Unifier Licenses (3-Year term) (**Purchased**)
- Implementation and Testing of Oracle Primavera Unifier solution
 - Workbook for Oracle configuration (**completed 10.4.22**)
 - Initial walk through with Oracle (**Completed 10.18.22**)
- User Acceptance Testing (**Completed 12.15.22**, verification of changes 12.29.22)
- Go Live (**1.05.23**)
- Training (Train the trainer and admin training to take place in early 2023)
- Network Impact Assessment (NIA in progress)
- Security Impact Assessment (SIA nearly complete)
- 30-day post-implementation warranty
- Operational Handoff



Oracle Primavera Phase 2: Unifier Timeline



Oracle Primavera Phase 2: Unifier– Risks

Rank	RISKS/ISSUES	Probability	Impact	Impacted Areas	Mitigation Strategy
1	Risk – Vendor schedule aligns with Avista team	LOW	HIGH	Resource, Schedule	Work with Oracle and PM AJ Erdman resource availability. AJ is aware of our timeline.
2	Risk - Resource Constraints (internally and externally)	LOW	HIGH	Resource, Schedule	Working closely with the Oracle team, AJ Erdman, and the GPSS team. Amanda Hester to ensure we have the resources available to keep to our schedule.
3	Risk - A09 budget approval	LOW	LOW	Schedule	Per Brian H we are good in A09 for the initial planned licenses/Users.



Questions?

Thank you for your support!



CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Enterprise Control and Network Infrastructure

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

Technology investments under the Enterprise and Control Network Infrastructure business case are needed to expand and maintain network assets for Avista’s safety, control, customer-facing, and back-office systems. This is in support of system reliability and business productivity throughout our service territory, ensuring our ability to appropriately respond to the needs of our customers.

For the tracking year of 2022, the Enterprise Control and Network Infrastructure business case planned to transfer-to-plant approximately \$3.2M in project work while transferring approximately \$3.9M. This resulted in transferring \$661k more than expected. This business case is a program with many projects, and thus this over transfer is a net result of approximately 28 projects over and under transfer to plant amounts. Projects started in 2022 were hampered with product lead times that extended project schedules out 8-12 months longer than originally planned during business case planning activities which resulted in additional costs to projects set to TTP during the year. The largest over transfers occurred in the following projects.

- ECNI MW Sandpoint Baldy to Mt Spokane (MRP4) - 09906760 VDR increased approximately \$476,000.
- ECNI MW Refresh -Monumental to Mt. Spokane (MRP)– This project transferred approximately \$230k more than estimated.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

All projects contained within ET business cases are governed by a steering committee and thus any changes to scope, schedule, or budget are approved by that steering committee and business case governance for prudence. Therefore, any additional costs to the project were prudently documented and approved. Support documentation:

- MRP3-MRP4_SteerCo Slide Deck 6.7.22
 - Sandpoint Baldy to Mt Spokane– Slide 6 discusses issues and highlights of the project overall and indicates that this phase of the project will be closed at the end of the year. This is an unplanned change to the project transfer to plant date that is noted in slide 9. Thus, even though this project is not over budget, it was broken down into a smaller unexpected transfer to plant phase that increased the 2022 transfers by approximately \$476k.
 - Monumental to Mt. Spokane - Slide 5 discusses issue and highlights of the project overall. Slide 9 shows the financial variance and transfer to plant expected dates. Slide 9 shows the financial variance during June at a\$367k more than expected and transfer to plant expected date of August 2022.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

This business case is due to sunset in 2023. There are not any changes to the indirect offsets that would be calculated for this business case based on the over transfer amount listed above.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X DocuSigned by:
Shawna Kiesley
3CD905A81U984C3...

DIRECTOR SIGNATURE:

X DocuSigned by:
Jim Corder
/002L48/2104449...



Microwave Refresh Projects

Steering Committee Meeting

June 7, 2022

1. Review Notes From Previous Meeting
2. Review Microwave Refresh Program Dashboard
3. Review Financial Summary
4. Review Risks and Issues
5. Schedule Milestones
6. Next Steering Committee Meeting – Friday, July 8, 2022

- **ATTENDEES:** Craig Figart, Shawna Kiesbuy, Bryan Rask, Randy Spacek, Dan Israel, Paulo Tabino, Jeff Holter, Tim Davey, Kristi Tofino
- **MRP3**
 - Scope, schedule and budget are on track for all projects.
 - SIA for all three projects is the only outstanding item and is in progress.
 - Final pieces for the West Twin - Cottonwood Butte SIA were received this week and will be submitted to Security. Once this one is done the SIAs for the remaining links will be much quicker.
 - No decisions needed.
- **MRP4**
 - Scope, schedule and budget on track for most projects.
 - Budget for Monumental Mt. - Mt. Spokane is impacted at this point. Change request has been submitted in Clarity.
ACTION: Provide a few bullets (via email) explaining what was originally forecasted and what is driving the increase in labor and AFUDC. **CR and Status Report contain explanation**
 - **ACTION:** Follow-up with Gary Pellham to find out if the SARs that were upgraded at Flagstaff and Monumental are in scope of the new project being spun up to have SCI upgrade the SAR OS. **Complete – FSM and MMM were not in the scope of Gary’s project**
 - Sandpoint Baldy - Sandpoint Office
 - **ACTION:** Follow-up with Bob Marshall to determine if Avista has been paying for road maintenance at Sandpoint Baldy. **Complete – Avista – road maintenance fees are not included in the current lease for SPB.**
 - Consider bringing a Regional Business Manager (Todd Kiesbuy) into the conversation on the renewal of the road use permit.
 - **ACTION:** Schedule a meeting to further discuss the Sandpoint Baldy - Sandpoint Office project. Include Shawna, Bryan, Paulo and Dan. **Complete – Meeting held with NE leadership and engineers**

Project	Scope	Schedule	Budget	Phase	% Complete	Highlights
MRP3 – Microwave Refresh West Twin to Cottonwood Butte				Closing	99%	<ul style="list-style-type: none"> Security Impact Assessment is complete Work still to be completed: <ul style="list-style-type: none"> Approval to close document
MRP3 – Microwave Refresh West Twin to Pullman Svc Center				Closing	99%	<ul style="list-style-type: none"> Work still to be completed: <ul style="list-style-type: none"> Security Impact Assessment (SIA) Approval to Close Document
MRP3 – Microwave Expansion West Twin to Mica Peak				Closing	99%	<ul style="list-style-type: none"> Work still to be completed: <ul style="list-style-type: none"> Security Impact Assessment (SIA) Approval to Close Document



Queued



On Target



At Risk



Impacted

Project	Scope	Schedule	Budget	Phase	% Complete	Highlights
MRP4 – Microwave Refresh Colville Mt. to Colville BPA sub	On Target	On Target	On Target	Closing	90%	<ul style="list-style-type: none"> Work still to be completed: <ul style="list-style-type: none"> Install of Out of Band wireless antennas and test Update as-built drawings Security Impact Assessment Approval to Close document
MRP4 – Microwave Refresh Monumental Mt. to Mt. Spokane	On Target	On Target	Impacted	Execution	80%	<ul style="list-style-type: none"> Site prep work is complete at FSM, MMM, and MSP MOP testing and cutover preparation/rehearsal in the lab is ongoing with telecom and NE Security has implemented the firewall changes needed for the network traffic on the new link. On 6/8, the space diversity antennas for the legacy MW system will be replaced by new antennas for the Nokia MW equipment at MMM and MSP. The new Nokia MW link will be operating in parallel with the legacy MW link. Migration of traffic from the legacy microwave link to the new Nokia link will occur in multiple measured steps beginning on 6/22 with the FSM LMR traffic. Traffic migration will occur over several weeks to minimize risk and downtime for systems. Upcoming work: <ul style="list-style-type: none"> Continue MOP testing and cutover preparation/rehearsal in the lab. Complete field test plan and validation in the lab for each migration Notification to and coordination with all parties impacted by as routers are reconfigured and traffic is migrated from the legacy link to the new.

■ Queued
 ■ On Target
 ■ At Risk
 ■ Impacted

Project	Scope	Schedule	Budget	Phase	% Complete	Highlights
MRP4 – Sandpoint Baldy to Sandpoint Office (Site Rebuild)				Planning	30%	<ul style="list-style-type: none"> The City of Sandpoint has indicated they will transfer ownership and responsibility for SPB to Bonner County. The impact of this new development is not known, but it will likely delay the timing of renewal of the access road permit with IDL. Todd McLaughlin is investigating the process/possibility of Avista pursuing our own temporary use permit from IDL. We are exploring the possibility of “phasing” this project so that the ECNI business case can be closed at the end of the year. We are still waiting for drawings and a quote for a light-weight version of the concrete comm shelter previously ordered for SPB from Thermobond. Smeads Bench has been identified as the site that will use the Thermobond shelter already purchased. Shelter costs already incurred (\$210K) have been transferred to the Cabinet Gorge to Smeads Bench MW Refresh project. Next steps include: <ul style="list-style-type: none"> Investigate temporary road use permit and road maintenance plan. with IDL Order a new lighter weight shelter that can be safely transported and used at SPB Issue Road Improvements RFP Re-Issue Construction RFP for SPB links when design changes and site are finalized.
MRP4 – Sandpoint Baldy to Mt. Spokane				Planning	25%	<ul style="list-style-type: none"> We are exploring the possibility of “phasing” this project so that the ECNI business case can be closed at the end of the year.

■ Queued
 ■ On Target
 ■ At Risk
 ■ Impacted

- **Effort 1: DC Plant Refresh at MMM - Complete**
- **Effort 2: Upgrade Nokia SAR OS at FSM and MMM – Complete**
- **Effort 3: Site prep**
 1. MSP – **Complete**
 2. FSM – **Complete**
 3. MMM – **Complete**
- **Effort 4: Phase 1 Radio Refresh (team @ MSP, team @ MMM, includes Day Wireless) – Scheduled for 6/8/22**
 - No outage expected
- **Effort 5: Implement MSP-MMM-FSM PUB expansion (team @ MMM, team @ FSM) – Scheduled for 6/22/22**
 - FSM LMR outage –1 day
 - Fallback of using existing legacy mw with original configs on routers
- **Effort 6: Cutover: MMM LMR, KET Corp and KET SG routers to PUB (team @ MMM, team @ KET) – Schedule TBD**
 - Outage - MMM LMR - 2 hrs
 - Outage - KET Corp - 4 hrs
 - Outage - KET SG - 4 Hrs
 - Fallback of using existing legacy mw with original configs on routers

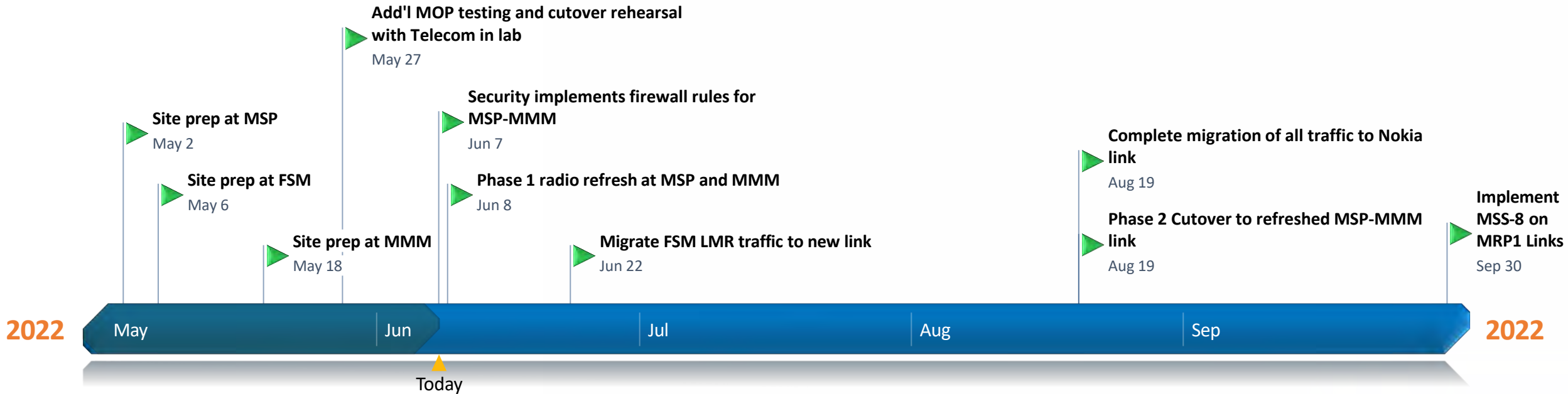
- **Effort 7: Cutover: KET GEN router and KET IMACS T1 to PUB (team @ MMM, team @ MSP) – Schedule TBD**
 - Outage KET IMACs T1 - 4hrs – includes:
 - Kettle Falls SCADA
 - Kettle Falls TM
 - Kettle Falls (Kettlf2)
 - Colville SCADA
 - Spirit SNP SCADA DNP
 - Spirit TM
 - KET GEN - 4hrs – Includes PI
 - Fallback of using existing legacy mw with original configs on routers
- **Effort 8: Cutover: CVM LMR and CBP Com routers to PUB (team @ MMM, team @ CVM & CBP) – Schedule TBD**
 - Outage estimate - CVM LMR - 4hrs
 - Outage estimate - CBP comm router - 4hrs
 - Fallback of using existing legacy mw with original configs on routers
- **Effort 9: Phase 2 Radio Refresh (team @ MSP, team @ MMM, outage; includes Day Wireless) – Schedule TBD**
 - Migrate traffic to Main antennas – brief outage/interruption for all traffic

MRP3 & MRP4 Financial Summary

Project Manager: Tim Davey

+ Project	TTP Date	Actual Costs to date (Thru 5/31/22)	Estimate to Complete (ETC)	Estimate at Completion (EAC)	Total Approved Budget	Variance Trend
MRP3 - Microwave Refresh West Twin to Cottonwood Butte	2/3/2021	\$1,225,355	\$1,500	\$1,226,855	\$1,236,262	\$9,407
MRP3 - Microwave Refresh West Twin to Pullman Service Center	2/3/2021	\$721,177	\$526	\$721,703	\$724,770	\$3,067
MRP3 - Microwave Expansion West Twin to Mica Peak	3/18/2021	\$854,370	\$614	\$854,984	\$867,903	\$12,919
MRP4 - Microwave Refresh Monumental Mt. to Mt. Spokane	6/24/2022	\$885,505	\$270,567	\$1,156,072	\$788,543	-\$367,529
MRP4 - Microwave Refresh Colville Mt. Colville BPA Sub	12/16/2021	\$518,948	\$47,990	\$566,937	\$570,383	\$3,446
MRP4 - Microwave Refresh Sandpoint Baldy to Sandpoint Office (Site Rebuild)	8/30/2023	\$623,583	\$1,468,753	\$2,092,336	\$1,898,545	-\$193,791
MRP4 - Microwave Refresh Sandpoint Baldy to Mt. Spokane	8/30/2023	\$301,217	\$577,117	\$878,334	\$893,591	\$15,257

RISKS/ISSUES	Probability	Impact	Impacted Areas	Mitigation
RISK – Resources with limited system experience and knowledge slows completion of work	HIGH	HIGH	Schedule	Provide oversight and mentorship from knowledgeable system resources
RISK – Resource availability due to conflicts with other priority projects	MED	HIGH	Schedule Budget	Work with product owners and ET managers to secure Network Engineering and Telecom resources when needed for the construction and implementation tasks. Communicate schedule to all and as well as progress and issues. Communicate and coordinate any changes in schedule.
RISK – Vendor delays and/or mistakes in equipment delivery	MED	HIGH	Schedule	Confirm anticipated delivery dates from vendors. Validate that all equipment received matches equipment ordered. Investigate options to expedite procurement. Challenge vendor to improve delivery dates. Consider deployment of lab equipment if absolutely necessary.
RISK – Adverse winter weather at mountain top sites limits access	LOW	HIGH	Schedule Budget	Begin construction and implementation work as soon as possible at all sites. Monitor whether conditions carefully and assess impact. Compact schedule if possible.
Risk – COVID-19 impacts and response initiatives impacting lab testing, supply chain (equipment delivery), and productivity levels (social distancing)	LOW	HIGH	Schedule Budget	Adhere to all recommended practices to ensure safety of all working on the project. Adjust to impacts in real time and communicate as appropriate.



Decision Proposed	Steering Committee Decision	Impacted Area	Financial Impact (\$)	Date
PG&A to arrange and facilitate and informal meetings with Clark Communications and State of Idaho to discuss the PG&A report or engage Avista legal team to start?	APPROVED - Arrange informal meetings with Clark Communications and State of Idaho with the assistance of GP&A.	Schedule	\$0	8/25/20
As a good neighbor/good will gesture, offer to purchase upgraded antenna for Clark Communications if necessary?	APPROVED - Offer to purchase upgraded antenna for Clark Communications if necessary.	Budget Schedule	\$10K	8/25/20
Permission to purchase communication shelter for Sandpoint Baldy in Planning in order to meet project schedule	APPROVED - Sandpoint Baldy Site Rebuild – approval to purchase shelter in planning.	Budget Schedule	\$228K total \$57K in 2020	9/25/20
Change Order from Day Wireless for change in construction approach to complete tower build at West Twin.	APPROVED - Change in construction approach for tower at West Twin to eliminate need for large vehicles to navigate road to tower site.	Budget Schedule	\$165K	11/13/20
Refresh or move existing LMR equipment at Sandpoint Baldy	DECISION POSTPONED pending discussion with Business case guidance team.	Schedule Budget	\$30-\$35K	3/26/21
Extend MSP tower 5' to provide ice shielding to unprotected microwave antennas	APPROVED: Extend Mt. Spokane tower 5 feet to provide ice shielding to unprotected microwave antennas.	Scope Schedule Budget	\$15-\$25K	3/26/21

Decision Proposed	Steering Committee Decision	Impacted Area	Financial Impact (\$)	Date
Purchase additional Nokia MSS-8s for the lab to mock up MRP4 Links and permanent ongoing lab use	The Steering Committee deferred to Jeff and Shawna for approval of the purchase if the business case budget allowed for it. Shawna and Jeff have given approval to move forward with the purchase.	Budget	\$67K	4/29/21
Temporarily use a router from the lab to support the T1 needed for outage mitigation at SPO	Recommendation of Steering Committee is to use a router from the spares inventory if available. If no spares available, purchase a new router.	Budget	Borrow – \$0 Purchase - \$10K	4/29/21
Alter Sandpoint Baldy Site Re-Build Design and Requirements	APPROVED: Alter Sandpoint Baldy site re-build Design and Requirements.	Scope Schedule Budget	Approximately \$1.6M of estimated costs for SPB-SPO and SPB-MSP is moved from 2021 ENCI budget to 2022 budget	6/29/21
Mitigation For Lack of Space in CBP Communication Shelter for MRP4 Equipment	APPROVED: Option 1: Install a temporary communication shelter for the MRP4 equipment at CBP	Budget	Estimated \$20-\$35K for delivery, additional construction, 1-year lease on 8x10 shelter	9/20/21

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Enterprise Communication Systems

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Enterprise Communication Systems business case provides continuous communication among our staff and customers throughout our service territory. However, to do it effectively, we require communication technology for greater agility, flexibility, and scalability to enable many business processes, such as 24 x 7 x 365 communication with our gas and electric customers by telephone, fax, or email. Additionally, email, instant messaging, text and collaboration platforms support a digital workforce that has the ability to work from any location.

This business case transferred to plant approximately \$2.8M more than anticipated. The source of this variance is due to several projects (such as Contact Center SIP and Outbound Call Campaign) whose transfer to plant dates shifted from 2021 to 2022 due to complexity of the work causing schedule delays. In addition, more funding was required for the Microsoft Teams Voice project due to unanticipated need for Teams Voice licensing and increases in professional services costs, which increased the total transfer to plant amount by \$165k. Finally, a new unplanned project to increase the hybrid capabilities of conference rooms was requested mid-year, and transferred to plant in late 2022 for approximately \$575k.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

All projects contained within ET business cases are governed by a steering committee and thus any changes to scope, schedule, or budget are approved by that steering committee and business case governance for prudence. Therefore, any additional costs to the project were prudently documented and approved. Please see the following CPG change request documents for further details surrounding the items above:

- Enterprise Communications In Year – Business Case Funds Change Request 4.22 – Hybrid Capabilities of Conference Rooms.
- Enterprise Communications In Year – Business Case Funds Change Request 7.22 – Microsoft Teams Voice Project Increases.
- Enterprise Communications In Year – Business Case Funds Change Request 8.22

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

This business case has indirect offsets related to an estimation of having to revert to manual processes instead of using the communication devices such as email, virtual meeting systems (Microsoft Teams), Mobile phones and Call Center phone systems. These additional transfers to plant do not impact the indirect offsets originally calculated in this filing.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X DocuSigned by:
Walter Roys
289/8/93A9C64D0...

DIRECTOR SIGNATURE:

X DocuSigned by:
Jim Corder
/302L48/210449...

Enterprise Communications

1.0 CHANGE REQUEST CR01 4.6.22

Previous Requests	Requested	Approved
5-Year Plan	\$2,755,510	\$2,020,000
CR01	\$575,000	\$2,595,000

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
04-2022	\$888,321	\$2,020,000	\$575,000	\$2,595,000

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	4/20/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

Avista's Workplace 2022 program has resulted in employees and contractors returning to work using either a fully in-person, fully remote or a hybrid schedule. As a result, it's possible for meeting attendees to be present both in person in conference rooms as well as virtual via conferencing tools such as Teams. To have the best meeting and employee experience possible, all conference room technology should be updated so that virtual and in-person meeting attendees are able to see everyone, as well as equally collaborate with the meeting.

The objective is to have the same functionality in all conference rooms in order to satisfy the expected employee experience.

Conference room technology improvements have not been funded since March 2020, which has resulted in technology failing and being incompatible with current hybrid meeting technology.

In addition to Avista's standard conference rooms, the Avista Boardroom audiovisual (AV) equipment has been outdated for some time. A refresh of this technology was being discussed in 2020, but was delayed at the time due to the pandemic and remote working. With the switch to hybrid meetings, it has become even more important to have update to date AV and videoconferencing technology available in the Boardroom.

In order to accommodate the purchase of camera technology for the majority of Avista conference rooms as well as a refresh of the AV in the Boardroom, the Enterprise Communications business case is requesting \$575,000 in additional funding.

Enterprise Communications

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The purchase of this technology is needed as soon as possible, as employees are beginning to return to the office and will be participating in hybrid meetings. If this request is not approved, it could result in an inferior hybrid meeting experience.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

The analysis of funding needed is based on the plan to install Owl cameras and Meeting HQ devices in 90 conference rooms across all Avista offices. These cameras have been tested and determined to offer the best camera experience for those participating in hybrid meetings.

Conference Room AV Costs	Costs Per Unit Including Labor	# of Units	total
Owls and HQ Devices	\$4,000	90	\$360,000
TV Monitors	\$1,500	90	\$135,000
Boardroom AV Refresh	\$80,000	1	\$80,000
Total Change Request			\$575,000

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

There are no business functions impacted.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

A variety of AV technology options were discussed, considered and tested, and the Owl Labs products were found to offer the best experience for hybrid meetings. Below are alternate options for funding based on decreasing the scope of work.

Option 1 - Replace AV technology in 90 conference rooms, including the Boardroom, across Avista territory as well as replace projectors and screens with TV displays where needed.

Option 2 – Replace AV technology in 90 conference rooms, including the Boardroom, across Avista territory but do not replace projector and screens unless they are in a failed state or in need of repair.

Option 3 - Replace AV technology in a smaller number of conference rooms.

Replacing anything less than the full amount of conference rooms will put at risk the objective of creating a consistent employee experience in each conference room.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

This is a prudent investment for the company as it will ensure that remote participants in meetings are able to participant in meetings equally to those in the room. The article below discusses why this is important.

<https://hbr.org/2021/06/what-it-takes-to-run-a-great-hybrid-meeting>

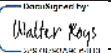
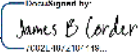
Enterprise Communications

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No Change to justification narrative.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Walter Roys	BC Owner		Apr-20-2022
Jim Corder	BC Sponsor		May-19-2022
	FP&A		

5:15 PM PDT

12:37 PM PDT

Enterprise Communications

1.0 CHANGE REQUEST CR01 7.22

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$2,755,510	\$2,020,000
<i>CR01</i>	\$575,000	\$2,595,000
<i>CR02</i>	\$165,000	

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
<i>07-2022</i>	\$1,759,696	\$2,595,000	\$165,000	\$2,760,000

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	7/29/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The Microsoft Teams Enterprise Voice project discovered the need to purchase Teams Phone Standard licenses in order for Teams Enterprise Voice softphone to function. This license is an add on to Avista's M3 Microsoft license bundle (which currently includes Skype for Business licenses). This was an unplanned expense in the project.

While there are no direct license offsets at this time due to the Skype for Business licenses being included in the M3 bundle, Avista's software compliance analyst was able to secure a discount for the Teams Phone Standard licenses that reduced the cost by approximately 30%. This discount required Avista to purchase the licenses by June 30th. Total cost of this license purchase was \$164,884.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The purchase of these licenses was necessary to the functionality of Microsoft Teams Voice, which Avista needed to move to for outbound calling as Skype for Business is being deprecated. If this request is not approved, then additional work within the Enterprise Communication business case could be at risk of needing to pause, which could impact contractor labor.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Enterprise Communications

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

These licenses also will impact 2022 expense costs by \$4,500 and 2023-2024 costs by \$18,000 per year. We expect that some of this cost will be offset by decommissioning the current Skype for Business servers, which currently also have licenses. Teams Voice is in the cloud and does not require server licenses.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

Alternatives to the licenses were not discussed, as they are necessary for Avista to move to Teams Enterprise Voice.


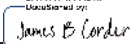
1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No Change to justification narrative.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Walter Roys	BC Owner		Aug-02-2022
Jim Corder	BC Sponsor		Aug-02-2022
	FP&A		

2:08 PM PDT

3:58 PM PDT

Enterprise Communications

1.0 CHANGE REQUEST CR03 8.22

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$2,755,510	\$2,020,000
<i>CR01</i>	\$575,000	\$2,595,000
<i>CR02</i>	\$165,000	\$2,760,000
<i>CR03</i>	\$533,000	

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
<i>08-2022</i>	\$1,817,391	\$2,760,000	\$533,000	\$3,293,000

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	8/31/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The Enterprise Communications Business case has encountered the need for additional funding for several ongoing as well as new projects.

- Contact Center Updates - \$30,000
 - This project was unplanned and requested as a result of the Contact Center plan to return to the office. It is requesting the removal of no longer in use desk phones as well as general improvements to prepare the Contact Center offices for business functionality.
- Collective Product Update - \$60,000
 - This project was unplanned in the business case, as we received notice from the vendor recently that the product would be end of life this year and Avista would need to find a new platform to host video media.
- Cell boosters
 - The Communications business case has received a number of requests for Cell Booster technology that was previously unplanned in the business case. This includes:
 - Colville Truck Cell Boosters – Colville is in need of updating the cell phone boosters in their fleet trucks. There are areas in the Colville service territory that are known for poor and or no cell phone and radio service. There have been request to get the radio system improved but that is a much larger project than updating the cell phone boosters in the trucks. A test of the cell booster technology in one of their trucks was successful

Enterprise Communications

This request is for a project to install boosters in all trucks. There are 22 trucks and cost would be \$1500 each, for a total cost of \$33,000.

- Boulder Park and Moscow Substation – Current cell service is very poor and spotty at both locations, and it's important for there to be a secondary form of communication available at this power plant. Cell Service at the Boulder Park plant in particular is an open safety issue. Estimated cost to install boosters at these locations is \$30,000.
- iOS Refresh - \$130,000
 - Apple is releasing iOS version 16 in September, and with this news they have announced that iPhones 6s and 7 will not support the new version and therefore would be prone to cyber attack because the older operating system is no longer supported. Any phone using an unsupported iOS version will be blocked from connecting to Avista networks. Avista has approximately 100 of these devices currently in the environment. This request is to refresh these older devices so that they can receive important security updates provided by iOS version upgrades and that employees can continue to use the phones for business functions.
- Outbound Call Campaign Technology Refresh - \$250,000
 - This project was planned in the 2021 budget year, and originally forecast to complete in early 2022. Due to a variety of challenges, the project has continued to require work from a variety of teams outside of Communication systems, which has caused increased unplanned labor costs in the business case .

These requests would increase the transfer to plants amount for each project within this business case.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

Several of these requested work items are safety issues, or are needed to help prevent cyber attack risk. Additional work is needed to support unplanned labor costs, which if not funded could put at risk Avista's contracted labor group.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

The business case reviewed forecast project costs to determine the requested amount.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

Not funding this request would likely result in project work being slowed or halted, which would potentially impact staffing on these projects.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

Not Applicable.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

This investment is still prudent.



Enterprise Communications

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No Change to justification narrative.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Walter Roys	BC Owner	 <small>DocuSigned by: Walter Roys 14211816102022</small>	Aug-15-2022
Jim Corder	BC Sponsor	 <small>DocuSigned by: Jim Corder 14211816102022</small>	Aug-15-2022
	FP&A		

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CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Enterprise Network Infrastructure

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5-year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

This business case provides back office and customer-facing communication network access and infrastructure investments for all enterprise-wide business productivity applications and corporate systems.

For the tracking year of 2022, the Enterprise Network Infrastructure business case planned to transfer-to-plant approximately \$2.2M in project work, while actually transferring approximately \$363k. This resulted in an under-transfer amount of approximately \$1.9M.

The main driver to the transfer-to-plant variance was a lack of resource prioritization and capacity in alignment with the projects within the business case. In addition, projects that started in 2022 were hampered with hardware lead times that extended project schedules out 8-12 months longer than originally planned. These constraints compounded through the year, resulting in changes to the business case funding. During the months of July through October, the business case governance team approved the submission of funding change requests (see attached documents) to release a total of \$2,118,801 of spend from the business case. This release of spend aligns with projects being pushed from 2022 into 2023 and an overall related decrease in transfers-to-plant. Most of these projects have not started yet or have started late in 2022 resulting in most of the project spend and transfers-to-plant being reforecast into 2023. However, through prudent governance of this business case, capital funding that was not able to be spent this year (and ultimately transferred-to-plant), was released for other areas of the business to utilize.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

There are no significant cost overruns as this business case and projects contained therein were delayed with hardware lead times. All projects contained within ET business cases are governed by a steering committee and thus any changes to scope, schedule, or budget are approved by that steering committee and business case governance for prudence. Attached are the change requests documenting the release of funding through 2022 which is a direct correlation to the transfer to plant variance:

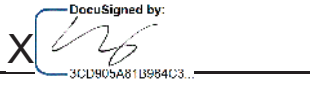
1. ENI_Business_Case_CR_2022 July
2. ENI_In Year -Business Case Funds Change Request_August 2022
3. ENI_In Year -Business Case Funds Change Request_September 2022
4. ENI_In Year -Business Case Funds Change Request_October 2022
5. ENI_In Year -Business Case Funds Change Request_November 2022

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

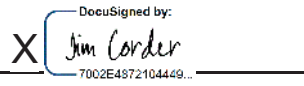
The transfer to plant variance for this business case is a result of under delivering on the forecasted project work due to constraints as described above. There are no revisions to the offsets since the work is still set to complete in 2023.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X  _____

DIRECTOR SIGNATURE:

X  _____

Enterprise Network Infrastructure

1.0 CHANGE REQUEST 1 – 07.15.2022

Previous Requests	Requested	Approved
5-Year Plan	\$10,525,000	\$10,525,000

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
07-2022	\$180,675	\$3,000,000	-\$586,248	\$2,413,752

Type of Change	In-year Update
Primary Reason for Change	Timing Change, Internally Driven
Response needed by	7/20/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

This change request is for a release of funds due to projects being pushed from starting in Q1 2022 to Q3 and Q4 2022. The amount being released equates to the project costs being moved into 2023. These queued projects have not started this year due to resource constraints resulting from higher priority work.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

This change request is for a release of funds.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

This change request is for a release of funds.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

This change request is for a release of funds.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

This change request is for a release of funds.

Enterprise Network Infrastructure

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

This change request is for a release of funds.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No changes are needed to the justification narrative at this time.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Shawna Kiesbuy	BC Owner	<small>DocuSigned by:</small> Shawna Kiesbuy	Jul-19-2022
Jim Corder	BC Sponsor	<small>DocuSigned by:</small> James B Corder	Jul-20-2022
	FP&A	<small>700CE467210444E...</small>	

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Enterprise Network Infrastructure

1.0 CHANGE REQUEST 1 – 08.17.2022

Previous Requests	Requested	Approved
5-Year Plan	\$10,525,000	\$10,525,000
07-2022	-\$586,248	\$9,938,752

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
08-2022	\$187,222	\$2,413,752	-\$532,553	\$1,881,199

Type of Change	In-year Update
Primary Reason for Change	Timing Change, Internally Driven
Response needed by	8/17/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The monitoring of ongoing risks related to supply change lead times, prioritization of work, along with the resulting resource constraints has caused projects forecasted to start in 2022 to be pushed out to 2023. This shift in project work causes an excess of funding not needed in the current year, and thus the release of funds. Funding for 2023 is currently being evaluated based on the new project line-up and next year a change request may be generated if additional funds are deemed necessary.

With this release of funds, there is no change to the 2022 TTP forecast.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

This change request is for a release of funds.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

This change request is for a release of funds.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

This change request is for a release of funds.

Enterprise Network Infrastructure

- 1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).**

This change request is for a release of funds.

- 1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.**

This change request is for a release of funds.

- 1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.**

No changes are needed to the justification narrative at this time.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Shawna Kiesbuy	BC Owner		
Jim Corder	BC Sponsor		
	FP&A		

Enterprise Network Infrastructure

1.0 CHANGE REQUEST 3 – 09.15.2022

Previous Requests	Requested	Approved
5-Year Plan	\$10,525,000	\$10,525,000
CR 07-2022	-\$586,248	-\$586,248
CR 08-2022	-\$532,553	-\$532,553

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
09-2022	\$208,435	\$1,881,199	-\$430,000	\$1,451,199

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	9/21/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

Avista has an opportunity to purchase already installed dark fiber from Fat Beam. The purchase had been forecasted across two projects / business cases. Recently, the team learned that the purchase needs to be made in one project in one business case and the Control and Safety Network Infrastructure business case was chosen. This release of funds offsets the request of funds for CSNI.

With this release of funds, there is a \$430,000 reduction to the 2022 TTP forecast.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

This change request is for a release of funds.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

This change request is for a release of funds.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

This change request is for a release of funds.

Enterprise Network Infrastructure

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

This change request is for a release of funds.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

This change request is for a release of funds.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No changes are needed to the justification narrative at this time.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Shawna Kiesbuy	BC Owner		
Jim Corder	BC Sponsor		
	FP&A		

Enterprise Network Infrastructure

1.0 CHANGE REQUEST 4 – 10.14.2022

Previous Requests	Requested	Approved
5-Year Plan	\$10,525,000	\$10,525,000
CR 1 07-2022	-\$586,248	-\$586,248
CR 2 08-2022	-\$532,553	-\$532,553
CR 3 09-2022	-\$430,000	-\$430,000
CR 4 10-2022	-\$570,000	

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
10-2022	\$267,318	\$1,451,199	-\$570,000	\$881,199

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	10/19/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The monitoring of ongoing risks related to supply chain lead times, prioritization of work, along with the resulting resource constraints has caused projects forecasted to start in 2022 to be pushed out to 2023. This shift in project work causes an excess of funding not needed in the current year, and thus the release of funds. Funding for 2023 is currently being evaluated based on the new project line-up and at the start of next year, a change request will be submitted for additional funds.

With this release of funds, there is no change to the 2022 TTP (Transfer to Plant) forecast due to the 2022 projects spanning multiple years, the TTP might be impacted in 2023 and beyond.

Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

This change request is for a release of funds and therefore will allow other areas of the business to utilize these funds.

Enterprise Network Infrastructure

1.1.2 Please reference analysis or information that support the problem and attach to this document.

This release of funds is primarily driven by supply chain lead time issues and resource constraints. A few examples of lead time challenges in this business case include Cisco switches as noted below in the price estimate for several ENI projects.

Line Number	Part Number	Description	Cisco Product Reference	Product Family / Service Level	Service Duration (Months)	Estimated Lead Time (Days)	Pricing Term	Qty
1.0	C9300-48P-E	Catalyst 9300 48-port PoE+, Network Essentials		Catalyst 9300 Series Switch	—	206		1
1.0.1	CON-SNT-C93004PE	SNTC-8X5XNBD Catalyst 9300 48-port PoE+, Network Esse		SNT	12	N/A		1
2.0	N9K-C9336C-FX2-E	Nexus 9300 Series, 36p 40/100G QSFP28		Cisco Nexus 9300 Series	—	140		1
2.0.1	CON-SNT-N9KC93X2	SNTC-8X5XNBD Nexus 9300 Series, 36p 40/100G QSFP28		SNT	12	N/A		1
3.0	C9130AXI-A	Cisco Catalyst 9130AX Series		Catalyst 9130 Series Access Points	—	204		1
3.0.1	CON-SSSNT-C9130AXI	SOLN SUPP 8X5XNBD Cisco Catalyst 9130AX Series		SSSNT	12	N/A		1

Resource constraints are also a driver of this release of funds. As noted in the Resource Optimization Committee (ROC) for Enterprise Technology, Network resources are severely understaffed by approximately 14 Full Time Equivalents (FTE) overall. For this business case, the resource constraints are particularly in the IP Network Access area where many projects land in the ENI business case and impact enterprise network access projects, vulnerable device refresh projects and control site network refresh projects where new switches and routers need to replace old, out of support hardware.

In addition, the same network engineering resources are working on this business case are also working in the ECNI business case. Projects in this case have taken longer than anticipated for very similar reasons noted above, (supply chain and resource) and thus are impacting the effectiveness of this business case.

1.1.3 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

Employee staffing will continue to impact this business case going forward until some significant staffing challenges are addressed. The labor market is extremely challenging for Network Engineers right now. Of the 36 individuals we have in the Network Delivery Engineering team (employee and contract), 70% have been in their current role for less than 3 years. This does not include at least 6 network engineering contractors who started and left within 12 months of their start date to pursue other opportunities. This wastes valuable training and onboarding time with our already over-extended network engineers. We are increasing the number of professional service engineering firms we use, but those contracts are taking longer than expected to negotiate.

Enterprise Network Infrastructure

1.1.4 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

This change request is for a release of funds.

1.1.5 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

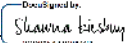

This change request is for a release of funds and therefore, allows other areas of the business to use these funds on behalf of our customers.

1.1.6 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No changes are needed to the justification narrative at this time.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Shawna Kiesbuy	BC Owner	<small>DocuSign by:</small> 	Oct-18-2022
Jim Corder	BC Sponsor	<small>DocuSign by:</small> 	Oct-18-2022
	FP&A		

8:41 AM PDT

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Enterprise Network Infrastructure

1.0 CHANGE REQUEST 5 – 11.10.2022

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$10,525,000	\$10,525,000
<i>CR 1 07-2022</i>	-\$586,248	-\$586,248
<i>CR 2 08-2022</i>	-\$532,553	-\$532,553
<i>CR 3 09-2022</i>	-\$430,000	-\$430,000
<i>CR 4 10-2022</i>	-\$570,000	-\$570,000
<i>CR 5 11-2022</i>	\$65,000	

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
11-2022	\$683,379	\$881,199	\$65,000	\$946,199

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	11/16/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

In mid-October, a hardware order from CompuNet arrive approximately 170 days (about 5 and a half months) ahead of the quoted lead time for the order on the VDR (Vulnerable Device Refresh) Device Refresh_07 (DC Access Switches) – 09907062 project in this business case. The hardware purchase was forecasted on the project, but it was forecasted to arrive in 2023, so funding to pay for the order was not planned in the 2022 business case budget. The total order equates to \$289,151. Through careful evaluation of other project work in the business case, the team was able to absorb most of the unplanned cost except for \$65,000. This change request is for \$65,000 to cover the remaining balance of the hardware invoice needing to be paid this year. The acceptance of the hardware order from CompuNet has already transpired so Avista is under contractual obligation to pay the invoice for the hardware received. If this request is not approved, the business case risks completing the 2022 year over budget. With this request for funds, there will be no change to the TTP (Transfer to Plant) forecast for 2022.

Enterprise Network Infrastructure

Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The acceptance of the hardware order from CompuNet has already transpired so Avista is under contractual obligation to pay the invoice for the hardware received. If this request is not approved, the business case risks completing the 2022 year over budget.

1.1.2 Please reference analysis or information that support the problem and attach to this document.

Lead times for hardware purchases have been sporadic over the last couple of years. Our teams are working daily with our vendor partners to plan for orders with as much accuracy as they can while trying to balance the forecast of work across business case funding years. Unfortunately, the volatility of supply right now resulted in this hardware purchase arriving approximately 170 days (about 5 and a half months) ahead of schedule resulting in unplanned costs in the current business case year.

1.1.3 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

This business case request for funds is due to an unplanned arrival and acceptance of a hardware order forecasted in 2023. This request has no impact on O&M costs, employee or staffing, or offsets.

1.1.4 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

This change request is for funds to cover an overage in the business case caused by a hardware purchase from CompuNet arriving approximately 170 days (about 5 and a half months) ahead of schedule. There are no alternatives to this action since the acceptance of the hardware order has contractually obligated Avista to pay the invoice.

1.1.5 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

This change request is for funds to cover an overage in the business case caused by a hardware purchase from CompuNet arriving approximately 170 days (about 5 and a half months) ahead of schedule. The hardware selected and purchased for the project is still the best solution given the project requirements. The affected project is part of the Vulnerable Device Refresh initiative which was created to replace assets which will allow Avista to maintain security patching and technical support for the affected platforms while increasing capacity for network traffic. This will benefit stakeholders and customers by providing resiliency and reliability for communication networks at Customer Contact Centers, Generating Facilities, Service Centers.

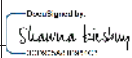
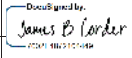
Enterprise Network Infrastructure

1.1.6 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No changes are needed to the justification narrative now.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Shawna Kiesbuy	BC Owner		Nov-11-2022
Jim Corder	BC Sponsor		Nov-11-2022
	FP&A		

3:15 PM PST

3:16 PM PST

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Enterprise Security System

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Enterprise Security Business Case is where all cybersecurity investment is centralized, incorporating security system refreshes and multiyear license renewals from previous investments. As new security system investments occur in response to emerging threats and cybersecurity compliance requirements, the refresh of those systems occur under this business case.

The Enterprise Security System planned transfers-to-plant in the filed Washington GRC was approximately \$972k and the actual amounts ended 2022 to be approximately \$2.48M. This represents a difference of \$1.5M more than anticipated when filing the Washington GRC. There are (4) four specific requests with different timelines and associated risks driving this increase in 2022 of : a) Multiyear Splunk License Renewal, b) Noxon HED Switchyard Security, c) Cloud Security Enhancements, and an d) Increase in Contract and Professional Service Costs.

- **Multiyear Splunk License Renewal** - This core security system captures logs from all other systems to index and correlate real-time data to monitor for anomalies needing further investigation. This annual license renewal was budgeted as expense at \$148k. The annual vendor renewal quote received came in at \$174k, or a 17.6% increase. A 3-year, prepay renewal quote received came in at \$445,800, with a \$76,200 discount or approximately \$149k per year versus the \$174k per year. This 3 Year pre-pay amount will trigger 80% of this cost to be capital expense. However, the impact would be a 3-year, pre-pay of \$391k to this capital business case, and is an unbudgeted item. Overall, the Company was utilizing a reduction in costs for these licenses. This results in approximately \$391k of additional unexpected transfers-to-plant in 2022 for these overall savings.
- **Noxon HED Switchyard Security** – This project was a requirement of the Western EIM project under relevant CIP standards including but not limited to physical security perimeter, updated processes to ensure compliance requirements are met as well as new and modified documentation and procedures. This project was an unexpected increase of approximately \$420k in transfers-to-plant due to the carryover in work from 2021 to 2022.
- **Cloud Security Enhancements** – Avista’s cloud infrastructure is growing, and this project matures Avista’s security posture with an upgrade and enhancements in the cloud environment. This was an unplanned project in 2022 due unanticipated growth in cloud infrastructure and resulted in an additional transfers-to-plant of approximately \$149k.
- **Increase in Contract and Professional Services Costs** - The recent economic trends in labor market instability have affected our original labor estimates. Over the past 12 months, we lost (2) highly skilled Avista core resources to a very competitive job market. To temporarily offset the labor shortage, challenge in backfilling the roles and continue upgrading aging security systems, we’ve increased staff augmentation resources and professional services. This has caused project schedule delay and higher costs month over month. The impact is approximately \$420k annually or \$35k/month greater than the original estimates with Avista core resources.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

All projects contained within ET business cases are governed by a steering committee and thus any changes to scope, schedule, or budget are approved by that steering committee and business case governance for prudence. Therefore, any additional costs to the project were prudently documented and approved. Please see the following attachment that provides more detail on the above discussion:

- Enterprise_Security – CPG-CR_9.2022

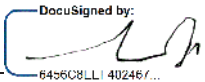
ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

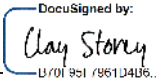
If a data breach event were to occur, whereby customer data is stolen, it can cost an average of \$6.39M per event of indirect lifetime costs. Based on the above information, no additional risk was taken and therefore, no change to the original estimated indirect benefits.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

DIRECTOR SIGNATURE:

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Enterprise Security

1.0 CHANGE REQUEST #1 09/14/2022

Previous Requests	Requested	Approved
5-Year Plan	\$2,500,000	\$2,160,000
CR #1	\$1,070,000	

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
08-2022	\$1,936,866	\$2,160,000	\$1,070,000	\$3,230,000

Type of Change	In-year Update
Primary Reason for Change	Scope Change
Response needed by	9/21/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

- The Enterprise Security Business Case is where all cybersecurity investment is centralized, incorporating security system refreshes and multiyear license renewals from previous investments. This year's approved funding amount has been flat and consistent with allocations from 2019, 2020, and 2021. As new security system investments occur in response to emerging threats and cybersecurity compliance requirements, the refresh of those systems occur under this business case. There are (3) three specific requests with different timelines and associated risks for your consideration: a) Multiyear Splunk License Renewal, b) Multiyear Network System Manager Replacement in SCADA, and an c) Increase in Contract and Professional Service Costs.
- **Multiyear Splunk License Renewal** – This core security system captures logs from all other systems to index and correlate real-time data to monitor for anomalies needing further investigation. This annual renewal was budgeted in A09 at \$147,900. The annual vendor renewal quote received came in at \$174,000. This is a 17.6% increase. A 3-year, prepay renewal quote received came in at \$445,800, with a \$76,200 discount or approximately \$148,600 per year. This amount will result in an annual reduction of \$118,180 in the A09 budget, as 80% of this cost would qualify as a capital expense. However, the impact would be a 3-year, pre-pay of \$388,738 to this capital business case for an unbudgeted item. The renewal comes due 09/29/2022.
- **Multiyear Network System Manager Replacement in our SCADA environment** is a requirement to meet our NERC CIP-007 Standard. Our existing system ran its useful life and is out of support. Although this purchase assists Avista meet a compliance requirement, due to the refresh nature of this investment, the purchase was executed under this business case. The replacement system was purchased at the end of July 2022 for \$260,000, with a 3-year license to capture a 20% vendor discount or a savings of \$97,284 to Avista and its customers. While this annual maintenance and support was anticipated, the 3-year, pre-pay investment was not a budgeted item.

Enterprise Security

- **Increase in Contract and Professional Services Costs** – The recent economic trends in labor market instability have affected our original labor estimates. Over the past 12 months, we lost (2) highly skilled Avista core resources to a very competitive job market. To temporarily offset the labor shortage, challenge in backfilling the roles and continue upgrading aging security systems, we've increased staff augmentation resources and professional services. This has caused project schedule delay and higher costs month over month. The impact is approximately \$420,000 annually or \$35,000/month greater than the original estimates with Avista core resources.

Request	Amount	Need by date
Multiyear Splunk Renewal	\$390,000	9/21/2022
Multiyear IDS Replacement in SCADA	\$260,000	9/21/2022
Increase in Contract/Professional Services Costs	\$420,000	10/31/2022
Total	\$1,070,000	

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

- Cybersecurity risk is at an all-time high with continued increase in the cost of data breaches, averaging \$4.35M per event. These requests fall under non-labor categories, as we are looking for overall savings to Avista and its customers using multiyear renewals versus annual renewals. Additionally, the skilled resources from contractors and professional services are necessary to update and maintain Avista's security systems.

Risks	Impact
Multiyear Splunk Renewal Annual increase in A09 budget, if not purchased under capital by 9/29. Three-year impact is \$78,300	\$78,300
Multiyear IDS Replacement in SCADA Since project was purchased in late July, will need to halt all projects under ES business case to accommodate the purchase. All Avista employees will need to shift from Capital projects to Expense activities, putting pressure on existing Expense budgets, as well as putting security system technologies on hold until 2023.	\$260,000
Increase in Contract/Professional Services Cost Contract/Professional Services Work Authorizations are underway. Avista is contractually bound to complete the work within the timeframe outlined in each SOW. Should this not be approved, we will need to exercise Change Orders in each Work Authorization to put work on hold until 2023. This can put security system upgrades at risk that are utilized to maintain Avista's security posture. In some cases, these system upgrades (e.g., edge firewalls) can put internet facing systems at risk.	\$420,000

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Multiyear Splunk Renewal Analysis:

Enterprise Security

Complete by:	Ryan Bradley
Completed date:	9/9/2022
Est. Contract Start Date	9/30/2022
Est. Go-Live Date	9/30/2022
Contract Term (mo)	36

Impact by Contract Year					Year 1		Year 2		Year 3	
Product Description	Qty	Unit Price	Ext. Price	Cost Type	CAP	A09	CAP	A09	CAP	A09
Splunk Enterprise - Term License with Standard Success Plan - 300 GB/day -	300	\$580.00	\$174,000.00	80/20	\$139,200.00	\$34,800.00				
Splunk Enterprise - Term License with Standard Success Plan - 300 GB/day -	300	\$580.00	\$174,000.00	80/20	\$139,200.00			\$34,800.00		
Splunk Enterprise - Term License with Standard Success Plan - 300 GB/day -	300	\$580.00	\$174,000.00	80/20	\$139,200.00					\$34,800.00
Discount	1	-\$76,200.00	-\$76,200.00	80/20	-\$60,960.00	-\$5,080.00		-\$5,080.00		-\$5,080.00
					\$356,640.00	\$29,720.00	\$0.00	\$29,720.00	\$0.00	\$29,720.00
				+ tax @ 9%	\$388,737.60	\$32,394.80	\$0.00	\$32,394.80	\$0.00	\$32,394.80

Multiyear IDS Replacement for SCADA Analysis:

		*Implementation Months:	5	Year 1		Year 2		Year 3	
Product Description	Cost Type	Qty	Unit Price	CAP	A09	CAP	A09	CAP	A09
Dragos: SiteStore virtual, model STS-500-VM	OS	1	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00
Dragos: SiteStore subscription license, STS-500-VM	On-Prem Software	1	\$28,236.00	\$23,373.13	\$1,098.07		\$1,882.40		\$1,882.40
Dragos: Sensor model NS-1000-E	Hardware	4	\$9,941.43	\$39,765.72	\$0.00		\$0.00		\$0.00
Dragos: Sensor subscription license, NS-1000-E	On-Prem Software	4	\$50,824.80	\$168,286.56	\$7,906.08		\$13,553.28		\$13,553.28
Dragos: OT Watch subscription, NS-1000-E	Cloud Service	4	\$16,765.13	\$9,313.96	\$13,039.55		\$22,353.51		\$22,353.51
Dragos: SiteStore Lab model STS-500-VM	OS	1	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00
Dragos: Service - Deployment & Installation Costs Up to 6 Sensors	Professional Service	1	\$9,412.00	\$9,412.00	\$0.00		\$0.00		\$0.00
Dragos: Neighborhood Keeper Program		1	\$0.00	\$0.00	\$0.00		\$0.00		\$0.00
				\$250,151.37	\$22,043.69	\$0.00	\$37,789.19	\$0.00	\$37,789.19

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

- Should the request for \$390,000 not be approved to execute a multiyear renewal of Avista’s Splunk license, the renewal will go into the A09 budget with an annual increase of \$26,100/year.
- Should the request for \$260,000 not be approved to replenish program funds used to execute a multiyear replacement of SCADA’s Intrusion Detection System, all existing project work will need to be halted for the rest of the year and move all employee and contract labor to expense activities.
- Should the request for \$420,000 not be approved to replenish and continue to support contract and professional service costs required to execute on security system upgrades and replacements, work authorizations will require change orders to halt work until 2023. This may put Avista’s relationships at risk with vendor partners who have scheduled resources to our job sites and tasks.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

- Alternatives considered for security system licensing include annual and multiyear renewals. Depending on the security system, in some cases annual renewals make sense if the system or product is commoditized or easily swapped. However, when the security system is a core system specific to Avista, multiyear renewals are considered. Moreover, multiyear renewals often come with greater discounts, as the system vendors offer favorable terms for longer commitments.
- The only alternatives considered to not hiring contractors or professional services was to not do the work. This would put various security systems at risk that required upgrade. Additionally,

Enterprise Security

several of these security systems are a safety net to Avista networks and other technology systems. In-house expertise from existing resources were limited and training them to perform these activities posed an additional risk in working on complex security systems with cursory knowledge.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

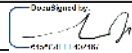
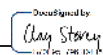
- Investments in security systems and expertise to upgrade, maintain and support such systems is a prudent decision for Avista and its customers. Not only are we required to maintain a baseline of cybersecurity systems to meet compliance requirements, but as threats continue to grow in complexity, the systems are required to upkeep Avista’s security posture.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

- The justification narrative for this business case is still valid.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Andy Leija	BC Owner		Sep-16-2022
Clay Storey	BC Sponsor		Sep-16-2022
	FP&A		

3:22 PM PDT
3:30 PM PDT

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Fiber Network Leased Service Replacement

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

Avista utilizes leased fiber optic cable to transport primarily safety and control data between offices, substations, and generation facilities. The leased fiber incurs an operating expense with lease rates that were established during the sale of an Avista Communication’s subsidiary. An Indefeasible Right to Use (IRU) was established to benefit Avista Utilities with rates well below market value. The IRU expires in 2027 with an option to renew for an additional five years, through 2032. For this business case, the project work identified 47 segments and a total of approximately 98 miles of leased fiber left to be replaced with Avista-owned private fiber.

For the tracking year of 2022, the Fiber Network Leased Service Replacement business case planned to transfer-to-plant approximately \$1.4M in project work, while transferred approximately \$687k. This resulted in an under-transfer of \$705k.

The main driver of this variance was resource constraints tied to both our internal Avista engineering teams along with constraints from our professional services construction partner. These constraints compounded through the year, resulting in project work pushed into 2023. The result of the project schedule updates, caused the transfer for to plant amount for 2022 to be less than originally planned and may ultimately increase the expected transfers in 2023.

The projects included in this transfer-to-plant variance are:

- Huetter to Prairie project of approximately \$506k
- Ross Park/Beacon Fiber project of approximately \$150k

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

All projects contained within ET business cases are governed by a steering committee and thus any changes to scope, schedule, or budget are approved by that steering committee and business case governance for prudence. Therefore, any additional costs to the project were prudently documented and approved. Attached is the FNLSR Steering Committee December slide deck that show the constraints and updated transfer-to-plant dates moved to 2023.

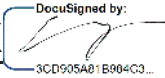
ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

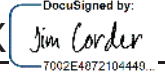
The direct offsets associated with this business case relate to avoided annual lease costs. These lease costs will go away when this work is set to complete in 2027. Any significant delays will delay the offset that is anticipated in 2027 and potentially beyond.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

DIRECTOR SIGNATURE:

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FNLSR-IRU

Steering Committee Meeting
January 18, 2023

FNLSR Dashboard

Project	ROC Score	Scope	Schedule	Budget	Phase	% Complete	TTP Date	Comments
Rathdrum CT to Avondale	50	On Target	At Risk	At Risk	Execution	85%	3/23	Due to scheduling and weather conflict from Cascade, work has been postponed. Since the weather has been so cold, Cascade's equipment runs slowly. Since they have been at other Avista sites and work is taking longer on those sites the schedule for this job has been pushed into Jan 2023.
Huetter to Prairie	50	On Target	At Risk	At Risk	Planning	75%	2/23	Cascade has started construction. Work has been put on hold for a week at the least. Due to City slow plows (which after plowing covered up the locate flags) and the bitter freezing weather crews may not be back on site until late Dec. I have asked Cascade to bill us for the work they have completed at this point. We will see about 50% of the construction cost come through in 2022.
Idaho Rd to Prairie	50	On Target	At Risk	On Target	Execution	50%	4/23	Project has been moved out to Q1 2023 due to other project priorities. We have the WA ready to go we just need to wait on a start date from Cascade for Q1 2023.
Ross Park to Beacon-Fiber Approach	50	On Target	At Risk	At Risk	Execution	95%	2/23	Construction has begun. There were a few delays due to weather and equipment. Cascade should be completed with work mid-week of Dec 19th. Line crew will help with splicing end of week Dec 19th. However, a delay in GPSS schedule has postponed the splicing and therefore will postpone TeleCom shop. GPSS does not have the resourced available until the third week of Jan 2023. They have some turnover and new hires during the last month that delayed their scheduling.



On Target

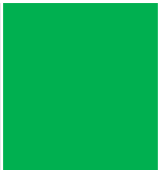


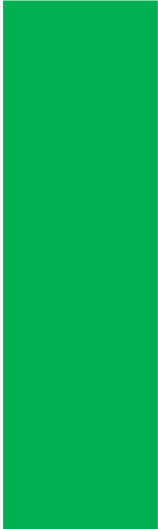

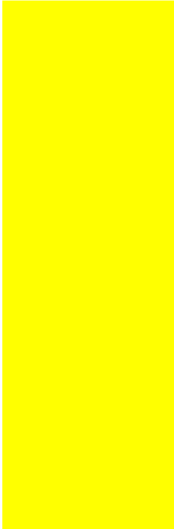
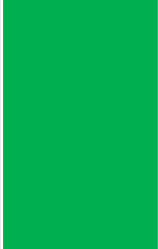

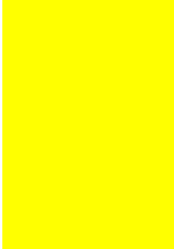


At Risk



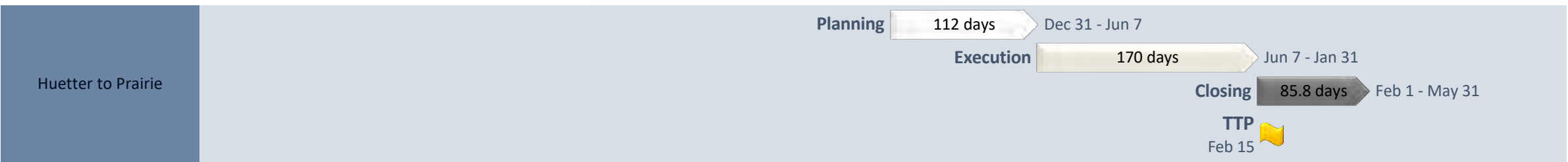
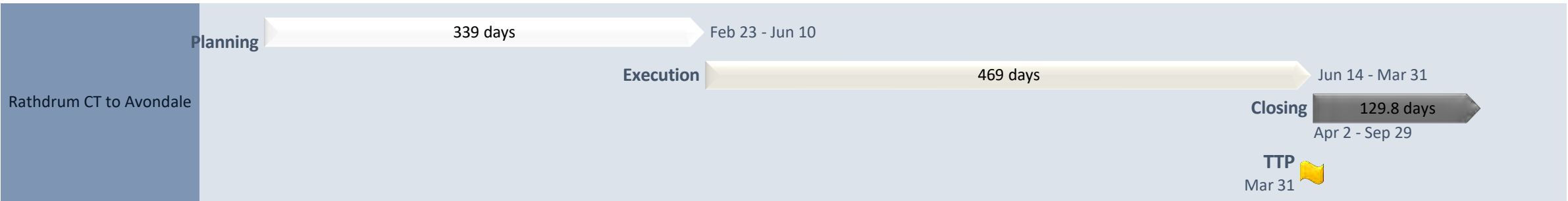
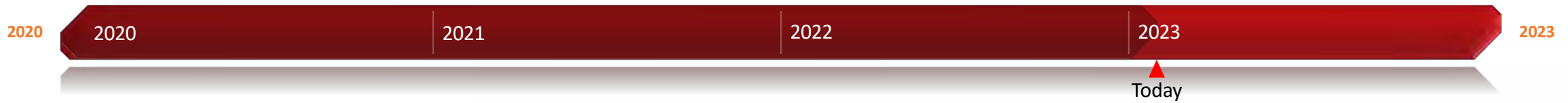
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FNLSR Dashboard

Project	ROC Score	Scope	Schedule	Budget	Phase	% Complete	TTP Date	Comments
Irvin to Boulder Park - OPGW	50				Execution	95%	12/22	Transmissions contractor estimated that they will be completed hanging the OPGW by Dec 23rd. We will be able to TTP this project once that is completed
3rd and Hatch to Morris Center Vault	50				Execution	15%	12/23	<p>AJ Sims is our new OSP Engineer. He has availability to begin working on this project. Per budget restraint's we will be planning this year and construction next year.</p> <p>Upcoming: Complete the drawings and send them in for peer review.</p> <p>Variance/Cost & Effort Explanation: We got a substation engineer assigned but since this has been delayed this could impact our schedule and budget due to the project being opened longer than expected.</p> <p>Key Accomplishments: An onsite meeting with the OSP Engineer and the Substation Engineer was on 6/29/2021. Design work has started back up.</p>
Sunset to Downtown West	50				Planning	10%	2/24	<p>Planning has started.</p> <p>Transmission will be transferring some material costs to this project. Power Engineers have completed LIDAR and submitted results to transmission. Coded invoice to cover the survey and permitting costs. Transmission has ordered some materials that ET will be covering which is about \$120k. This is expected to arrive in Jan next year.</p>

 On Target
  At Risk
  Impacted

FNLSR Inflight Project Timelines



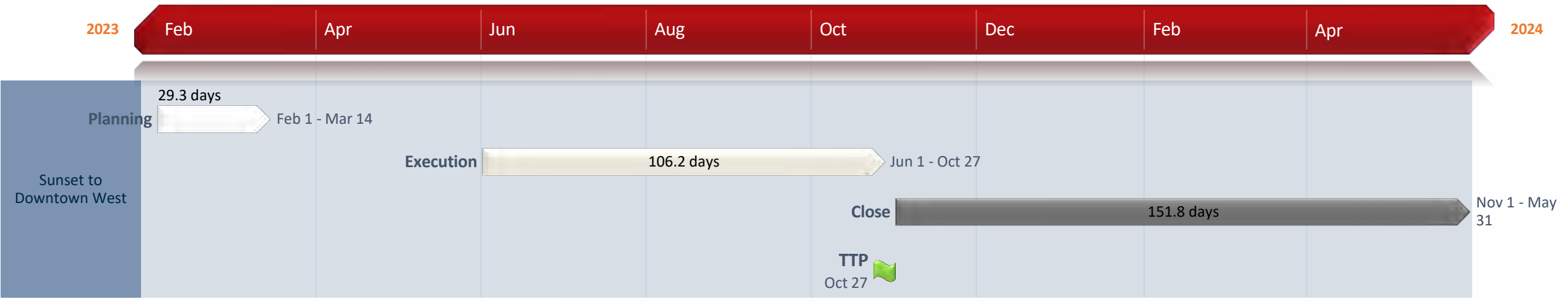
FNLSR Inflight Project Timelines



FNLSR Inflight Project Timelines



FNLSR Inflight Project Timelines



FNLSR Financial Summary

Project Manager: Sonia Covey

Project	TTP Date	Total Approved Budget	Actual Costs to Date	Estimate to Complete (ETC)	Estimate at Completion (EAC)	Variance Trend
Rathdrum CT to Avondale	3/23	\$526,626	\$537,356	\$16,866	\$554,222	(\$27,596)
Huetter to Prairie	1/23	\$474,501	\$331,890	\$193,841	\$525,732	(\$51,230)
Idaho Rd to Prairie	4/24	\$576,634	\$197,980	\$394,983	\$592,963	(\$16,328)
Ross Park to Beacon – Fiber Approach	2/23	\$133,041	\$131,147	\$20,535	\$151,682	(\$18,641)
Irvin to Boulder Park – OPGW	12/22	\$242,995	\$279,630	\$2,069	\$281,699	(\$38,705)
3 rd Hatch to Morris Center Vault	12/23	\$329,134	\$75,543	\$280,831	\$356,374	(\$27,240)
Sunset to Downtown West	2/24	\$423,476	\$45,263	\$387,602	\$432,864	(\$9,388)

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Fleet Capital Replacement Plan

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Fleet Capital Replacement Plan funds the programmatic work to replace aging units with new units so as to operate our fleet in a lowest total cost of ownership model.

For 2022 our TTP forecast was \$7.9 million. The December 31st results were \$6.9 million. Our TTP actuals to forecast have always been challenging due to the custom nature of our vehicle orders and the upfit process. The supply chain issues experienced since 2020 have further exacerbated the issue. Our 2022 forecast was impacted by a large amount of Capital Work in Progress (CWIP) that was carried over from the 2021 budget.

The Fleet Plan has a similar issue again this year as we carry over \$3 million in CWIP for 2023. These challenges are due to multiple vendor and supply chain issues that included late deliveries and cancellations. December alone saw \$3.4 million in deliveries. This creates a bubble of work to process the vehicles into our fleet as well as other final processes that must occur, like radio installs. This bubble of deliveries will take at least two months to get into final service and TTP. Leaving us under our original forecasted TTP for 2022.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

The Capital Planning Group (CPG) determines the annual budget for this business case. Fleet staff and stakeholders then meet and execute a plan where we select vehicles based on availability and user input to determine how to allocate the funds based on prudence and other factors. Next, we order equipment that can be as many as 600 days out. For 2022, we have met our spend target (capital allocation) what's causing the variation in TTP is a CWIP issue as the delivery of equipment does not immediately mean it is in-service. We always have prior year CWIP impacting the current year TTP. We originally forecasted significantly higher spends for 2022 in quarter 3 and early quarter 4. Had that forecast been actuals our CWIP in January of 23 would be significantly lower.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

Any changes made in the plan will have no change to the offsets that are a part of the vehicle replacement program. The changes made are related to transaction timing and not the completion of program.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X Gregory M. Lewis

DIRECTOR SIGNATURE:

X Kelly Magalsky

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

ER 3009 Gas Above Grade Pipe Remediation Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

This program remediates above ground piping locations such as bridges and canal crossings that are in need of repair due to deterioration over time or inferior past construction practices. The purpose of this program is to assess all the sites, risk rank them, and then design and construct appropriate solutions.

Labor constraints impacted design and risk analytics, which impacted the ability to execute on the work in 2022. The work is planned to resume in 2023.

The planned transfer to plant is \$750,000. The actual transfer to plant is \$0.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Capital spending levels are reviewed monthly. After reviewing the budget and actual spend results, with consideration of completed and upcoming work, gas leadership agrees on submitting funds requests or releases, if necessary. Those funds forms are submitted to the company's Capital Planning Groups (CPG) for funding consideration. Approved Business Case Funds Request(s) are included in this form.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no additional offsets beyond that which has already been reported.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X 

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

ER 3312 – Gas Airway Heights HP Reinforcement

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The gas planning department routinely conducts an analysis on Avista's gas distribution system to identify areas of the system with insufficient capacity to serve existing firm customer loads. The Airway Heights reinforcement was a high priority project because studies showed that there was insufficient pressure at the west end of the Fairchild/Spokane high pressure system.

The planned transfer to plant was \$9,634,502. The actual transfer to plant was \$7,867,781.

The variance associated with this business case was the result of:

1. The original estimate allocated \$1.2 million for rocky ground conditions, and the actual rock excavation expenses were only \$370,000.
2. Pipeline materials were estimated at \$2.1 million and actual material costs were only \$1.75 million.
3. Additional Funds Used During Construction (AFUDC) charges were estimated at \$1.4 million and actual AFUDC charges were only \$240,000.

These cost differentials contributed to the transfer to plant variance being under budget.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

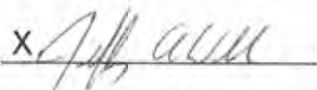
Capital spending levels are reviewed monthly. After reviewing the budget and actual spend results, with consideration of completed and upcoming work, gas leadership agrees on submitting funds requests or releases, if necessary. Those funds forms are submitted to the company's Capital Planning Group (CPG) for funding consideration. Approved Business Case Funds Releases are included with this form.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

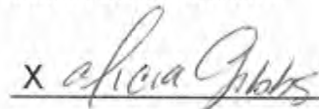
There were no changes to plant offsets associated with this variance and the project was under budget.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X 

DIRECTOR SIGNATURE:

X 

ER 3054 – Gas ERT Replacement Program

1.0 CHANGE REQUEST #1 – 9/16/2022

Previous Requests	Requested	Approved
<i>In Year</i>	\$0	\$0

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
09-2022	\$785k	\$1,150k	-\$180k	\$970k

Type of Change	In-year Update
Primary Reason for Change	Scope Change
Response needed by	9/22/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

In March 2022 the CPG approved a budget of \$2,360,000 which was based on completing all 30,000 ERT replacements in Idaho. Due to supply chain delays we will not have enough ERTs to support the entire replacement program in Idaho and estimate to replace another 1750 ERTs in 2022. Because of this reduction the program costs can be reduced by \$180,000. The 5 year budget submitted for 2023-2027 earlier this year does not account for this change. The total expected spend for 2022 is calculated as shown below:

The Washington ERT Replacement Program will replace approximately 5,000 500G modules that are not working as intended with the AMI network and need to be replaced with 550G modules to continue reliable customer billing. The project has been completed for 2022 and the total spend was \$302,453.

The Idaho ERT Replacement Program replaced approximately 2,300 40G ERT modules that had a battery failure in early 2022. This work has been completed and the total spend was \$240,271. Additionally, due to the postponement of the AMI project in Idaho, it is expected to have another 1750 ERT failures in 2022 that will need to be replaced at a cost of \$182,000.

The Oregon ERT Replacement Program has been completed for 2022 and the total spend is \$242,000.

The 2022 expected spend is calculated as:

\$303,000 (Washington) + [\$241,000 + \$182,000] (Idaho) + \$242,000 (Oregon) = **\$968,000**

ER 3054 – Gas ERT Replacement Program

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

n/a

1.1.3 Please reference analysis or information that support the problem and attach to this document.

n/a

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

n/a

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

n/a

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

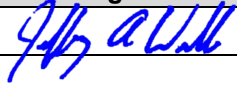
n/a

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No changes necessary.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
David Smith / Jeff Webb	BC Owner		9/16/22
Jody Morehouse	BC Sponsor		9/16/22
	FP&A		

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

ER 3054 – Gas ERT Replacement Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

This business case addresses gas meter Encoder Receiver Transmitter (ERT) module replacements to correct equipment failures and batteries reaching end-of-life. Replacements are necessary to maintain reliable operation of the Advanced Metering Infrastructure (AMI) systems in Oregon, Washington and Idaho. The AMI infrastructure provides metering data necessary to ensure proper metering performance as required by public utility commission rules and tariffs.

The planned transfer to plant was \$215,000 for Oregon. The Actual transfer to plant for the variances in Washington and Idaho is \$778, 042.

The original 2022 Gas ERT Replacement Program planned for replacement of approximately 7,000 ERT modules in Oregon with an approved budget (spend) of \$215,000. A change was initiated in March to replace ERT equipment in areas of Washington and Idaho experiencing high ERT failure rates. Therefore, a request for additional funding was submitted to and approved by Avista's Capital Planning Group to cover the additional ERT replacements needed in 2022 for Washington and Idaho.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

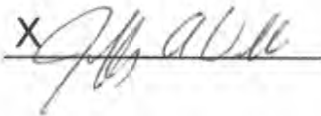
Capital spending levels are reviewed monthly. After reviewing the budget and actual spend results, with consideration of completed and upcoming work, gas leadership agrees on submitting funds requests or releases, if necessary. Those funds forms are submitted to the company's Capital Planning Group (CPG) for funding consideration. Approved Business Case Funds Request(s) are included with this form.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no additional offsets beyond that which has already been reported.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X 

DIRECTOR SIGNATURE:

X 

Gas ERT Replacement Program, ER 3054

EXECUTIVE SUMMARY

An Encoder Receiver Transmitter (ERT) is an electro-mechanical device that allows gas meters to be read remotely. These ERTs are powered by lithium batteries, which discharge over time and must eventually be replaced.

Most of the gas meters in Washington, Idaho, and Oregon have ERT modules. The large quantity of ERT installations will result in an unmanageable quantity of battery failures in the future if the ERT is not replaced at an optimized frequency. When batteries fail, the customer's usage is estimated and entered into the billing system manually. This manual process causes a high chance of customer dissatisfaction because of potential billing errors associated with bill estimation. Customers often express their dissatisfaction through commission complaints when this happens.

In most areas of Washington, the ERT modules were replaced in 2019 as part of the Advanced Metering Infrastructure (AMI) project. These ERTs will not need to be replaced for approximately 15 years unless they experience a premature battery failure. This business case also covers instances where the ERT module is not communicating with the AMI network as intended, causing a replacement that is compatible with the mobile meter read routes. This will ensure reliable metering reading and billing.

In Idaho the ERTs will likely be changed out in mass when the AMI project starts in 2024, however it is estimated that up to 30,000 40G ERT modules may have a battery failure in 2022 and 2023 due to their age. These 40G ERT modules may be replaced to avoid battery failure and billing issues before the AMI project is implemented.

In Oregon the ERTs will not be changed out in mass because the AMI project will not be implemented there, therefore the recommended solution is to replace the oldest 7,000 ERTs each year on a 15 year cycle. This replacement strategy was optimized by an Avista Asset Management study. The annual cost of this replacement strategy is \$220,000 and it expected to increase approximately 5% per year to adjust for increased wages and materials.

If this program is not funded the amount of ERT battery failures will increase to an unsustainable level. If not replaced at the proposed rate, a peak of more than 20,000 ERTs are predicted to fail annually, each requiring an unplanned maintenance visit to replace, causing an undue burden on Operations personnel and equipment. This large number of failed ERTs will also cause an unreasonable number of meters that would need to be read manually and the customer's usage estimated resulting in estimated billing and a negative customer experience.

VERSION HISTORY

Version	Author	Description	Date	Notes
1.0	Dave Smith	Initial version	3/9/2017	
1.1	Dave Smith	Revised per initial review	3/24/17	
2.0	Dave Smith	Revised for 2020 Oregon GRC filing	2/7/20	
2.1	Dave Smith	Updated to the refreshed 2020 Business Case template	6/23/20	
2.2	Dave Smith	Updated to the refreshed 2022 Business Case template. Edited to include WA and ID in the program.	5-5-22	

Gas ERT Replacement Program, ER 3054

GENERAL INFORMATION

Requested Spend Amount	\$220,000
Requested Spend Time Period	Annually
Requesting Organization/Department	Gas Engineering
Business Case Owner Sponsor	Jeff Webb / Dave Smith Jody Morehouse
Sponsor Organization/Department	B51 – Gas Engineering
Phase	Execution
Category	Program
Driver	Asset Condition

1. BUSINESS PROBLEM

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

An Encoder Receiver Transmitter (ERT) is an electro-mechanical device that allows gas meters to be read remotely. These ERTs are powered by lithium batteries, which discharge over time and must eventually be replaced. The average battery life for ERT modules is approximately 15 years. Most of the gas meters in Washington, Idaho, and Oregon have ERT modules. The large quantity of ERT installations will result in an unmanageable quantity of battery failures in the future if not replaced at an optimized frequency. When batteries fail, the customer's usage is estimated and entered into the billing system manually. This manual process causes a high chance of customer dissatisfaction because of potential billing errors associated with bill estimation. Customers often express their dissatisfaction through commission complaints.

Battery replacement was determined to not be the best approach because in order to replace just the battery, a technician needs to remove the module from the meter and bring it back to the shop where the battery can be replaced in a controlled environment. After the battery is replaced the technician needs to return to the meter to re-install the module. This results in twice the travel time and twice the labor time compared to replacing the entire module, negating any cost savings.

Another issue with replacing just the battery is that all of the potting gel surrounding the battery and circuitry inside the module needs to be removed in order to access the battery, and once the gel is removed all of the electronic components inside the ERT are now subject to moisture damage in the field, resulting in additional failures. The manufacturer (Itron) does not recommend replacing the battery in ERT modules for these reasons.

Gas ERT Replacement Program, ER 3054

1.2 Discuss the major drivers of the business case *(Customer Requested, Customer Service Quality & Reliability, Mandatory & Compliance, Performance & Capacity, Asset Condition, or Failed Plant & Operations)* **and the benefits to the customer**

This program uses a proactive and strategic method for addressing asset condition by replacing ERT modules before their battery fails. Replacing these assets before they fail will avoid a manual process of estimating a customer's gas usage and bill resulting in higher customer satisfaction. It is also more efficient and cost effective to proactively replace old ERTs rather than waiting until their battery fails and having to send out a servicemen to replace a failed ERT.

1.3 Identify why this work is needed now and what risks there are if not approved or is deferred

The work is needed now because many of the ERTs have reached their end-of-life and will begin failing or are not communicating with the AMI network as intended resulting in billing issues.

In most areas of Washington, the ERT modules were replaced in 2019 as part of the Advanced Metering Infrastructure (AMI) project. These ERTs will not need to be replaced for approximately 15 years unless they experience a premature battery failure. This business case also covers instances where the ERT module is not communicating with the AMI network as intended, causing a replacement that is compatible with the mobile meter read routes. This will ensure reliable metering reading and billing.

In Idaho the ERTs will likely be changed out in mass when the AMI project starts in 2024, however it is estimated that up to 30,000 40G ERT modules may have a battery failure in 2022 and 2023 due to their age. These 40G ERT modules may be replaced to avoid battery failure and billing issues before the AMI project is implemented.

The graph below shows how many ERT modules are expected to fail annually in Oregon if they are not proactively replaced.

Gas ERT Replacement Program, ER 3054

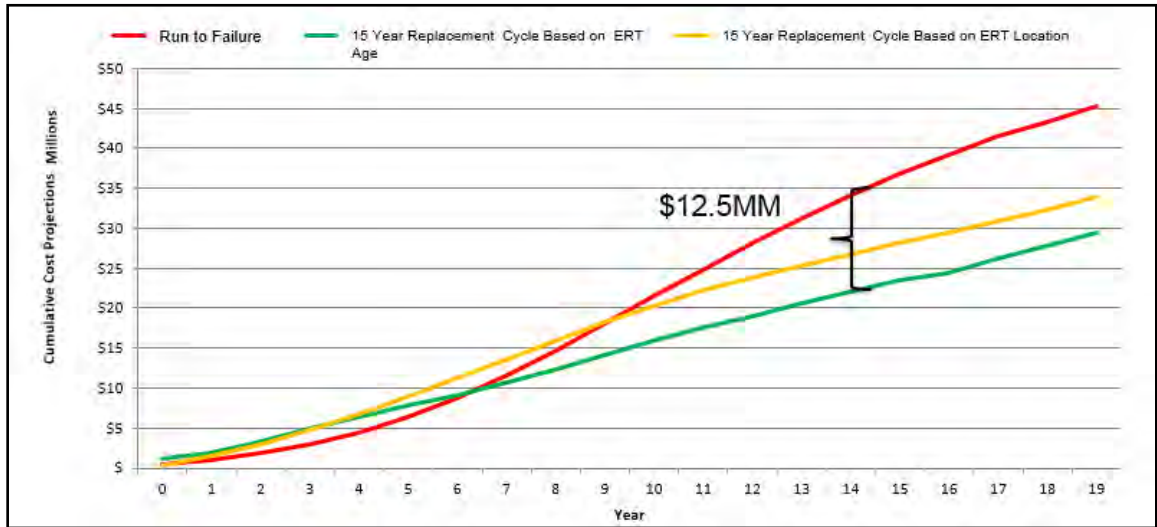


If this program is not funded the amount of ERT battery failures will increase to an unsustainable level. If not replaced at the proposed rate of 7,000 annually, a peak of more than 20,000 ERTs are predicted to fail annually, each requiring a maintenance visit to replace, causing an undue burden on Operations personnel and equipment. This large number of failed ERTs will also cause an unreasonable number of meters that would need to be read manually and the customer's usage estimated resulting in estimated billing and a negative customer experience.

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.

The Asset Management department was consulted by Gas Engineering for assistance in developing a strategic program to replace ERT modules in Oregon since the AMI program would not replace the modules there. The result of the study suggested the most efficient method for replacing these assets resulted in the highest customer satisfaction and the lowest cost. The graph below summarizes the cost savings associated with a proactive and strategic ERT replacement program over a 15 year cycle:

Gas ERT Replacement Program, ER 3054



1.5 Supplemental Information

1.5.1 Please reference and summarize any studies that support the problem

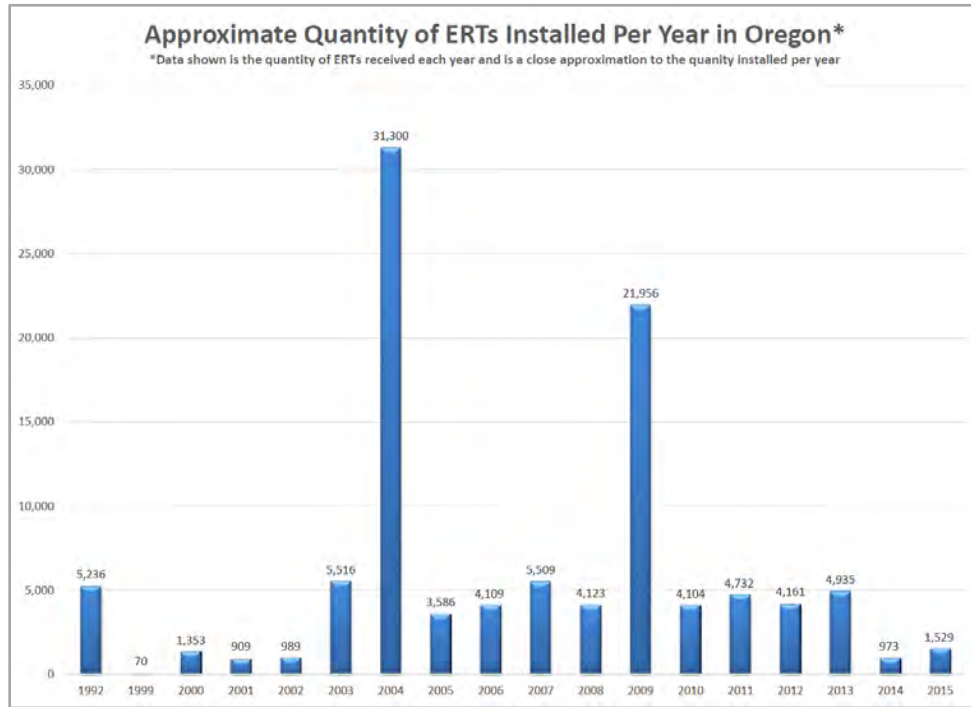
The Asset Management study for the Oregon ERT Replacement Program is saved on the Avista network drive c01d44 and can be made available upon request.

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.

In Idaho the concern is the 2005-2007 vintage 40G ERTs failing before the AMI project commences in 2024. There are approximately 30,000 of these modules in the system. If we do not proactively replace these modules in 2022 and 2023 there is a high likelihood that their batteries will fail before AMI is implemented starting in 2024.

The graph below shows the quantity of ERTs installed per year in Oregon:

Gas ERT Replacement Program, ER 3054



If these ERTs are run to battery failure there will be an unmanageable quantity of ERT failures each year.

2. PROPOSAL AND RECOMMENDED SOLUTION

The recommended solution for Idaho is to replace the 30,000 +/- 40G ERTs that are at end of life. This work will be completed in 2022 and 2023.

The recommended solution for Oregon is to continue replacing the oldest 7,000 ERTs each year on a 15 year cycle. This approach targets the oldest ERTs resulting in less battery failures and as a result fewer estimated customer bills.

Option	Capital Cost	Start	Complete
<i>Recommended Solution:</i>			
ID – Replace 30,000 +/- 40G modules in 2022 and 2023.	\$570,000 (ID)	01/2022 (ID)	12/2023 (ID)
OR – Replace the oldest 7,000 ERTs each year on a 15 year cycle	\$200,000 (OR)	01/2016 (OR)	04/2031 (OR)
<i>Alternative Solution:</i>			
ID – Run 40G ERTs to failure.	\$5.41MM (ID)	N/A (ID)	N/A (ID)
OR – Replace 7,000 ERTs based on geographic location each year on a 15 year cycle	\$126,040 (OR)	01/2016 (OR)	04/2031 (OR)

Gas ERT Replacement Program, ER 3054

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

Some factors that were considered when preparing this request are the number of ERTs in service, the average battery life of the ERT module, the effects on the customer's bill if the ERT fails, the cost to reactively replace the failed module, and the cost to proactively replace the asset before failure. Refer to the asset management study discussed in Section 1.4.

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.

In Idaho the replacement of approximately 30,000 2005-2007 40G ERT modules will be replaced in 2022 and 2023. The exact timing is still being evaluated, taking into account supply chain limitations and expected failure rates.

At the beginning of each year the project team determines the location of the oldest 7,000 ERTs in the Oregon. Replacement ERT modules are then ordered. Due to the "pre-capitalization process" the cost of the ERT module will go against ER1053 (Gas ERT Minor Blanket). This program covers the labor and minor material cost for replacing the ERT. Work orders are created for the replacement of each ERT. A third party contractor is utilized to efficiently replace all 7,000 ERTs. The program is completed between January and December each year.

If an ERT battery fails the Mobile Collector will not download the monthly meter read. As a result a servicemen is dispatched to investigate the issue which results in a much higher cost than if the ERT was proactively replaced before the battery dies. This additional cost is primarily composed of personnel labor and travel wages, vehicle costs, and the cost to produce an estimated customer bill.

Reactive ERT Replacement Costs ¹ , Per Unit	
Avista personnel labor & travel time wages	\$100.36
Avista vehicle corrective call out cost	\$67.04
Cost to produce estimated bill when ERTs fail	\$12.93
Total	\$ 180.34

¹These costs were calculated using the ERT Replacement Strategy Development study from 2012 and adjusted by adding a 2% annual inflation rate.

Washington & Idaho Proactive ERT Replacement Costs ² , Per Unit	
Contractor labor	\$54.25
Project management	\$0.75
Total	\$55.00

Gas ERT Replacement Program, ER 3054

Oregon Proactive ERT Replacement Costs ² , Per Unit	
Contractor labor	\$25.00
Project management	\$0.75
Total	\$25.75

²These cost reflect 2022 contractor unit pricing per Avista Contract R-40780.

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

Replacing ERT modules is not a new process for Avista. Existing processes and technologies will be utilized for this program.

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

In 2022, an alternative solution that was considered for Washington was to install Star Connected Grid Routers (CGR) devices in the gas only areas where the 500G modules were not able to communicate through the AMI mesh network. The Star CGR option would have taken much longer to implement and would have also been much more costly than replacing the ERT module, therefore the most timely and cost effective solution was to replace the 500G module with a 550G module that would allow mobile reading in the gas only areas.

An alternative solution for Oregon that was considered was to replace 7,000 ERTs based on it's geographic location each year on a 15 year cycle (represented by the yellow line in the graph in Section 1.4). This option involves replacing a geographic cluster of ERTs. The benefit to this approach is that the ERTs are located close to one another, which equates to less travel time in-between ERT locations. The disadvantage to this approach is that the oldest ERTs may not be replaced if they are outside of the geographic zone, so there would be a higher quantity of ERT battery failures and customer billing estimates. A third party contractor provided a cost estimate for both replacement strategies and the cost to replace the oldest ERTs was not significantly more than replacing the geographically located ERT clusters. However the overall cost increase to replace by location was significant, approximately \$5,000,000 more over the life of the 15 year program, due to the high number of expected unplanned replacements using this method vs replace by age.

The run-to-failure cost to reactively replace the failed ERT modules was also considered for Idaho and Oregon. When an ERT is run to failure the customer's bill is estimated and then corrected the next month after the ERT is replaced. If this proactive replacement program is not funded there will be an unmanageable quantity of ERTs failing each year and it is likely that the failed ERT will not be replaced in one month's billing cycle resulting in billing estimates for multiple months. This will create customer dissatisfaction and loss of trust. See below for breakdown of these risks.

Gas ERT Replacement Program, ER 3054

Assumptions:

1. Except for regulatory fines, cost estimates based on SME input.
2. Costs associated with each risk can vary significantly depending on site conditions.

Risk Probability Definitions:

Very High (VH)	Risk event expected to occur
High (H)	Risk event more likely to occur than not
Probable (P)	Risk event may or may not occur
Low (L)	Risk event less likely to occur than not
Very Low (VL)	Risk event not expected to occur

Risk Avoidance Over Time and the Cost of Doing Nothing:

#	Risk	Risk Over Time					Cost Estimate
		1 Year	2 Years	5 Years	10 Years	15+ Years	
1	Regulatory Fines	L	L	L	L	L	\$225,134 per day per violation (Max)* \$2,251,334 Total (Max)*
2	Pipeline Leak	L	L	L	L	L	\$5,000 to \$150,000 per site (site dependent)
3	Pipeline Failure & Outage	L	L	L	L	L	\$150,000 to \$3,000,000 per site (site dependent)
4	Negative Reputation	H	VH	VH	VH	VH	Erosion of PUC and Public trust
5	Employee & Public Safety	L	L	L	L	L	Lost time, lawsuits, healthcare, etc. (varies)

*Regulatory fines present a daily and overall maximum value per violation in accordance with 49 CFR Part 190.223. However, these values are not necessarily an accurate representation of how much Avista would be fined for any specific violation. The actual amount is likely to be much lower since Avista has an ongoing reputation and history of investing in programs related to safety and non-compliance issues. However, it is a bookend reminder from which to characterize the regulatory risk associated with chronic and/or egregious non-compliance, especially in the event of a pipeline safety incident (i.e. failure). Therefore, Avista must continue to demonstrate an ongoing commitment to compliance and pipeline safety to ensure favorable future outcomes with respect to regulatory penalties (actual penalty amount is at the discretion of the state or federal agency).

Over the life of the 15 year program in Oregon the asset management study estimates that the cost of this run-to-failure approach would be approximately \$12,500,000 more than if a proactive and strategic replacement program was executed. Refer to the cost analysis graph in Section 1.4 showing a comparison between the preferred and alternative solutions.

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 Idaho program is planned to be completed by the end of 2023. The Oregon program will be completed between January and December each year on a 15 year cycle. The ERT modules are purchased as a pre-capital material item under ER 1053 (Gas ERT Minor Blanket). The ERTs will become used and useful upon installation on the meter.

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

This program aligns with Avista's organizational focus to maintain a safe and reliable infrastructure to achieve optimum life-cycle performance, safely, reliably, and at a fair price for our customers.

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 prudence will be reviewed and re-evaluated throughout the project

The replacement strategy described herein was optimized by Avista's Asset Management department to levelized the asset replacement cost, to optimize the asset life-cycle, and to minimize the number of failed ERTs requiring customer billing estimates. The program costs will be monitored monthly by the program manager.

2.8 Supplemental Information

2.8.1 Identify customers and stakeholders that interface with the business case

Avista gas customers benefit from the replacement of these ERT modules because they will receive reliable and accurate billing.

Business case stakeholders including the ERT Replacement Program manager, GIS Analyst, Sourcing Professional, Maximo Business Analyst, IT, Service Credit Dispatch, and Oregon Gas Operations all work together to ensure a successful program execution.

2.8.2 Identify any related Business Cases

ER 1053 Gas ERT Minor Blanket

3. MONITOR AND CONTROL

3.1 Steering Committee or Advisory Group Information

The Asset Management department was consulted by Gas Engineering for assistance developing a strategic program to replace ERT modules before their battery expires. The result of the study suggested the optimized method for replacing these assets that resulted in the highest customer satisfaction and lowest cost.

Gas ERT Replacement Program, ER 3054

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

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

ER 3057 Gas HP Remediation Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

This program addresses pipelines in need of replacement for integrity and compliance reasons such as: incomplete construction records, exposed water crossings, or mitigating High Consequence Areas. Each project is unique in scope and cost, spend can vary significantly from year to year depending on the number and scope of identified projects.

Labor constraints impacted the ability to execute on the work in 2022. The work is planned to resume in 2023. The planned transfer to plant is \$600,000. The actual transfer to plant is \$0.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Capital spending levels are reviewed monthly. After reviewing the budget and actual spend results, with consideration of completed and upcoming work, gas leadership agrees on submitting funds requests or releases, if necessary. Those funds forms are submitted to the company's Capital Planning Groups (CPG) for funding consideration. Approved Business Case Funds Request(s) are included in this form.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

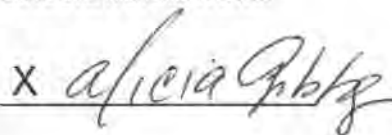
There are no additional offsets beyond that which has already been reported.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X 

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

ER 3007 - Gas Isolated Steel Replacement Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5-year planning cycle)?

Yes No If yes, please attach revised business case. (Updated in August 2022)

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

Isolated steel consists of a gas service, riser, or mainline pipe (steel) that does not have adequate cathodic protection per the Code of Federal Regulations (CFR) Section 192.455 and 192.457. This pipe is at a high risk of developing corrosion related leaks, which could be a potential hazard to Avista customers and property. Full replacement of these facilities is recommended to mitigate the risk and be in full compliance with State and Federal regulations.

The program objective is to identify and document isolated steel pipe sections, including isolated risers, that may not be cathodically protected and to replace each riser or pipeline section within a specified timeframe after its identification.

The planned transfer to plant is \$862,754. The actual transfer to plant is \$1,424,685.

During the year it was recognized that there were increased costs above the planned estimate associated with the program including pavement restoration of roadways and traffic control during construction. There were also several projects in which a service replacement resulted in a section of pipeline main being replaced as well.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Capital spending levels are reviewed monthly. After reviewing the budget and actual spend results, with consideration of completed and upcoming work, gas leadership agrees on submitting funds requests or releases, if necessary. Those funds forms are submitted to the company's Capital Planning Group (CPG) for funding consideration. Approved Business Case Funds Request(s) are included with this form.

The work associated with this program involves the mitigation of high-risk facilities with potentially hazardous and compliance related implications. Two separate in-year funds request forms were submitted in September and November.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.


There are no additional offsets beyond that which has already been reported.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

x 

DIRECTOR SIGNATURE:

x 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

ER – 3005 Gas Non-Revenue Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

This business case addresses minor projects on the natural gas distribution infrastructure (e.g., replacing services, lowering mains and services, repairing leaks, etc.) as well as replacing damaged equipment and responding to customer requested work. As such, this work is often reactionary due to failure or protection against future failure and often discovered when abnormal operating conditions are discovered in the field. Since this work is mostly reactionary, the budget levels are based on historical spend levels. The cost to do this work has increased due to the rise in contractor labor, materials, restoration requirements, and traffic control.

The planned transfer to plant was \$9,295,000. The actual transfer to plant was \$10,657,765.

Overall, our variance was due to an unforeseen increase in workload that had to be completed to maintain reliability and safety for our customers, higher than budgeted labor costs (including union labor retro-pay), and an unprecedented increase in material costs.

This business case was monitored through the year. In October and November the Avista Capital Planning Group approved additional funding for the above-mentioned cost impacts.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Capital spending levels are reviewed monthly. After reviewing the budget and actual spend results, with consideration of completed and upcoming work, gas leadership agrees on submitting funds requests or releases, if necessary. Those funds forms are submitted to the company's Capital Planning Group (CPG) for funding consideration. Approved Business Case Funds Request(s) are included with this form.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no additional offsets beyond that which has already been reported.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X 

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

ER 3055 – Gas PMC Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The PMC Program is necessary to comply with public utility commission rules and tariffs in Oregon, Washington and Idaho, which requires Avista to test meters for accuracy and ensure proper metering performance. This business case addresses change-out of both test sample meters and Failed Family meters. Failed Family meters are removed from the field because testing and analysis indicates the meter family (manufacturer year and model/size) is not metering accurately.

The planned transfer to plant is \$3,500,000. The actual transfer to plant is \$1,657,533.

In 2022, national supply chain issues had a significant negative impact on Avista's ability to procure necessary meter supply. These unforeseen supply chain issues came at a time when Avista's meter inventory was low, which compounded the challenges. On this basis, the Failed Family Program was temporarily paused for 2022 and 2023 with the goal of preserving existing meter inventory for new customers and for damaged meter/high bill meter replacements. Dependent on resolution of national supply chain issues, the program is planned to resume in 2024, or potentially sooner, if adequate meter and ERT inventory is obtained before 2024.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Capital spending levels are reviewed monthly. After reviewing the budget and actual spend results, with consideration of completed and upcoming work, gas leadership agrees on submitting funds requests or releases, if necessary. Those funds forms are submitted to the company's Capital Planning Group (CPG) for funding consideration. Approved Business Case Funds Request(s) are included with this form.

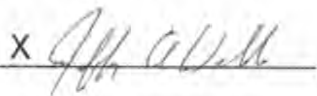
An in-year funds request form was submitted in September 2022 to give back \$1,650,000 from the previously approved budget of \$3,500,000.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

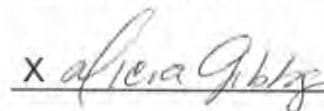
Temporarily pausing the PMC Program will not change the direct offsets associated with the program, but it will postpone the direct savings of \$38,000 from 2022 to 2024 because we do not anticipate having sufficient meter and ERT inventory to resume the program until 2024. This will not change the indirect offsets associated with the program.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X 

DIRECTOR SIGNATURE:

X 

Gas Non-Revenue Program, ER3005

1.0 CHANGE REQUEST #2 – 9/16/22

Previous Requests	Requested	Approved
5-Year Plan	\$0	\$0

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
9-2022	\$1,416k	\$3,500k	-\$1,650k	\$1,850k

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	9/22/2022

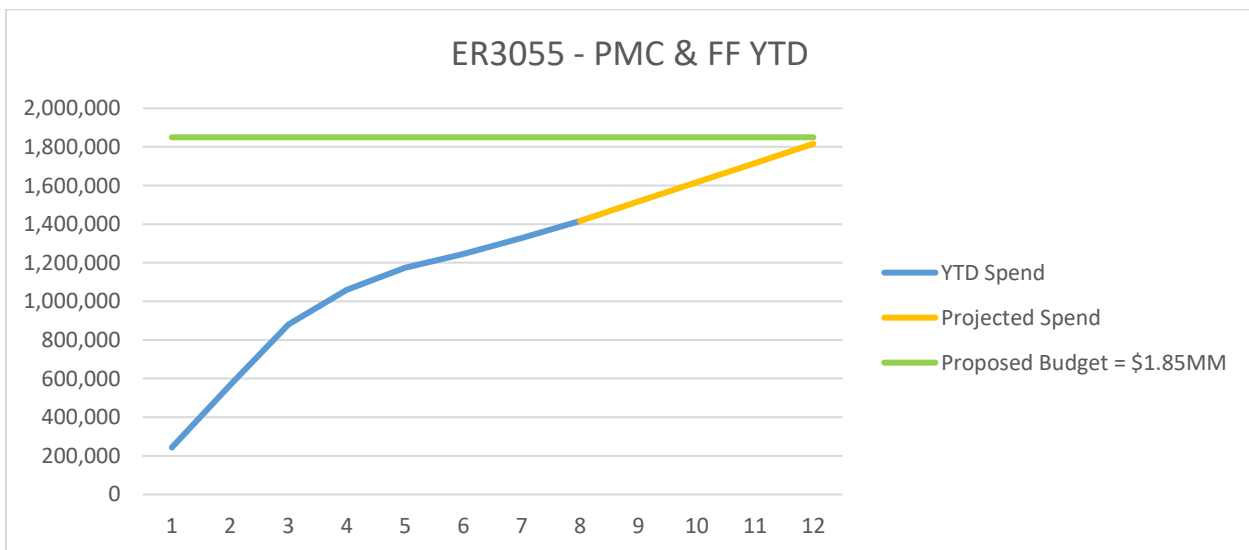
1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

Due to limited meter inventory and supply chain shortages, the 2022 PMC and Failed Family program was put on hold in order to reserve meter inventory for new customers and for damaged meter/high bill meter replacements. As of 9-7-22 the year-to-date spend was \$1,416,415. The monthly spend in September was \$87,713 which was up 6% from August. As we move into the heating season the monthly spend is expected to increase a little more, therefore it is estimated that \$100,000 will be spent each month through the end of the year.

Total expected spend = \$1,416,715 + (4 x \$100,000) = \$1,816,415

Proposed budget = \$1,850,000



Gas Non-Revenue Program, ER3005

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

n/a

1.1.3 Please reference analysis or information that support the problem and attach to this document.

n/a

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

n/a

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

n/a

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

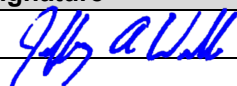
n/a.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

- Narrative is still valid.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
David Smith / Jeff Webb	BC Owner		9/16/22
Jody Morehouse	BC Sponsor		9/16/22
	FP&A		

ER 3055 - Gas PMC Program

EXECUTIVE SUMMARY

Avista is required by state commission rules and tariffs in WA, ID, and OR to annually test gas meters for accuracy and ensure proper metering performance. Execution of this program on an annual basis ensures the continuation of reliable and accurate gas measurement for our customers and compliance with the applicable state tariffs.

The Planned Meter Change-out (PMC) Program uses a statistical sampling methodology based on ANSI Z1.9 "Sampling Procedures and Tables for Inspection by Variables for Percent Nonconforming". Sample sizes and acceptance criteria are defined in the ANSI standard. The annual test results of gas meters that have been removed from the field are analyzed and a determination of the accuracy of each meter family is made. If the analytics determine a meter family (defined as a manufacturer year and model/size) is no longer metering accurately enough to meet the tariff, then that entire meter family will be replaced. Conversely, if the analytics determine a meter family is testing well (close to 100% accurate), the sample size (number of meters in that family required to be tested) can be reduced. These analytics help control costs and remove meters quickly that are not performing well.

This program includes only the labor and minor materials associated with the PMC Program. Major materials (meters, pressure regulators, and Encoder Receiver Transmitter (ERT)) will be charged to the appropriate Gas Growth Programs. The annual cost for the program varies depending on the results of the previous year's statistical analysis. On average approximately 6,000 meters are removed for this program resulting in an average cost of \$1,500,000 (\$250/meter).

Avista would not be in compliance with state commission rules and tariffs in WA, ID, and OR if this program is not completed annually.

VERSION HISTORY

Version	Author	Description	Date	Notes
1.0	Jeff Webb	Initial Version	03/16/2017	
1.1	Jeff Webb		04/07/2017	
2.0	Dave Smith	Revised for 2020 Oregon GRC filing	2/17/2020	
2.1	Dave Smith	Updated to the refreshed 2020 Business Case template	6/24/2020	
2.2	Dave Smith	Updated to the refreshed 2022 Business Case template	5-5-22	

ER 3055 - Gas PMC Program

GENERAL INFORMATION

Requested Spend Amount	\$4,100,000 (2023)
Requested Spend Time Period	Annually
Requesting Organization/Department	Gas Engineering
Business Case Owner Sponsor	Jeff Webb / Dave Smith Jody Morehouse
Sponsor Organization/Department	B51 – Gas Engineering
Phase	Execution
Category	Mandatory
Driver	Mandatory & Compliance

1. BUSINESS PROBLEM

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

Avista is required by state commission rules and tariffs in WA, ID, and OR to test meters for accuracy and ensure proper metering performance. Execution of this program on an annual basis ensures the continuation of reliable gas measurement and compliance with the applicable tariffs.

1.2 Discuss the major drivers of the business case (*Customer Requested, Customer Service Quality & Reliability, Mandatory & Compliance, Performance & Capacity, Asset Condition, or Failed Plant & Operations*) and the benefits to the customer

This program is a mandatory requirement to be in compliance with state commission rules and tariffs in WA, ID, and OR.

The following state rules regulate Avista's PMC Program:

Oregon:

- OAC 860-023-0015 "Testing Gas and Electric Meters"
- Tariff Rule #18

Idaho:

- IDAPA 31.31.01.151 through .157 "Standards for Service"

Washington:

- WAC Chapter 480-90-333 through -348 "Gas companies – Operations"
- Tariff Rule #170

Our customers benefit from this program because it assures that natural gas use is measured accurately in all jurisdictions.

1.3 Identify why this work is needed now and what risks there are if not approved or is deferred

Avista would not be in compliance with state commission rules and tariffs in WA, ID, and OR if this program is not completed annually.

ER 3055 - Gas PMC Program

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.

The PMC Program uses a statistical sampling methodology based on ANSI Z1.9 “Sampling Procedures and Tables for Inspection by Variables for Percent Nonconforming”. Sample sizes and acceptance criteria are defined in the ANSI standard. The annual test results of gas meters that have been removed from the field are analyzed and a determination of the accuracy of each meter family is made. If the analytics determine a meter family (defined as a manufacturer year and model/size) is no longer metering accurately enough to meet the tariff, then that entire meter family will be replaced. Conversely, if the analytics determine a meter family is testing well (close to 100% accurate), the sample size (number of meters in that family required to be tested) can be reduced. These analytics help control costs and also remove meters quickly that are not performing well.

1.5 Supplemental Information

1.5.1 Please reference and summarize any studies that support the problem

- Gas PMC Program Standard Operating Procedure
- ANZI Z1.9 “Sampling Procedures and Tables for Inspection by Variables for Percent Nonconforming”
- The following state rules regulate the PMC program:

Oregon:

- OAC 860-023-0015 “Testing Gas and Electric Meters”
- Tariff Rule #18

Idaho:

- IDAPA 31.31.01.151 through .157 “Standards for Service”

Washington:

- WAC Chapter 480-90-333 through -348 “Gas companies – Operations”
- Tariff Rule #170

These documents are saved on the Avista network drive c01d44 and can be made available upon request.

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.

The meter accuracy testing results collected annually from the program are documented in an Excel spreadsheet. This spreadsheet performs calculations based on ANSI Z1.9 to determine the following year’s sampling requirements and identify which meter families do not meet the accuracy standards and must be removed.

ER 3055 - Gas PMC Program

2. PROPOSAL AND RECOMMENDED SOLUTION

The recommended solution is to complete this mandatory programmatic work. Completion of this program will keep Avista in compliance with state rules and tariffs and assure that our customers' natural gas use is measured accurately. Partial completion of this program will result in Avista being out of compliance with state rules and tariffs.

Option	Capital Cost	Start	Complete
<i>Recommended Solution</i> , Fully complete the programmatic work described	\$4,100,000	January	December

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

Historical program costs are used to determine the average labor costs to remove and test each meter. The number of meters required to be removed varies each year depending on the previous year's testing results. The average cost per meter is then multiplied by the anticipated number of meters to be removed to determine the estimated program cost for the following year.

The PMC program was paused in 2022 due to inventory limitations in the meter manufacturing stream. There are not enough meters to support both growth and the PMC program, so a decision was made to use the meter we do have for new growth opportunities. The plan is to reinstate the program as soon as meter inventories return to an acceptable level. The assumption is we will be able to resume the program in 2023. The funds request for 2023 is higher than normal because it includes pulling meter families that would normally have been pulled in 2022 in addition to the anticipated number for 2023.

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 program is completed between January and December of each year. Gas Engineering, Gas Operations, Gas Meter Shop, and Technical Services work together to administer the PMC program. Gas Operations and the Gas Meter Shop personnel remove the meters from the customer's premise and install new ones. If a large meter family fails, Avista may hire a contractor to assist in the removal of the meters. The Gas Meter Shop completes physical calibration tests on the meters and the Technical Services group then analyzes the test results at the end of the year to determine the status of each family of gas meters. The results of this analysis will define the meter removal and testing requirements for the following year. Gas Engineering develops an annual report which is made available to the state commissions upon request.

ER 3055 - Gas PMC Program

Completing the annual PMC Program provides direct savings. Customers benefit from this program because it ensures their gas meter remains accurate throughout its service life. Meter families that have an accuracy outside of the acceptable range will be replaced. Most customers that have a failed family meter replaced will see a cost savings on their energy bill. See the file titled ER 3055 Cost Offset Calcs 2022-2023.xlsx showing the calculations for the direct savings shown below.

The estimated direct savings were calculated with the following assumptions:

1. The 2022 direct savings was calculated assuming that 50% of the R275_1994 failed family meters will be replaced in 2021 and the remaining 50% in 2022.
2. The Lifetime direct savings was calculated by assuming that the failed family meters being replaced would have remained in service for an additional 10 years.

¹The direct savings for future years cannot be calculated until the program finishes and the meter accuracy data is compiled.

Quantified direct savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	\$38,000	¹ See Above	\$153,000
Total:	\$38,000	¹ See Above	\$153,000

Completing the annual PMC Program also provides indirect savings. The program provides Avista with the data necessary to identify statistical trends in meter accuracy. If a particular meter family shows a consistent drift in mean accuracy, the meter family can remain in service and the customer's bill can be adjusted accordingly in the Meter Data Management system. This approach has allowed Avista to adjust leave approximately 67,000 meters in service that would have otherwise needed to be replaced. See the file titled ER 3055 Cost Offset Calcs 2022-2023.xlsx showing the calculations for the indirect savings shown below.

The estimated indirect savings were calculated with the following assumptions:

1. The average cost to replace a meter in 2022 and 2023 is estimated at \$236 and \$243, respectively. This estimated cost was calculated by taking the actual average cost to replace a meter in 2020 at \$222 and then adding a 3% increase each year to account for a cost of living adjustment.

ER 3055 - Gas PMC Program

2. Per the failed family replacement timeframe defined in the PMC Program Standard Operating Procedure, 25% of the total 67,000 meters would need to be replaced each year starting in 2022 and ending in 2025.

Quantified indirect savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	\$3,995,000	\$4,114,000	\$15,984,000

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

Replacing gas meters is not a new process for Avista. Existing processes and technologies will be utilized for this program.

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

The only alternatives are to either partially fund this program or to not fund it at all. If this program were not completed fully, Avista would be out of compliance with state rules and tariffs and could be exposed to fines from the various state utility commissions. Also, the accuracy of measurement of our customers' natural gas usage could not be assured. See below for breakdown of these risks:

Risk Probability Definitions:

Very High (VH)	Risk event expected to occur
High (H)	Risk event more likely to occur than not
Probable (P)	Risk event may or may not occur
Low (L)	Risk event less likely to occur than not
Very Low (VL)	Risk event not expected to occur

Risk Avoidance Over Time and the Cost of Doing Nothing:

#	Risk	Risk Over Time (years)					Cost Estimate
		1	2	5	10	15+	
1	Regulatory Fines*	H	H	VH	VH	VH	\$225,134 per day per violation (Max) \$2,251,334 Total (Max)
2	Pipeline Leak	Not Applicable					Not Applicable
3	Pipeline Failure & Outage	Not Applicable					Not Applicable
4	Negative Reputation	H	H	VH	VH	VH	Erosion of PUC and Public trust
5	Employee & Public Safety	Not Applicable					Not Applicable

*Regulatory fines present a daily and overall maximum value per violation in accordance with 49 CFR Part 190.223. However, these values are not necessarily an accurate representation of how much Avista would be fined for any specific violation. The actual amount is likely to be much lower since Avista has an ongoing reputation and history of investing in programs related to safety and non-compliance issues. However, it is a bookend reminder from which to characterize the regulatory risk associated with chronic and/or egregious non-compliance, especially in the event of

ER 3055 - Gas PMC Program

a pipeline safety incident (i.e. failure). Therefore, Avista must continue to demonstrate an ongoing commitment to compliance and pipeline safety to ensure favorable future outcomes with respect to regulatory penalties (actual penalty amount is at the discretion of the state or federal agency).

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 program will be completed between January and December of each year. The gas meters are purchased as a pre-capital material item under ER 1050 (Gas Meters). The meter will become used and useful upon installation.

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

This program aligns with Avista's organizational focus to maintain a safe and reliable infrastructure to achieve optimum life-cycle performance, safely, reliably, and at a fair price for our customers.

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 prudence will be reviewed and re-evaluated throughout the project

This program must be completed to ensure our customer's meters remain accurate throughout their service life. Accuracy data is obtained and analyzed each year to ensure the program is testing the appropriate number of meters and removing ones that no longer meet Avista's accuracy requirements.

2.8 Supplemental Information

2.8.1 Identify customers and stakeholders that interface with the business case

All Avista natural gas customers benefit from this program because it ensures their gas meters remain accurate throughout their service life.

Business case stakeholders include Gas Engineering, Gas Operations, Gas Meter Shop, Technical Services, and state commissions.

2.8.2 Identify any related Business Cases

ER 1050 Gas Meters

3. MONITOR AND CONTROL

3.1 Steering Committee or Advisory Group Information

Gas Engineering is ultimately responsible for the PMC plan and annual reports that are developed and made available to each of the state commissions.

ER 3055 - Gas PMC Program

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

Gas Engineering, Gas Operations, Gas Meter Shop, and Technical Services work together to administer the PMC program and ensure compliance with the various state rules and tariffs related to gas meter testing.

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

Meter accuracy testing results are compiled and analyzed in a spreadsheet. An annual report is developed by Gas Engineering and made available to the state commissions upon request. This report defines the program requirements for the following year.

4. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Gas PMC Program, ER 3055 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: _____ *Jeff Webb* _____ Date: 8/30/22
Print Name: Jeff Webb / David Smith
Title: Mgr Gas Engineering
Role: Business Case Owner

Signature: _____ Date: _____
Print Name: Jody Morehouse
Title: Director Natural Gas
Role: Business Case Sponsor

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

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

ER 3000 – Gas Reinforcement Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The gas planning department routinely conducts an analysis on Avista's gas distribution system to identify areas of the system with insufficient capacity to serve existing firm customer loads. Deficient areas are assigned a priority level based on the severity of the risk associated with insufficient system capacity. The areas with the highest priority are selected for remediation and an options analysis is conducted to select the preferred alternative.

The planned transfer to plant is \$1,299,997. The actual transfer to plant is \$1,892,133.

During the year it was recognized that there were increased costs above the planned estimate associated with the protects including increased labor, materials, pavement restoration of roadways and other construction services. Additionally, we were notified of a customer in Idaho who was increasing load that required a main reinforcement, which was started in 2022.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Capital spending levels are reviewed monthly. After reviewing the budget and actual spend results, with consideration of completed and upcoming work, gas leadership agrees on submitting funds requests or releases, if necessary. Those funds forms are submitted to the company's Capital Planning Group (CPG) for funding consideration. Approved Business Case Funds Request(s) are included with this form.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no additional offsets beyond that which has already been reported.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X 

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

ER 3003 - Gas Replacement Street and Hwy Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

This Business Case is mandated by franchise agreement contracts with the city and state entities, and permits entered with railroad owners. Avista is mandated under these agreements to relocate its facilities when local jurisdictional projects necessitate. Often these projects are identified without significant lead times, which makes it difficult to forecast and estimate projects.

The planned transfer to plant is \$3,495,650. The actual transfer to plant is \$4,847,700.

This variance is driven by the increase in the number, size and cost of projects. The increases in spend were needed to complete mandated work. Not completing this work would put Avista out of compliance with respective franchise agreements.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Capital spending levels are reviewed monthly. After reviewing the budget and actual spend results, with consideration of completed and upcoming work, gas leadership agrees on submitting funds requests or releases, if necessary. Those funds forms are submitted to the company's Capital Planning Group (CPG) for funding consideration. Approved Business Case Funds Request(s) are included with this form.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

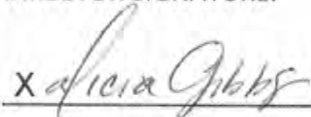
There are no additional offsets beyond that which has already been reported.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X 

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

ER 3010 – Gas Transient Voltage Mitigation Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

Avista has experienced safety issues including fires at Regulator Stations due to transient voltage spikes from faults on the adjacent electric transmission system. The purpose of this program is to identify high pressure gas piping systems that are at risk of these conditions and identify gas systems that have high steady state voltage, and then install mitigative measures to reduce the risk. These efforts will protect the pipeline and equipment from being damaged and reduce the touch voltage exposure to below compliance limits, keeping our employees safe. Common approaches to this include the installation of gradient mats, solid state decouplers (SSD), and copper counterpoise conductor.

The planned transfer to plant was \$875,000. The actual transfer to plant was \$0.

This program experienced design and material supply chain delays resulting a portion of the work being reschedule to 2023. A significant amount of construction work was completed as part of this program in 2022, however most of the work is not complete and will be transferred to plant in 2023.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Capital spending levels are reviewed monthly. After reviewing the budget and actual spend results, with consideration of completed and upcoming work, gas leadership agrees on submitting funds requests or releases, if necessary. Those funds forms are submitted to the company's Capital Planning Group (CPG) for funding consideration. Approved Business Case Funds Request(s) are included with this form.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no additional offsets beyond that which has already been reported.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X 

DIRECTOR SIGNATURE:

X 

Gas Warden HP Reinforcement, ER 3308

EXECUTIVE SUMMARY

Gas supply to Warden, WA currently has two constraints. 1) the town is supplied gas from the fully-subscribed and capacity-constrained Moses Lake lateral (owned by Williams NWP). Warden has a design-day need projected to be 1,472 dekatherm per day (Dth/day). Avista has Firm transportation capacity for 1,180 Dth/day. The capacity gap of 292 Dth/day can be served on a non-Firm basis, but there is a risk of not being able to serve Firm customers in Warden during severe cold weather events. In order to meet our obligation to serve current Firm loads in Warden on a peak day, Avista requires incremental capacity from Williams NWP. Williams NWP provided an estimate of \$9.85MM to increase the capacity of the Moses Lake lateral. 2) The high pressure (HP) supply line into town has reached its capacity. Sufficient capacity is defined as pressures at or above 90 pounds per square inch (psig) in a HP distribution system on a design day analysis. Gas Engineering will be responsible for distribution system changes. This ER is specific to the work and costs associated with Avista's distribution system upgrades.

As a result of current capacity/supply constraints, industrial gas growth opportunities are hampered within the Port of Warden Industrial Park as well as other sites in the area. Grant County Economic Development Council and the Port of Warden have contacted Avista several times related to different commercial ventures interested in the Port site. Avista's largest gas customer in Warden, Washington Potato, has also shared that they wish to increase their plant's capacity and gas usage.

The recommended solution for increasing the capacity of Avista's distribution system is to perform an uprate of the existing 4" HP line. The uprate will increase the Maximum Allowable Operating Pressure (MAOP) of the pipeline from 150 psig to 250 psig. The capacity of the uprated pipeline will nearly double from 98 Mcfh to 195 Mcfh. This solution can be accomplished for an approximate \$85,000 capital investment needed to replace three valves that are not rated for the higher operating pressure. The Washington Utility and Transportation Commission (WUTC) has approved Avista's proposal to uprate the existing 4" high pressure gas line.

An alternative solution would be to install a larger pipeline into Warden which is estimated to cost \$3MM and would take several years to complete. The most economical and timely solution to increase gas capacity is to perform the uprate of the existing pipeline.

If this project is not approved the capacity constrained gas supply in Warden will continue to limit economic growth in the area.

VERSION HISTORY

Version	Author	Description	Date	Notes
1.0	Jeff Webb	Initial Version	3/9/2017	
1.1	Jeff Webb		4/6/2017	
2.0	David Smith	Updated to the refreshed 2022 Business Case template. Edited to include high pressure uprate solution.	5-9-22	

Gas Warden HP Reinforcement, ER 3308

GENERAL INFORMATION

Requested Spend Amount	\$85,000
Requested Spend Time Period	1 year, 2022
Requesting Organization/Department	B51 – Gas Engineering
Business Case Owner Sponsor	Jeff Webb/Dave Smith Jody Morehouse
Sponsor Organization/Department	B51 – Gas Engineering
Phase	Execution
Category	Project
Driver	Performance & Capacity

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Generation DC Supplied Systems

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Generation DC Supplied System business case is a program that ensures critical power systems at all of Avista's generation and control facilities are safe and reliable. These systems are the backbone for supplying power to the protective relays, breakers, controls and communication systems within the generation and control facilities. To maintain reliability, Avista follows NERC requirements and design enhancements for the monitoring and testing of our DC system.

Avista planned to perform a DC upgrade project at Noxon Rapids HED and at Rathdrum CT. However, due to engineering manpower constraints this year, other projects were prioritized higher, and no new Generation DC Supplied System projects were completed in 2022. The \$18,486 placed in service were related to closing costs on a project completed in 2021.

The annual funds for this program are expected to accomplish approximately two projects a year. The projects must always be prioritized with all other department projects as manpower availability is taken into consideration.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

This business case is monitored through the year at the Generation & Production Department's SCRUM meeting. It was determined that new work, funded from this business case, would be a lower priority this year when all capital work was taken into consideration. In the same way, should significant cost overrun occur, they would be discussed, and a direction forward would be determined. Additionally, a funding change request would have to be submitted and approved by the Company's Capital Planning Group before additional funding could be obtained and work continued.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

This work is performed as required under NERC PRC-005-06 which states the equipment this business case replaces is required to be in working order at all times, and therefore, does not reach the end of life. Required inspections are performed regardless of the age of equipment. Capacity testing is performed when equipment is put in service. As such, replaced equipment is subject to the same maintenance and operating schedules and therefore, no offsetting savings are identified with this work.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

2/13/2023

X 

DIRECTOR SIGNATURE:

X 

Signed by: Newhouse, Kristina

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Identity and Access Governance

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

Avista’s current Identity and Access Governance (IAG) program is highly manual, time consuming, cumbersome and prone to human error. This has led to consistent failures of related controls around access to systems or facilities for individuals who have either changed roles in the Company or left the Company and should no longer have previous role access. The IAG program will create role-based profiles, define system privileges, automate access management, and facilitate regular user access review and validation. This program was just started in 2022.

The Identity Access Governance business case planned transfers-to-plant in the filed Washington GRC was approximately \$672k and did not end up transferring anything in 2022. This is now expected to transfer-to-plant in June of 2023.

There is only one project within this business case called *Identity and Access Governance Implementation phase 1*, which is a new complex technology for Avista. This project was unable to go live in 2022 due to a variety of resource constraints, which caused delays in the timeline. Hardware delays in the model office environment also contributed to a delay in the project timeline.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

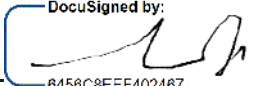
All projects contained within ET business cases are governed by a steering committee and thus any changes to scope, schedule, or budget are approved by that steering committee and business case governance for prudence. Therefore, any additional costs to the project were prudently documented and approved. Please see the executive update attached for further details regarding this delay.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

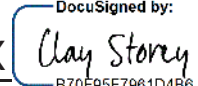
These projects have no identifiable direct or indirect cost savings for customers, as they are required by law, or simply after thorough review have no offsets.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X  -
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DIRECTOR SIGNATURE:

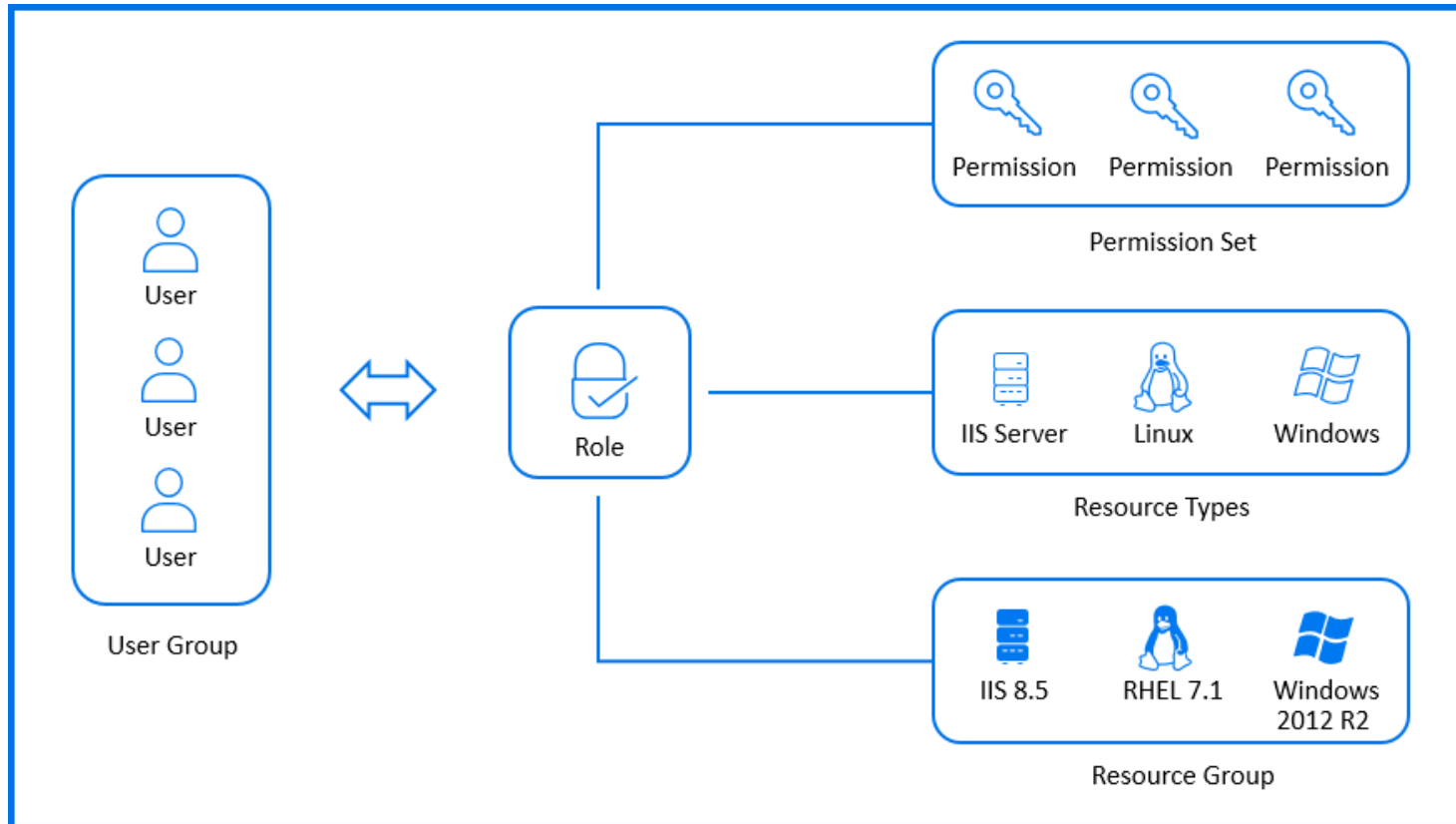
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Role Based Access Control: Executive Update

(Ryan Krasselt and Jim Kensok)

Role Based Access Control (RBAC) – Update



- Access may be based on job function or role
- One to many combination
- Elimination of rights requires role and process refinement
- Straddling multiple roles can continue to present challenges
- User Access Reviews will be critical to manage user rights and refine roles
- Future state to include other than SOX systems

RBAC – Update

Original Go-Live Schedule: 9/2022

Challenges:

- Vendor resource availability
- Technical skillset varied internally and externally
- Deployment and data standards not established; new solution to Avista

Current Go-Live Schedule: 5/2023

Potential Risk:

- Non-Active Directory managed SOX applications may be a challenge
 - FSS (JET, Red, Cashbook), PayCourier (Remittance), Nucleus, AMR TWACs

RBAC – Update

Relevant Milestones	Date
1. Implement Identity Access Management Software	In Progress
2. Integrate Target Applications, Servers, and Databases (e.g., AD, Cognos, CC&B, WinOS, Oracle, UltiPro, Linux, MV90)	Mar 2023
3. Design and Configure System to Run User Access Reviews	Apr 2023
4. Train and Support Staff to Manage and Operate Software	Apr-May 2023
5. Perform User Access Reviews in Software Solution	May 2023
6. Define Roles Associated with SOX Systems (e.g., Accounting, Finance, Treasury, IT, etc.)	Aug 2023
7. Create Role Based Access in Software	2023-2024
8. Expand to Applications Beyond SOX Systems	Ongoing

Q&A

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

ER 2074 – Joint Use

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

ER 2074 – Joint Use 2022 original budget was \$2,750,000.

- It was planned that the original budget would be spent and transferred to plant in 2022.
- Due to significant increases in joint use activities by licenses it was necessary to increase the budget to accommodate the increase in joint use make ready activities, as required by law.
- The budget was increased in June to \$4,500,000. It was planned that the entire budget would transfer to plant in 2022.
- The budget was further increase in July to \$6,000,000 to meet an anticipated spend. It was again planned that the entire budget would transfer to plant in 2022.
- The original 2022 Transfer to Plant total was forecasted at \$2,749,992.
- The final actual 2022 Transfer to Plant total was \$4,340,369. Note: Net Spending was less that forecast in July.
- Variance Explanation: The increase in transfer plant was due to the increase in budget to accommodate the increased joint use make ready requirements. The increase in transfer to plant is in alignment with the increased budget and spending requirements.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

The joint use business case reflects the net cost of joint use make ready work. The budget was increased throughout the year in alignment with anticipated make ready requirements. The increases in budget were necessary to ensure compliance with legal requirements to complete the make ready activities.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

No
Due to the way this program functions any changes made in 2022 should have little impact to the cost savings associated with this program.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X Jesse Butler

DIRECTOR SIGNATURE:

X David Howell

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

KF_Fuel Yard Equipment Replacement

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5-year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

This business case is for the replacement of equipment for receiving and processing fuel for use at the Kettle Falls Thermal Generating Station. This equipment no longer meets the needs of the facility as it has aged and standards around it have changed, such as larger deliveries the equipment is not sized for and more stringent environmental standards.

The plan, as filed in the Washington GRC, was for construction through 2022 into early 2023 with commissioning and transfer to plant (TTP) in April, 2023. However, in early 2022 the steering committee agreed to a new approach which allowed for the new equipment to be commissioned simultaneously while the original system was still operating. This shortened the commissioning schedule and allowed the major equipment to be transferred to plant earlier than expected.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

This project was governed by a Steering Committee representing Power Supply, Environmental and Operations. The Steering Committee evaluated the options and supported the April 2022 request (attached) to the Capital Planning Group for additional funding of \$2.5M to cover the expected remaining construction costs and earlier TTP. This additional funding was determined to be necessary to complete the construction and deliver a functional system to the plant. The Steering Committee voted to adjust the schedule and budget to move funds out of 2023 and into 2022.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

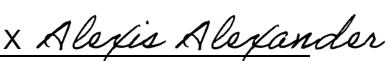
Early TTP of this project will reduce or delay major maintenance expenses on the aging equipment, which includes elimination of the 2023 rebuild of the primary disc screen, replacing belts on the two removed conveyors, repairing and/or replacing truck dumper drag chains, maintenance on the old hog, and potentially other maintenance items, for an estimated short-term savings of greater than \$30,000. In addition, by bringing the system online earlier than scheduled, an estimated \$225,000 in forecasted capital expense on AFUDC was saved and will be re-deployed to other projects in 2023.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

x  3/15/23

DIRECTOR SIGNATURE:

x  03/15/23

KF_Fuel Yard Equipment_Replacement

EXECUTIVE SUMMARY

The existing system does not allow the plant to operate consistently with safe best practices, environmental stewardship and production. The fuel handling equipment operates at or beyond its absolute limit. In the early 1980's Washington State increased the legal hauling weight and the trucking industry transitioned from 48' trailers to 53' to increase their payload. This change created a number of production and safety challenges for the plant operations and contractor support. The system does not meet current environmental regulations for visibility and particulate matter (PM) emissions for intermittent periods. Although the primary drivers for the project are safety, environmental, and reliability, we do expect a decrease in O&M. With all benefits included, Financial Planning and Analysis has concluded that this is a prudent project. The project will proceed over a two year period with \$12 million in 2019 and \$10 million in 2020. (7/8/2021 Update: *Project timeline has been extended and adjusted and the current plan will continue into 2021 with the underground utilities installed, major equipment purchased and truck dumpers commissioned. 2022 will be construction of conveyance, processing and control buildings and installation of the hog and disc screen.*) (8/29/2022 Update: Construction is on track for Transfer to Plant by the end of the year. Additional funds were requested mid-year in 2022 for an annual total of \$11.1M, in addition to \$20M spent prior to 2022 and \$1M projected for 2023. Project total at completion is projected to be \$32M.)

Replacing the major fuel handling equipment will create a safer system for employees and contractors as the new dumpers will be designed to lift current truck lengths and weights. The major equipment will be designed with covers and passive dust control utilizing new dumper technology and conveyance covers. (7/8/2021 Update: *Scope has been reduced to reduce project costs by changing the truck route, eliminating a pass through travel route, reduction of an enclosed processing building, eliminating a conveyor through a more compact layout, eliminating a new power supply from the distribution line near the plant site and delay of replacing the existing #3 fuel conveyor*)

This project will impact customers in service code Electric Direct jurisdiction Allocated North serving our electric customers in Washington and Idaho.

VERSION HISTORY

Version	Author	Description	Date	Notes
<i>Draft</i>	<i>Greg Wiggins</i>	<i>Initial draft of original business case</i>	<i>05/01/2018</i>	
<i>1.0</i>	<i>Thomas Dempsey</i>	<i>Edit Draft / Executive Summary</i>	<i>07/03/2018</i>	<i>Added content</i>
<i>1.1</i>	<i>Greg Wiggins</i>	<i>Edit Approved Business Case to new Template</i>	<i>07/08/2021</i>	<i>New Template / Update major project changes Scope, Schedule and Budget</i>

KF_Fuel Yard Equipment_Replacement

1.2	Greg Crossman	2022 update	08/29/2022	Updated with current status

GENERAL INFORMATION

Requested Spend Amount	\$32,000,000 through 2023 (\$26.3M spent to date)
Requested Spend Time Period	2 year (7/8/2021 Update project will be 5 year)
Requesting Organization/Department	GPSS
Business Case Owner Sponsor	Greg Wiggins Alexis Alexander
Sponsor Organization/Department	GPSS
Phase	Execution (7/8/2021 Update project is in execution phase)
Category	Project
Driver	Asset Condition

1. BUSINESS PROBLEM

The major fuel yard equipment being considered for replacement includes the truck dumpers, fuel hog, truck scale, and conveyance systems.

Truck Scale - The truck scale is used to account for the quantity of fuel received from each truck delivery. The truck drivers scale in upon arrival to the site and the scale out after completing the unloading process.

Truck Dumpers - The truck dumper receives the delivered fuel by elevating the trailers. Fuel exits the rear of the trailer into a receiving housing.

Fuel Conveyors - Fuel conveyors move the fuel from the truck dumpers to a metal detection system, then to the fuel hog system and finally out to the fuel yard.

Hog and Disc Screen - The fuel hog is a device that clarifies and conditions the fuel so that it is the proper size required for optimum combustion.

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

There are three key components that comprise the business problem presented by the current fuel yard.



KF_Fuel Yard Equipment_Replacement

1. Safety
2. Environmental
3. Reliability

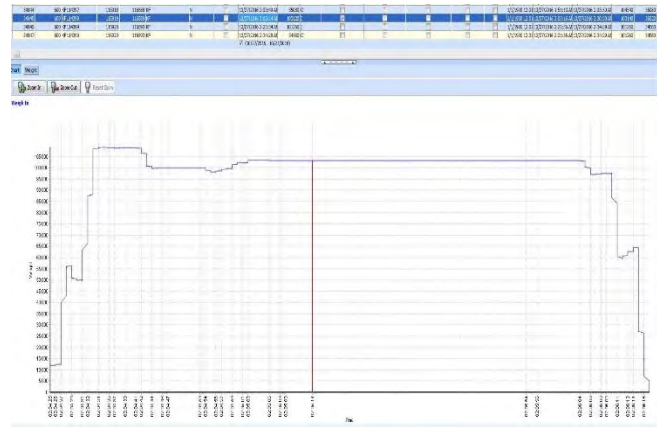
These three components are summarized as follows:

The Kettle Falls Generating Station is a biomass fueled power plant that processes on average 500,000 green tons of waste wood from area sawmills. The wood delivered to the facility is trucked in by contractors utilizing semi-trucks and chip trailer. On average the plant received 65-80 loads of fuel each day with surges to 100 deliveries in a 24 hour period.

The plant's original design was just prior to Washington State increasing the legal haul lengths and weights. All the equipment was designed for 48' trailers and the new law change in 1985 allowed drivers to haul with 53' trailers. When the drivers enter the facility the load is weighed on a State certified scale to determine amount of fuel being delivered. The longer trailers do not completely fit on the scale without the drivers lifting the tag axle on the trailer. The plant's delivery tracking system captures the gross weight of the truck and trailer into the 3Log financial interface application. Through this system vendors and suppliers are paid for their services. Due to the longer trailers and short scale drives can "cheat" the system by not positioning the load correctly on the scale. Each load is reviewed through the 3Log (TWA) Truck Weight Analyzer. When an infraction is found the surveillance video is reviewed and sent to the hauling company for reconciliation. Manual adjustments are made in the system to ensure proper payment to the supplier.



Truck was intentionally positioned short on the scale.



TWA show drivers manipulating the scale due to being overloaded.

The fuel is offloaded truck trailers into the receiving hoppers via a truck dumpers. The wood is then conveyed, screened and sized prior to being transferred out to the fuel inventory pile. The Fuel Equipment Operators then manage the fuel inventory utilizing D10 Cat dozers to stack out incoming fuel and stage inventory to be processed in the plant.

Due to the higher legal hauling limits in Washington the longer truck/trailer configurations require the truck drivers to unhitch the trailer from their trucks. This unhitching process not only increases truck turnaround time and increases hauling costs to plant, it adds a difficult step. Although not the primary factor, a contractor fatality in 2013 occurred while going through this step in the process. One driver was attempting to unhitch his trailer

KF_Fuel Yard Equipment_Replacement

from the truck and was working with another driver to get the hitch pin released when the accident occurred.



After the load is raised into the air and the fuel is discharged out of the back of the haul trailer into the truck receiving hopper a large plume of dust often launched into the air and then carried in the wind off the plant site. After the wood discharges out of the truck receiving hopper it is transferred via conveyor belt to a disc screen and hammer hog to be properly sized and then discharged onto the hog storage area.



Both Safety and Environmental regulations require that PM be reasonably controlled for worker safety, air quality and visibility. All emissions should be managed on-site.

The fuel yard is subject to a very corrosive environment due to the wet wood being in contact with the equipment. The years of rusting has caused failure to metal conduit and structural steel. The metal support structure of the truck receiving hoppers has rusted through to the point of being completely cracked through. Welded plates have been installed to affected areas on the truck receiving dumpers. Many of the electrical conduits are rusted through and need replacement.

The system is currently running at maximum capacity with fuel spilling over the edges of the conveyance system, the disc screen is not operating at the proper throughput as a significant amount of proper sized fuel is carried over the disc screen into the hammer hog. The over feeding of material into the hog creates excessive wear on the hammer hog grates and hammers.

With an average of 80 semi loads delivered each day and over 25 sawmills depending on the fuel yard at Kettle Falls to be in full operation there is tremendous pressure in keeping

KF_Fuel Yard Equipment_Replacement

the system running. Area mills store the fuel purchased by Avista in storage bins and can only hold the waste wood for a few days and sometimes only hours before the backup of wood begins to cause production issues at the mill. When product flow out of the mill is not managed well suppliers may begin to look for other options to move their waste to more reliable markets. Another important detriment to not keeping fuel moving efficiently is that as more fuel inventory builds at the supplying mill, the resulting Moisture Content increases as well as the opportunity for contamination from rock and other “non-spec” materials. It is important to keep the KFGS fuel yard operating with minimal downtime to provide good service and quality control to the supplier’s milling operations. It is critical to the reliability of both the KFGS plant and its supply chain.

In 2017 a team was assembled including the Thermal Operations and Maintenance Manager, Fuel Manager, Plant Manager, Thermal Engineering and plant staff. The team worked with outside engineering firm WSP to evaluate the fuel yard equipment and explore options. The team also traveled to two new biomass plants to gain knowledge of new equipment and process. This information along with the support of WSP allowed the team to evaluate a number of options.

1.2 Discuss the major drivers of the business case *(Customer Requested, Customer Service Quality & Reliability, Mandatory & Compliance, Performance & Capacity, Asset Condition, or Failed Plant & Operations)* **and the benefits to the customer**

Major drivers for this project were Asset Condition and Mandatory & Compliance. Installing the new fuel yard equipment with a higher capacity design and environmental dust control measures will be a benefit to the plant and neighbors. Moving truck through the yard quickly reduces trucking costs. This project will decrease truck turn time.

1.3 Identify why this work is needed now and what risks there are if not approved or is deferred

The plant experienced a fatality of a contract driver that would have been completely avoided if the truck dumpers were able to lift the current truck weights and lengths. A few years later another driver was injured on plant site attempting to manually offload his overloaded trailer when a bunch of fuel slid out of the trailer and buried the driver crushing his hip and knee. This project will make for a safer facility for our contractors.

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.

Truck weight analyzer and the weighwiz system will be able to accurately capture the delivery with the new longer scales. Truck turntime will decrease as drivers will no longer need to lift tag axels, disconnect the truck and trailer or use one scale for inbound and outbound scaling.

KF_Fuel Yard Equipment_Replacement

1.5 Supplemental Information

1.5.1 Please reference and summarize any studies that support the problem

In 2017 a team was assembled including the Thermal Operations and Maintenance Manager, Fuel Manager, Plant Manager, Thermal Engineering and plant staff. The team worked with outside engineering firm WSP to evaluate the fuel yard equipment and explore options. WSP presented the Team a feasibility study with options to consider. That document is located in the project file.

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.

The team selected option #3 and in replacing the major equipment in a new layout. Below shows the four options, matrix score, CAPX and OPEX.

This feasibility study includes estimated CAPEX, OPEX and MTC, and discusses the pros and cons of the scenarios analyzed. The possibility of an increase in generation of 15 MW was considered when sizing the equipment. Some equipment drives may require upgrading, as such the equipment was sized for the increase.

Based on extensive in-person meetings with the Avista project team, four scenarios were examined to meet the requirements of the plant: results of the analysis for the scenarios are shown in the table below.

	System #1: Existing and Rebuilds	System #2: Existing Layout c/w new equip	System #3: New Layout c/w new equip	System #4: New System c/w Covered Building
Avista's Ranking Calculator by System	370.00	296.00	123.00	143.00
CAPEX (2017 \$)	\$4.2 M	\$9.5 M	\$21.6 M	\$30.1 M
OPEX (average over 20 years, 2017 \$)	\$1,095,000	\$1,121,000	\$665,000	\$998,000
MTC (average over 20 years, 2017 \$)	\$829,000	\$782,000	\$405,000	\$432,000

2. PROPOSAL AND RECOMMENDED SOLUTION

The four options were discussed and doing nothing has been the approach for a number of years. Maintenance costs have increased with equipment failure to the live bottom gear boxes, dumper cylinders and lifting deck. Modifications are being made to equipment due to obsolete equipment is no longer available. This approach will see continued breakdown maintenance, reduction in fuel yard reliability and continued risks around safety and environmental litigation.

Option 1 includes major rebuild of the existing equipment. The truck dumpers would have mechanical and support rebuilt, some conveyors would be sped up to the maximum allowed throughput, hog and disc screen would be rebuilt, the power distribution, motor control centers and PLC's replaced, all the electrical hardware in the yard would be replaced. This option would not change the operations of the fuel handling system. Safety and environmental concerns would remain unchanged. The truck scaling issue would still remain. The work would create major disruptions to our suppliers as the work and repairs could not be done without interrupting

KF_Fuel Yard Equipment_Replacement

delivery schedules for days and weeks at a time. Fuel would have to be diverted to other consumers with the risk of losing the contracts in the future.

Option 2 included replacing key equipment with one new scale, two dumpers, two conveyors, hog and screen in the existing location. This option would not address the congested truck route that currently exists with one scale. The fuel conveyor angle would remain the same and would not solve the sliding winter fuel issues experienced by the plant operations staff all winter long. This option would disrupt deliveries and cause major fuel disruptions to the sawmills and carriers under contract. Temporary truck dumpers would have to be installed and significant fuel curtailment and diverting would be required.

Recommendation is to pursue Option 3 that includes relocating new equipment to a different location in the fuel yard. This approach would allow the current system to operate while the new system is constructed and commissioned. The layout would reduce crossing traffic issues with the semi trucks. A new longer inbound and separate outbound scales would eliminate the scaling issue as sensors would not allow a driver to scale in unless the truck was positioned correctly on the scale. The two new truck dumpers would be larger in size which would allow the lifting of both the truck and the trailer. This would reduce truck turnaround time and eliminate the hazard identified in the driver fatality. The new dumpers would incorporate a dust containments systems to reduce fugitive dust during the offload. New conveyors would be larger to accommodate higher throughput. The higher capacity belt system would reduce laborious shoveling of spilled fuel. The incline of the new belts would reduce winter frozen fuel from sliding on the conveyor belts. The disc screen would be larger in size for better screening efficiency and reduce hog operation to only oversized material. The upgraded stack out fuel conveyor system would strategically move the fuel to three locations reducing Caterpillar dozer fuel consumption and yearly time base maintenance. A new control tower and power supply would eliminate the electrical deficiencies with the current system.

Option 4 is the same as option 3 with the addition of a covered fuel storage area. Covering the fuel could reduce moisture content during the winter months. Power Supply and Asset Management explored the additional cost benefit and this option did not make financial sense.

Option	Capital Cost	Start	Complete
Existing Rebuild and Minor Upgrades	\$4,200,000	10/2020	6/2023
Existing Layout with New Equipment	\$9,500,000	10/2020	6/2023
New Layout with New Equipment	\$22,000,000	10/2020	6/2023
New Layout with New Equipment and Covered Yard	\$30,100,000	10/2020	6/2023

KF_Fuel Yard Equipment_Replacement

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

The Team worked with WSP and evaluated every component of the fuel handling system. All of the current equipment was ranked using the GPSS project ranking matrix and the scores were used to determine what system would meet the criteria set for the project. Below is an example of the analysis that was done for every part of the fuel handling system.

Avista KFGS Woodyard Study
WSP Ref #: 171-11373-00/185233AEquipment Alternatives and Ranking Table
Date: 10/19/2017

Item #	Equipment Name	Wt	Scope of Work Description & Avista Rating			
			System #1: Existing	System #2: Existing Layout c/w new equip	System #3: New Layout c/w new equip	System #4: New System c/w Covered Building
1	Truck Scale(s)		- maintenance	- new single scale and data recorder	- new dual scales and data recorder	- new dual scales and data recorder
	Personal or public safety	4	3	2	0	0
	Potential environmental issue	4	0	0	0	0
	Regulatory mandate	3	0	0	0	0
	On-going maintenance issue wt:3	3	2	0	0	0
	Decrease future operating costs	2	2	0	0	0
	Increase efficiency (revenues - power usage)	1	1	1	0	0
	Obsolete parts and equipment	1	0	0	0	0
	Risk of equipment failure	4	2	2	0	0
	Customer Value	3	2	1	0	0
	Sub-total		37	20	0	0

Reference key points from external documentation, list any addendums, attachments etc.

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 project will be a two year project with engineering, design and major equipment procurement in the first year followed by construction and commissioning the following year. The breakdown is a two year period with \$12 million in 2019 and \$10 million in 2020. *(7/8/2021 The project will run into 2022 with a possibility of 2023. The project originally requested 22 million over two years, CPG has only funded 20 million. When presenting the request I failed to load the project during the estimating process so AFUDC and Loadings were not added at the time of the request. These two issues have a 4 million shortfall in project funding. During construction the underground excavation process discovered unforeseen challenges with foundations and underground piping that resulted in re-engineering and changes. Cost and overruns from the phase one resulted in the Team drastically cutting scope to manage budget. Changes included re-routing the truck area, removing the enclosed processing building,*

KF_Fuel Yard Equipment_Replacement

repurposing some existing equipment, redesigning the layout to eliminate an entire conveyor and postponing replacing the final stackout conveyor.) (8/29/2022 Update: The project spent \$20M through the end of 2021. CPG originally approved \$8.6M for 2022, however after forecasting remaining costs to complete the project, an additional \$2.5M was requested and approved via Funds Change Request for a 2022 total of \$11.1M. CPG also allocated \$1.5M for 2023, however that has also been revised via FCR to \$1M to include demolition, punchlist, and cleanup after Transfer to Plant occurs toward the end of 2022.)

[Offsets to projects will be more strongly scrutinized in general rate cases going forward (ref. WUTC Docket No. U-190531 Policy Statement), therefore it is critical that these impacts are thought through in order to support rate recovery.

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

This project will require some short outages that will be managed within the normal Spring outage for accommodate some conveyor transitions to the current process and power supply connections. There may be some curtailment needs with our contract mill to stop wood deliveries. This project will not cause any plant reliability issues with Power Supply.

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

Alternatives considered are discussed at the beginning of Section 2. Each alternative came with risks and benefits, however replacing the equipment in a new location (Option 3) was determined to be the solution providing the best business value to Avista. At present (8/29/2022), contracts have been awarded and the project is approaching startup and commissioning, on track for Transfer to Plant by the end of the calendar year.

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.

(7/8/2021 Update All of the underground work is complete minus two conveyor foundations that will be installed after the current truck dumpers are demolished. All major equipment is purchased and onsite minus the hammer hog and transition chute and the #3 stack out conveyor. The fueling building is procured and will be installed in September. The truck dumpers will be commissioned mid July. All the critical electrical equipment has been purchased. The project has two options for 2022 one being a complete project to the #3 conveyor and the other a hot feed option which could see some of the equipment in Q3 of 2022 either way. If the hot feed option is selected then the remaining equipment would become operational in 2023.) (8/29/2022 Update: Construction is significantly underway with startup and commissioning beginning in September 2022. Transfer to Plant is expected by the end of the year.)

KF_Fuel Yard Equipment_Replacement

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

Kettle Falls is a renewable generating site and this project aligns with providing reliable renewable energy to our customers. This project will increase Safety and be good for the environment and neighbors.

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 prudence will be reviewed and re-evaluated throughout the project

This project was subjected to a rigorous evaluation of each major piece of equipment and is documented in the WSP Feasibility Study. The project has worked closely with the Steering Committee that is represented by GPSS, Environmental and Power Supply. The project is being lead by GPSS Project Manager and the Team meets regularly to discuss scope, schedule and budget.

2.8 Supplemental Information

2.8.1 Identify customers and stakeholders that interface with the business case

GPSS Thermal Operations and Maintenance Manager

Environmental

Power Supply

Contracts and Supply Chain

Plant Staff

2.8.2 Identify any related Business Cases

KF 4160 V Station Service replacement (new request in 2022)

3. MONITOR AND CONTROL

3.1 Steering Committee or Advisory Group Information

Thomas Dempsey - GPSS Thermal Operations and Maint Mgr

Darrell Soyars – Environmental

Scott Reid – Power Supply

KF_Fuel Yard Equipment_Replacement

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


GPSS Core team will follow the Department Project Management protocol. There will be monthly Steering Committee meetings to discuss issues or concerns. Updates will be shared on an as needed basis between monthly status meetings.

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

Change orders will follow Supply Chain contracting protocol based on financial signing authority.

4. APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Kettle Falls Fuel Yard Equipment Replacement project and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:  Date: 8/29/2022
Print Name: Greg Wiggins
Title: Plant Manager
Role: Business Case Owner

Signature: _____ Date: _____
Print Name: Alexis Alexander
Title: Director GPSS
Role: Business Case Sponsor

Signature: _____ Date: _____
Print Name: Thomas Dempsey
Title: GPSS Thermal Ops and Maint Mgr
Role: Steering/Advisory Committee Review

Kettle Falls Fuel Yard Equipment Replacement Project

1.0 CHANGE REQUEST #4 – 4/13/2022

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	NA	\$8,600,000

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
03-2022	\$1,687,173	\$8,600,000	+\$2,500,000	\$11,100,000

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	4/29/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

In 2021 the project underspent its CPG allocation and returned \$475,000 in December. At that time contracting of Phase 2 work was just beginning so it was not possible to utilize the funds before year end, however the scope that may have been funded still remains to be completed for a functional project and therefore requires those funds. In addition, the progression over the course of the project through design iterations into early procurements and then into phased construction resulted in 2022 becoming a catch-all for any remaining scope, which has increased total cost for the year. Further, not unique to this project, but no less impactful are the marked increases in pricing for commodities and construction contractors. Both inflation and supply chain issues have contributed to significantly higher prices in materials, fuel, transportation, and labor, resulting in higher overall costs to prosecute and complete the project.

The requested amount includes a contingency of approximately 3% on the 2022 remaining cost. While there is fairly high cost confidence at this point, the remaining scope is split into several discrete contracts so if any gaps or essential changes are discovered it is likely Avista will be financially responsible and not the contractors.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The existing Fuel Yard has been beyond its useful life for several years. In fact one of the critical components, the truck dumpers, have been undersized essentially since the plant came online in the 1980s due to a change at that time to hauling limits. The undersized dumpers present an ongoing safety hazard to plant personnel and truck drivers delivering fuel to the project site so transitioning to the new system is critical to the plant's continued operation. In addition, the new fuel yard equipment has been on site since last year. Continuing to allow it to sit stored and unused will both allow the warranties to expire prematurely, potentially even before the equipment is in service, and cause undue degradation due to being stored outdoors versus installed and in use as intended.

Kettle Falls Fuel Yard Equipment Replacement Project

1.1.3 Please reference analysis or information that support the problem and attach to this document.

The current budget forecast is available upon request and shows projected expenditures for the rest of the year in order to deliver a functional project.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

O&M costs may be increased by delaying installation further into the future since warranties will expire prematurely and necessary maintenance may be more extensive, and therefore more costly, due to prolonged storage.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

The team is actively exploring cost-saving options to value engineer the remaining work. For example, there is work currently specified at an existing structure that would be beneficial but not necessarily required to deliver a functional project to the plant. The team is evaluating if eliminating (or delaying beyond 2022) items like this would be feasible and if it can be done without unanticipated follow-on consequences. Construction is currently underway so there will be limited opportunities to change the design, but the team is looking for them where possible.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

The additional funds requested will allow the Kettle Falls Generating Station to operate more safely and more reliably. Continuing to operate on the existing equipment presents both a safety hazard to people at the plant and increases the risk that an unforeseen outage to fuel delivery will occur.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The justification narrative is still valid given the nature of this change. This change simply reflects an increase in the cost to perform the specified work remaining to deliver the project this year, primarily due to work from previous years pushing into 2022, as well as historic levels of inflation and price increases for materials, commodities, and labor. While cost-saving options are being explored where possible as noted above, the current approved amount will nonetheless be insufficient to deliver the project this year.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Thomas Dempsey	BC Owner	Thomas C Dempsey <small>Digitally signed by Thomas C Dempsey Date: 2022.04.14 07:48:23 -0700</small>	
Alexis Alexander	BC Sponsor	Alexis Alexander <small>Digitally signed by Alexis Alexander Date: 2022.04.14 21:22:45 -0700</small>	
	FP&A		

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Land Mobile Radio and Real Time Communication Systems

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Land Mobile Radio & Real Time Communication Systems business case provides communication technology solutions that enable our gas and electric staff to communicate with each other in the field and office in real time in very remote locations where cellular service is not available. Mobile radio coverage is an essential safety requirement for field staff working throughout our territory to maintain safe and reliable electric and natural gas infrastructure.

This business case was expected to transfer-to-plant approximately \$3.6M and ended up transferring around \$300k, resulting in an understated transfer-to-plant amount of approximately \$3.3M. Several projects in this business case have been affected by internal labor constraints, longer than anticipated planning phases and a decrease in costs for professional services combined with a short build window for mountain top sites. This has resulted in work that was planned to be completed this year shifting into 2023, with a reduction in transfers-to-plant for 2022. Approximately \$600k of this decrease to transfers-to-plant is represented in the attached change request that discusses spend. The remaining difference of approximately \$2.7M, represent work discussed above that has already started and is in Construction Work in Progress. It is anticipated that these projects will transfer to plant in 2023, consequently increasing the originally forecasted transfers in 2023. In summary, through prudent governance of this business case, capital funding that was not able to be spent this year (and ultimately transferred-to-plant), was released for other areas of the business to utilize.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

All projects contained within ET business cases are governed by a steering committee and thus any changes to scope, schedule, or budget are approved by that steering committee and business case governance for prudence. Therefore, any additional costs to the project were prudently documented and approved. Please see the following CPG change request document for further details discussed above:
Land Mobile Radio In Year – Business Case Funds Change Request 11.22

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

When endpoint devices break down it can result in the inability of an employee to access essential technology systems such as our meter data, customer billing and our mapping data. This can result in indirect productivity savings across all areas of the business. Savings related to avoiding these down time issues were not affected in 2022 and the indirect savings originally estimated are appropriate for 2022.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

DIRECTOR SIGNATURE:

X DocuSigned by:
Walter Keys
28978795AGCE1D0...

X DocuSigned by:
Jim Corder
7002E4872104449...

Land Mobile Radio

1.0 CHANGE REQUEST CR01 6.22

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$2,700,000	\$2,500,000
<i>CR01</i>	\$90,000	

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
06-2022	\$412,071	\$2,500,000	\$90,000	\$2,590,000

Type of Change	In-year Update
Primary Reason for Change	Scope Change
Response needed by	6/29/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

Under a previous project, Avista has built and deployed three drop repeater devices. These are designed for use in temporary situations when field work is required in areas of poor radio coverage. These three devices are in regular use. However, one device has been semi-permanently placed in Dixie Summit Idaho in order to improve coverage in this area for a longer duration. As a result, our field teams are short one drop repeater device. This business case is requesting \$90,000 in additional funds in order to build a fourth drop repeater device.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

With the third drop repeater deployed, our field teams are currently short one drop repeater. This could increase the risk of not being able to use radio communications while in the field.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Please see section 1.1.1.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

Safety of employees doing field work in areas with poor radio coverage could be impacted if they do not have a drop repeater.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

Land Mobile Radio

The alternative would be to not build an additional drop repeater or do fund additional LMR build sites, which are typically more expensive.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.


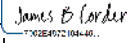
This investment is still prudent as drop repeaters can be used in a variety of scenarios to improve radio coverage.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The justification is still valid.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Walter Roys	BC Owner		Jun-10-2022
Jim Corder	BC Sponsor		Jun-10-2022
	FP&A		

10:22 AM PDT

2:13 PM PDT

Land Mobile Radio

1.0 CHANGE REQUEST CR02 11.22

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$2,700,000	\$2,500,000
<i>CR01</i>	\$90,000	\$90,000
<i>CR02</i>	-\$600,000	

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
11-2022	\$1,424,618	\$2,590,000	-\$600,000	\$1,990,000

Type of Change	In-year Update
Primary Reason for Change	Timing Change, Internally Driven
Response needed by	11/30/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

Several projects in this business case have been affected by internal labor constraints, specifically in the Network Engineering team. This has resulted in work that was planned to be completed this year shifting into 2023, with a reduction in costs for 2022. Projects affected by these resource constraints include LMR Coverage Enhancements Stranger Mountain, Tait Product Updates and Real Time Radio Phase 2. Approximate impact of these costs is \$300,000 in costs shifted to 2023.

Projects in this business case have also been affected by longer than anticipated planning phases, which is likewise resulting in the bulk of planned execution costs moving into 2023. These projects include the Hydro Coverage Enhancements – Cabinet Gorge project and the Tait Push to Talk Mobile app project. Approximate impact of these costs is \$250,000 in costs shifted to 2023.

Finally, the TruFleet WCP Tallysman Upgrade project was forecast at a much higher amount than was necessary due to this being the first time this project has been upgraded. Professional services costs to upgrade this application are significantly less than planned, resulting in a reduction in budget of approximately \$50,000.

The total reduction in funding for this business case is \$600,000. This will also impact transfer to plant significantly, reducing the \$4.4 million in planned transfers from the July update to \$400,000.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

These over forecast of labor is being released now, and was not released earlier because, while resource constraints were known, the teams had still believed it was possible to complete work before the end of the year.

Land Mobile Radio

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Please see section 1.1.1.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

Potential impact to 2023 capital spend requests.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

No alternatives.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.



This investment is still prudent.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The justification is still valid.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Walter Roys	BC Owner		Nov-14-2022
Jim Corder	BC Sponsor		Nov-15-2022
	FP&A		

7:58 AM PST

9:31 AM PST

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

N Lewiston Autotransformer - Failed Plant

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

This business case is in support of an emergency autotransformer replacement at North Lewiston Substation. Upon inspection of the failed transformer, test results indicated a full replacement was required rather than a rebuild. Because this project was an emergency with significant unknowns, the team budgeted for many different circumstances that may have been encountered during the project lifecycle. Because the autotransformer replacement project went smooth with minimal obstacles, the overall project was completed under budget.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

No cost overruns were associated with this Business Case (project) for 2022. This Business Case was monitored through the year and reviewed at the Electrical Engineering Budget Committee each month.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no changes to the offsets. Since this was a replacement of a major transformer, the O&M costs do not change. Inspections, testing and maintenance will occur as scheduled.

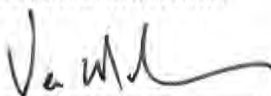
I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

APPROVED
2/20/2023
X 

Signed by: glenn.madden@avistacorp.com

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

New Revenue - Growth

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

Avista defines these investments as “customer requests for new service connections, line extensions, transmission interconnections, or system reinforcements to serve a single large customer.” Electric and Gas devices are also included in this business case -Meters, Transformers, Gas Regulators, and ERTs (Encoder Receiver Transmitter) to be used for a range of purposes such as replacing failed plant, connecting new customers, and replacing equipment that no longer meets standards. Supply chain challenges caused most of the transfer to plant variance. As lead times escalated, we aimed to increase safety stock to be sure we had critical equipment on hand to meet our obligation to serve. Transformer and gas meter purchases led to nearly \$10M of the variance for instance. Supply chain impacts fed into the direct cost of each connection as well.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

It is required to connect new customers when feasible, and prudent to source a stock of critical equipment.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no direct O&M offsets associated with the New Revenue - Growth business case. The New Revenue - Growth Business Case is driven by tariff requirement that mandates obligation to serve new customer load when requested within our franchised areas. Expected revenue associated with growth plant are included as “other revenue” in the Company’s Offset Adjustment (4.03 and 5.09). Any change in billed revenue would flow through the decoupling mechanism.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X David Howell

DIRECTOR SIGNATURE:

X David Howell

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Nine Mile HED Battery Building

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5-year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Nine Mile Falls Battery Building project was implemented to secure a dedicated location to store and monitor the critical power system (battery backup) for the Nine Mile Falls Hydro Electric Development. During emergency situations, the critical power system is required to continually monitor and control the turbine generators and spillway for safe operations of the river and its flow. The current location of the batteries poses safety, reliability, and structural integrity concerns.

During the course of the project, the scope was increased to also include an emergency generator because, in the event of an extended outage, the generation standard only calls for eight hours of runtime from batteries. The emergency generator will provide 24 hours of runtime with the ability to easily refuel with minimal impact. The addition of an emergency generator not only increased the cost of the project, but it also extended the time it will take to complete the project. No dollars were transferred to plant in 2022 due to the increased scope. This project is expected to transfer to plant in May of 2023.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):


This business case is monitored by a steering committee made up of a cross-department group who meet each month throughout execution. Regular meetings are held with the steering committee. The decision to add the emergency generator to the scope of this project was agreed to on July 26, 2022.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There is no changes to the offsets reported for this work. This work will improve compliance with regulation as the current location of the batteries does not meet the National Electric Safety Code (NESC) Section 14.141. The new battery building will meet the NESC standard and eliminate personal safety risks associated with current battery storage location. Maintenance costs will not be reduced; however, decreased impact from extended outages is expected as described above.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X  Digitally signed by Kristina (go cougs)
Date: 2023.03.14 16:03:43 -07'00'

DIRECTOR SIGNATURE:

X  Digitally signed by Alexis Alexander
Date: 2023.03.15 14:33:07 -07'00'

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Nine Mile Powerhouse Crane Rehab

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5-year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Powerhouse Cranes – identical 35T bridge cranes – at Nine Mile Falls Hydroelectric Development experienced significant stress during the 2014 rehabilitation of Units 1 and 2. During that project, both cranes were subjected to extraordinary use, damage and overloading in unusually detrimental conditions. This wear ultimately led to the Generator Bay Crane being tagged out of service – deemed unusable.

As this Business Case was originally written, Avista believed that the rehabilitation of the cranes would have to be addressed individually. However, the identical and somewhat “off-the-shelf” design of the two cranes led to a contract with Konecranes at a significantly reduced price. Both cranes were ultimately rehabilitated for a contract price of \$789,327 resulting in a significantly reduced capital expenditure.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

This business case was monitored by a steering committee made up of a cross-department group who met each month through its execution. Although this business case variance was an issue of estimating and engineering, if there had been significant cost overruns, it would have been discussed at the steering committee and a decision on the best path forward would have been made.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

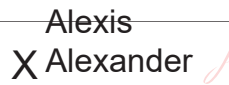
The offsets associate with this work are as originally reported. These cranes are at end of their useful life and need replaced to ensure that Nine Mile Dam continues to provide safe, reliable, and affordable energy to Avista’s customers. Calculated indirect savings (risk cost reduction) considers the condition of the asset, the probability of failure, the probable consequence of failure and other risk factors such as personnel and public safety, environmental impacts, and unplanned outages and repairs.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

 X Ryan Bean
Digitally signed by Ryan Bean
Date: 2023.03.15 09:45:40 -07'00'

DIRECTOR SIGNATURE:

 X Alexis Alexander
Digitally signed by Alexis Alexander
Date: 2023.03.15 13:59:54 -07'00'

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Protection System Upgrade for PRC-002

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The purpose of this Business Case is to become compliant with the new FERC PRC-002 standard at several substation locations. This standard is titled 'Disturbance Monitoring and Reporting Requirements' and requires sequence of events recording (SER) and fault recording (FR) data. During the Scoping Process for these projects, several additional equipment replacements were identified as imminent failures at a number of substations. All substation locations are now compliant with FERC Standard PRC-002 and some of the imminent failures have been addressed under this business case while crews were on site to avoid extra site visits and mobilization costs. The imminent failures not able to be addressed because of the PRC-002 deadline time constraint, are planned to be completed through the 'Substation – Substation Rebuilds' business case. The project schedule was extended to almost the full time of the deadline due to the additional scope that addressed some of the imminent failures.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

The ERT stakeholder meeting approved the added scope. Funds change requests related to the imminent failures were approved by the CPG.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There is no change to the offsets defined for this project. The O&M costs will remain the same however the clock will restart for maintenance work when equipment is installed.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

APPROVED
2/22/2023
X 

Signed by: alenir.madden@avista.com

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Saddle Mountain 230/115kV Station (New) Integration Project Phase 2

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

This Business Case is the second phase of the Saddle Mountain Project which includes substation, distribution, and transmission work associated with connecting Saddle Mountain Phase 1 to the Avista system. Specifically, Phase 2 includes the Othello substation rebuild project and the related transmission, distribution and communication work. The Substation construction portion of the project extended beyond the original schedule due the outcome of a detailed cutover analysis that was completed, which identified that distribution cutover work could not be started until the water pumping load diminished in October. The study also identified that the cutover would take 15 weeks, which was significantly longer than was originally estimated. The remaining testing and commissioning work is projected to be complete in early 2023. The increased time to complete the project resulted in increased costs.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

The increased costs associated with this Business Case (project) for 2022 were monitored through the year and reviewed at the Electrical Engineering Budget Committee each month. As cost overruns were identified, the decision was made to request additional funds based on the information above.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

The offsets will not change due to the plant addition change. The project will still increase maintenance and O&M costs because the new substation is much large with many more pieces of equipment to be inspected, tested, and maintained.


I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

APPROVED
3/23/2023
X 

Signed by glenn.madden@avistacorp.com

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Spokane River License Implementation

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Spokane River License defines how Avista shall operate the Spokane River Project. Funding the implementation activities that are essential to remain in compliance with the FERC license, provides Avista the permission to operate the Spokane River Project. Specific elements of this program change from year to year, depending on license requirements as well as resource conditions. Ongoing stakeholder engagement, and therefore, negotiation, is also required by the license. As a result, some elements of the license are relatively predictable and static while others are dynamic and evolving. Implementation of Spokane River License shoreline projects during 2022 were dependent upon permits being issued and a successful drawdown (lake lowered below its normal full pool elevation). A successful drawdown is affected by weather, flow and company needs. In 2022, long agency review times and agency resource shortages delayed receiving the necessary permits at a time when the lake was lowered resulting in schedule modifications. The shoreline project schedule was shifted and transfer to plant is expected to occur by end Dec. 2023.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):


The Spokane River License governance is multi-faceted and includes engagement with regulatory agencies, external and internal stakeholders, internal steering committees for specific major projects, as well as the organizational hierarchy within which the Spokane River team operates. Work coordination occurs through multi-departmental meetings and work planning. All cost overruns would be vetted through these committees and agencies to determine the appropriate path forward.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no direct or indirect offsets associated with this project. Avista is required to comply with all terms of the License. Non-compliance would risk challenges to its operational flexibility and could allow FERC to open a License for a third party to take over. Avista would suffer reputational risks in not complying with the License and its attendant agreements.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

This is a handwritten signature
X 
Signed by: Meghan Lunnley

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Spokane Valley Transmission Reinforcement (SVTR)

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Spokane Valley Transmission Reinforcement Business Case was developed to comply with North American Electric Reliability Corporation required standards. Work associated with this Business Case was identified via Avista's System Planning Group.

For the January-December fiscal year 2022 the Spokane Valley Transmission Reinforcement Business Case was funded at \$2M and later amended by a \$600k Request for Funds via the Capital Planning Group. The Transfer to Plant Variance stems from the Beacon-Irvin #2 115kV Transmission Line Rebuild Project. The cause of the Variance can be attributed to underestimating/underbudgeting. Originally a Feasibility Estimate of \$500,000/ mile was made for the 2-mile plus project and wasn't updated to reflect the impact of building for Distribution underbuild span lengths (16 poles per miles as opposed to 10 poles per mile for Transmission only). Additionally, the Feasibility estimate didn't take into consideration the inflation driven large impacts to Supply Chain and Construction costs that occurred in 2021-2022.

This project, along with another similar project (captured in a different Business Case) show that this type of construction will now cost \$1,000,000/mile or more depending upon complexities encountered.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Cost overruns were associated with this Business Case (project) for 2022. This Business Case was monitored through the year and reviewed at the Electrical Engineering Budget Committee each month. As cost overruns were identified, a decision was made to request additional funds.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

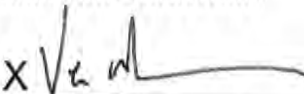
There are offsets associated with this project. The nature of the project includes replacing conductor, as such and with placing into service in 2022, we can assume an indirect O&M savings due to lower line losses as originally reported. Attached is the associated Capital Investments Offset form.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

2/22/2023
APPROVED
X 

DIRECTOR SIGNATURE:

X 

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Spokane Valley Transmission Reinforcement

2. Business Case Owner: Glenn Madden

3. Director Responsible: Vern Malensky

4. **Direct Savings** - Description of Estimated Direct Savings Resulting from this Business Case (please describe and quantify any hard cost savings Avista's customers will gain due to the work under this project. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other):

Quantified direct savings:

2022	2023	Lifetime

5. **Indirect Savings** - Description of Estimated Indirect Savings and/or Productivity Gains Resulting from this Project (please describe and quantify any indirect cost savings or productivity gains Avista's customers will gain from this project). For example, deploying this capital investment reduces the future need to hire X number of employees. For a new substation or transmission line, are there efficiencies to be gained from less line losses. Or, if we don't do this project now, it may cost more in the future (cost avoidance).

The business case includes indirect savings realized when replacing an existing conductor with another that has fewer losses due to a reduced impedance. Power loss savings were made using the average line loading that was provided by Avista's Transmission System Planning Department. A Mid-C Heavy Load price of energy was used to calculate the savings.

Quantified indirect savings:

2022	2023	Lifetime
\$19,645.75	\$17,427.69	

6. No Direct or Indirect Savings – These are projects where there are NO identifiable direct or indirect cost savings for customers, as they are required by law, or simply after thorough review have no offsets. (For these projects, please think through any potential offsets, as having no offsets is a high hurdle). If the work is required by law or rule, please identify the law and describe and quantify any risk or penalty Avista’s customers will endure due to non-compliance.

<Answer and Please Show \$\$>

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

Director Name Vern Malensky

Director Signature 

Date 2/22/2023

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Clean Energy Fund 2

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Clean Energy Fund 2 project is a Distributed Energy Resources (solar, energy storage, and building controls) project interconnected to the grid and operated by the utility to optimize and meet the needs of the customer and the grid. This project is partially funded from the State of Washington's Clean Energy Fund 2 grant.

Project assets were installed in 2021, and the expectation was that the capital project would be completed and closed by the end of 2021. Thus, there were no planned transfers to plant in 2022. Due to unforeseen delays by multiple contractors, there were additions to the capital project in 2022 which were originally expected in 2021. Those additions were related to system commissioning and final deliverables related to the asset deployment and were required to meet Department of Commerce milestones.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

The project change request process consists of the following steps: 1) Submit a change request to the initial business case explaining need for additional funds, 2) Develop a presentation outlining the request for funds from the Invent Council. 3) Obtain approval from the Invent Council to proceed with the work. The utility funds clean energy projects through its strategic fund which are allocated and approved by the Invent council.


ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no revised offsets associated with this change in plant additions. The Clean Energy Fund 2 project was partially funded by the Department of Commerce and is part of a series of Washington State supported efforts to advance the clean energy economy in the state. The project has demonstrated a series of customer and utility benefits, including demand charge reduction, resilient backup power, energy efficiency, and power quality improvements, all while giving Avista direct experience with beneficial grid technologies. The effort included \$3.5M in grant funding from the Department of Commerce.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

 Recoverable Signature

X 

DIRECTOR SIGNATURE:

 Recoverable Signature

X 

Signed by: John

Signed by: John

Clean Energy Fund II

1.0 CHANGE REQUEST #2 – 4/25/2022

Previous Requests	Requested	Approved
<i>Original</i>	\$4,500,000	\$4,500,000
<i>Change Request 1</i>	\$652,201	\$652,201
<i>Change Request 2</i>	\$980,000	\$980,000

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	LTD Spend	Current Approval	Requested Change	Proposed Lifetime Total
02-2021	\$4,970,488	\$4,500,000	\$652,201	\$5,152,201
04-2022		\$5,152,201	\$980,000	\$6,132,201

Type of Change	In-year Update
Primary Reason for Change	Timing Change, Externally Driven
Response needed by	5/31/2021

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The Clean Energy Fund 2 project has experienced unexpected delays due to COVID (availability of resources), first-generation grid assets, and equipment failures. The Clean Energy Fund 2 project consists of solar panels, electric storage, building controls and a panel house to orchestrate black start, islanding, and Point of Common Coupling (PCC) regulation. Avista contracted Power Engineers and SEL Inc. to design and commission the microgrid. The microgrid storage assets were installed in the summer of 2021 during the peak of COVID. During this period, the project schedule was impacted due to constraints of site access and availability of technical resources.

To date, the utility professional and craft resources are not trained in the design and deployment of inverter resources and microgrid embedded control systems. The utility maintains high reliability and safe working conditions by training craft resources to adhere to installation specifications and standard work practices. First generation installations like microgrids, inherently, impact the working protocol followed by utility personnel. In addition, to installing the asset, the project team is required to develop installation standards and operational work processes. Operationalizing first-generational assets into existing organizational business processes have an impact on schedule.

The inverter technology deployed on this project experienced equipment disruptions and failures. For example, the microgrid consists of four solar inverters for the installed roof top solar. To date, all four solar inverters have required repair or reconfiguration to keep them

Clean Energy Fund II

online. Avista operational staff is not currently trained to maintain inverter technology which requires the project to contract with a third party. Unreliable assets and the maintenance of the systems have a direct impact on schedule

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The request is not for additional work, but rather to cover the outstanding budget that remains. If the request is not approved, the following risks may result:

- We may not meet the agreed upon milestones with the Department of Commerce for the project.
- We would miss the opportunity to learn from WSU and PNNL's analysis of the performance of the microgrid assets from an economic and operations perspective. We would also miss out on the opportunity to learn how to operate the microgrid within Avista's operational context.
- We would be unable to use the microgrid for the upcoming planned field demonstration portion of the UI-ASSIST project, a separate research initiative with WSU.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

The attached spreadsheet "CEF2 Cost Overrun" identifies how the cost overruns were not incorporated in the project plan. Approximately, \$250,000 dollars represent the cost overrun at project closure. The cost overruns were under reported due to communication charges under a separate project number and the transferred invoices not accounted under the correct project number.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

There would be no impact to business functions or O&M costs.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

Alternative 1: The capital project is completed but still have outstanding costs as summarized above. The project is implementing a performance and economic assessment. This analysis is being funded from O&M and does not effect the capital budget.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

The Clean Energy Fund 2 project represents a milestone in Avista's journey toward a more modern and distributed grid as the first islanded microgrid in the company's history. It has

Clean Energy Fund II

been a remarkable accomplishment on a technical and organizational level to bring in a completely new capability to our system, and the lessons learned have been invaluable. This project benefits the customers by enabling a path forward to provide clean and renewable products to meet our legislative obligation under the clean energy transformation.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The business justification narrative is still valid.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
John Gibson	BC Owner		
Heather Rosentrater	BC Sponsor		
	FP&A		

Clean Energy Fund II

1.0 CHANGE REQUEST #1 – 2/18/2021

Previous Requests	Requested	Approved
<i>Original</i>	\$4,500,000	\$4,500,000

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	LTD Spend	Current Approval	Requested Change	Proposed Lifetime Total
02-2021	\$4,970,488	\$4,500,000	\$652,201	\$5,152,201

Type of Change	In-year Update
Primary Reason for Change	Timing Change, Externally Driven
Response needed by	2/28/2021

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The Clean Energy Fund 2 project has experienced delays due to unexpected issues with the sites for the battery energy storage systems. We have partnered with WSU to site the batteries on their Spokane campus. The sites have changed twice, each time creating extra costs due to re-design, design delays for other partners with designs dependent on siting, and in the case of the final site, extra costs for site preparation. The delays have also caused significant AFUDC, with the estimate being \$812K of AFUDC by the end of the project.

The requested change includes \$270K in estimated AFUDC remaining for 2021 and \$122,626 in estimated loading remaining for 2021.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The work is needed to complete the construction and installation of the remaining project assets, which are the energy storage installations, panel house with microgrid controller and communications, and the testing/commissioning of the system. The request is not for additional work, but rather to cover the outstanding scope that remains. If the request is not approved, the following risks may result:

- We may not meet the agreed upon milestones with the Department of Commerce for the project. The milestones are connected to \$1.75M of remaining payments.
- We would miss the opportunity to learn from WSU and PNNL's analysis of the performance of the microgrid assets from an economic and operations perspective. We would also miss out on the opportunity to learn how to operate the microgrid within Avista's operational context.

Clean Energy Fund II

- We would be unable to use the microgrid for the upcoming planned field demonstration portion of the UI-ASSIST project, a separate research initiative with WSU.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

The attached spreadsheet “CEF2 Budget Summary.xlsx” shows how the budget change request was calculated, based on the expected remaining spend, expected payments from Commerce, and the original project budget.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

There would be no impact to business functions or O&M costs.

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

Alternative 1: stop project work. This alternative is not the preferred because we would not be able to get the \$1.75M commerce milestone payments. We would have some reputational risk, and would miss out on all of the project benefits

Alternative 2: Reduced scope option. This option, which could be explored in more detail, would involve installing only 1 of the 2 batteries. Foregoing the installation of the 2nd battery would reduce the construction cost by approximately \$200K, mainly by eliminating site preparation and new UG feeder extension to the battery. The second battery, which we already purchased, could be stored and used at a later date. The following risks would need to be weighed if we were to consider this option:

- Risk of Department of Commerce reducing our milestone payments (it is unknown how they would handle a reduction in project scope)
- Project experimentation value would be reduced, but not eliminated. Mainly we would lose the ability to perform optimization across multiple batteries.
- The 2nd battery would not be able to be transferred to plant until a new site was developed for a different project, and the battery would need to be stored/monitored on an Avista site (such as Boulder).

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

This investment is still prudent for the company. Energy storage and distributed energy resources are an important part of the future distribution system, and this project is helping Avista develop the acumen to deploy, operate and optimize these new resources.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The business justification narrative is still valid.

Clean Energy Fund II

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
John Gibson	BC Owner		
	BC Sponsor		
	FP&A		

Clean Energy Fund 2 – Shared Energy Economy

1 GENERAL INFORMATION

Requested Spend Amount	\$ 4,500,000 (Avista Contribution)
Requesting Organization/Department	Research and Development/ Distribution Operations
Business Case Owner	Kenneth Dillon (Project Manager)
Business Case Sponsor	Heather Rosentrater
Sponsor Organization/Department	Distribution Operations
Category	Strategic
Driver	Customer Service Quality & Reliability

1.1 Steering Committee or Advisory Group Information

- Heather Rosentrater (Executive Sponsor)
- John Gibson (Project Sponsor)
- Curt Kirkeby (Concept Engineer/Project Sponsor)
- Kenneth Dillon (Project Manager, CEF1 and CEF2)
- Mike Diedesch (Project Engineer)
- Washington State, Department of Commerce advisory group

2 BUSINESS PROBLEM

Distributed Energy Resources (DERs) interconnected to the grid and operated by the utility can be optimized to meet the needs of the customer as well as the grid – economies of scope or “vertical values”. Sharing the investment in DERs across multiple building owners and coordinated across the grid reduces the investment cost to each building owner as well as provides opportunity to optimize utilization – economies of scale or “horizontal values”. Leveraging both economies of scope and scale to derive value out of DERs requires the development of a platform to supervise, control, synchronize and optimize these assets – Avista Distribution System Platform (ADSP).

Micro-Transactive Grid (MTG) is an extension of the ADSP platform to support the optimal utilization of DERs. Rather than optimizing a single building’s utilization of DERs, the MTG will leverage building fleets, load diversity, and building management systems to optimize the DERs across the distribution loop network. In addition, the MTG will be designed to sectionalize the load into distinct districts which share common DER assets to improve system resiliency and reduce DER investment requirements.

The opportunity to address these issues is a Strategic opportunity which has a great deal of support from the Washington State Department of Commerce, the Governor of the State of Washington, and Avista’s Clean Energy Fund 2 Partners (McKinstry, Itron, SEL, SPIRAE). By enabling the seamless integration of renewable and distributed energy resources, and by leveraging and extending the electric distribution grid infrastructure to support intrastate micro-transactive energy markets, Avista can enhance the role and relevancy of utilities in ways that directly align with the state’s objectives for reducing emissions and increasing the strength and competitiveness of its economy. New types of energy and energy service models can create opportunities for utilities to act as trusted brokers between providers and

Clean Energy Fund 2 – Shared Energy Economy

consumers – to manage and optimized use, performance, safety, and reliability towards a more responsible, resilient, and sustainable energy future.

A delay in implementing this project could result in a lost opportunity to address these issues and the loss of matching funding from the Department of Commerce.

Avista's analytical partner, the Pacific Northwest National Lab (PNNL), will extend the analysis leading to a valuation of the Shared Energy Economy by simulating a transactive market. In these simulations, a "trading hub" enabling energy transactions between participants will be designed across multiple MTG platforms. Due to the limitation of regulatory requirements, the energy transactions will be simulated rather than executed across the MTG platforms. However, once established, the MTG platforms will operationally be utilized to facilitate the exchange in energy and balance the grid logistics from system capacity, available resources, trading routes, and system stability. The valuation and operation of the MTG Platforms will determine technical, operational, and economic opportunities to deploy DERs across an investment community participating in a Shared Energy Economy.

3 PROPOSAL AND RECOMMENDED SOLUTION

Option	Capital Cost	Start	Complete
Do nothing	\$0		
Implementation of CEF2 Proposal	\$8,000,000 ¹	05/2018	6/2020

Project Proposal/Solution Overview

Avista and its Partners will control and optimize the utilization of shared DERs across a MTG. The MTG will consist of building management systems, solar panels, and energy storage assets integrated on a loop feed to support a shared model of renewable energy resources for commercial, university campus, and industrial parks.

The MTG project will be deployed in Spokane's University District in order to maximize the impact and visibility of the project. The University District, designated by the Department of Commerce as an Innovation Partnership Zone, is adjacent to Spokane's downtown core. It consists of 770 acres, including the campuses of Gonzaga University, Washington State University Health Sciences Spokane, and programs from Eastern Washington University, Whitworth, University of Washington and Spokane Community Colleges. In addition to higher education, the University District is home to Urbanova, a collaborative effort to create a living laboratory for smart cities of the future.

Avista and its Partners will extend the valuation of DERs into a Shared Energy Economy model. In this model, Avista will be evaluating how a conventional micro-grid and the inherent combination of distributed assets could provide value while connected to the grid or during an islanded condition away from the distribution system. In a Shared Energy Economy, building owners and tenants can share in the investment and benefits obtained by a MTG. The valuation analysis for a Shared Energy Economy is fundamentally trying to show that a non-utility portion of the community can participate in the deployment of local DERs and derive both financial and operational benefits which cannot be realized within the conventional regulatory and utility model. In addition, the Shared Energy Economy can help support the valuation of DERs when compared to traditional centralized generational assets.

¹ Of the \$8 million total capital cost, \$3.5 million has been appropriated and approved by the Washington State Department of Commerce and will be provided to Avista upon meeting defined Milestones

Clean Energy Fund 2 – Shared Energy Economy

To provide analysis to demonstrate the above statements, Avista and its partners will develop a set of operational modes for the MTG including both grid connected and grid islanded states.

Two MTG "platforms", or "nodes", will be deployed. The MTG platforms consist of DER assets, control devices, and distribution equipment necessary to integrate, control, and operate the MTG Platform. The projected list of major equipment for the project is listed below:

- 100 kW/350 kWh Energy Storage Asset
- 500 kW/1.5 kWh Energy Storage Asset
- Solar Arrays with total peak capacity between 50 and 125 kW
 - Avista intends to utilize 4-quadrant smart inverters compliant with UL1741A and similar to those compliant to CPUC Rule 21, allowing for extended voltage ride through as well as voltage and frequency grid support
- 2 750 kVA Power Transformers
- Automated Transfer Switches
- MGCS – Micro Grid Control System
- Building Management Systems
- Load Shedding Devices (isolation of critical loads during Critical Resiliency Mode)

Proposed Project Schedule

- Completion of Phase 0 – September 2017- *fully funded by state Doc*
- Engineering Design/Interconnect – December 2017
- Procurement of large items – June 2018
- Construction and Installation (solar, battery, distribution system transfer to plant) – October 2018
- Systems Commissioning (control system transfer to plant) – April 2019
- Analytics and Testing – September 2019
- Final Report – December 2019

Strategic Innovation

The innovation of the project's business case lies in the development of a shared economy to reduce the initial cost of the DER assets and to increase the value from the DER assets and their operation. The MTG distributes the cost of distributed generation assets like solar and storage across multiple building or tenant members to reduce the cost of renewable assets per member. This economic model is similar to the Combined Heat and Power (CHP) model which shares the waste heat across multiple buildings by the use of steam pipes. The MTG will supervise and control the renewable assets to coordinate and optimize their utilization across Avista's distribution loop feed between building and assets.

The functionality above is not being met by other vendors or utilities in the industry, thus allowing a significant opportunity for innovation in an open part of the market.

Clean Energy Fund 2 – Shared Energy Economy

Impacts to Future O&M/Stakeholder Involvement

- Protection
Initial project design, implementation and construction; no ongoing O&M in addition to the programs in place (relay testing, replacement, etc)
- Spokane Area Engineering/Distribution Engineering
Initial project design, implementation and construction; no ongoing O&M in addition to the programs in place (project and electrical design)
- Distribution Dispatch
Project implementation, commissioning and ongoing operation; no ongoing O&M in addition to the staff in place (operation will be assigned to existing staff)
- Asset Maintenance
Ongoing battery and solar panel maintenance will be addressed through an O&M Agreement with each supplier, and is expected to be less than \$100,000 per year

Budget Development

The proposed budget for the project was created and vetted through the State of Washington Clean Energy Fund oversight committee, with significant input from the CEF1 (Turner Energy Storage Project) budget and actual costs. This allowed the Grant Application to include a budget and request developed with a fair amount of confidence, and provided a stepping stone for the Phase 0 process.


Phase 0, facilitated by Avista and supported by the Partners, was an opportunity to refine the proposed scope and budget of the Project. During a multi month period, Avista and the Partners met numerous times to better understand the scope of each Partner's role and to produce a 30% design document with a more accurate cost estimates. Given the unknown issues that can arise during the deployment of new technology and the experience of Avista and others during the CEF1 implementation, the Department of Commerce was highly supportive of this effort and provided funding during the development process to fund this effort.

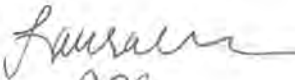
Clean Energy Fund 2 – Shared Energy Economy


4 APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Clean Energy Fund 2 – Shared Energy Economy and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:  Date: 4/24/2018
 Print Name: Kenneth Dillon
 Title: Project Manager
 Role: Business Case Owner

Signature:  Date: 4/30/18
 Print Name: Heather Rosentrater
 Title: Vice President, Energy Delivery
 Role: Business Case Sponsor

 5/18/18
 CPG

Signature:  Date: 5/23/18
 Print Name: Mark Thies
 Title: CFO
 Role: Steering/Advisory Committee Review

5 VERSION HISTORY

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Kenneth Dillon	4/24/2018	John Gibson	4/25/2018	Initial version

Template Version: 03/07/2017

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Upriver Park Development

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Upriver Park Development was originally approved with a \$2 million budget based on a concept sketch and architect's estimate produced in 2018. The original estimate failed to capture the complexity of civil work associated with park development including internal design costs. The project was further delayed due to COVID-19 related uncertainties in early 2020. Design concluded mid-2021, and the project submitted a funds change request for an additional \$1.5 million in funding after receiving a revised estimate pushing total project cost to \$3.5 million. Upon submission of the design to the City of Spokane, the project experienced additional delay when the City required numerous redesigns for permit issuance. These required changes resulted in increased construction scope and a schedule delay resulting in an increase in total budget to \$3.85 million. The accumulation of delays created unfavorable construction conditions, and project leadership delayed construction through winter 2021 to ensure the best outcome. Construction concluded in spring 2022, with a total project cost of \$3,823,802.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Please see attached supporting documentation. Not only did this park fulfill Avista's commitment to various key stakeholders (i.e. the City of Spokane, local community, neighborhood councils, and state and federal recreation managers), it also brought the Avista campus fire response system into code compliance and satisfied Avista's commitment to the Spokane River License.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

No revised offsets are associated with this change.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X Mark Long

DIRECTOR SIGNATURE:

X Bruce F Howard

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Structures and Improvements/ Furniture

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Structures and Improvements program is responsible for the capital maintenance, site improvement, and furniture budgets at over 40 offices, storage buildings, and service centers. This program is intended to systematically address: lifecycle asset replacements (examples: roofing, asphalt, electrical), lifecycle furniture replacements and new furniture additions (to support growth) and manager requested business additions or site improvements. It also funds drop in equipment failure and safety related projects. The increase in Transfer to Plants reflects the addition of projects to the Business Case during the year. These include: added furniture purchases, totaling \$550K, to accommodate office changes post COVID-19; Asset Condition projects that were unfunded coming into 2022, totaling \$360K; and equipment failure/ drop in/ safety projects that needed immediate funding. A property was also purchased to accommodate growth in the Lewiston/ Clarkston valley reflecting an additional \$345K in unplanned transfers to plant.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

All added projects are approved by the Facilities Steering Committee. This Director level approving body has regularly scheduled monthly meetings, currently held on the second Thursday of every month. At the meeting, attending members of the FSC vote to approve or reject, with the majority determining course of action. Upon approval funding requests are sent to the CPG for funding approval if needed. Minutes are distributed afterward to all FSC members. Any meeting non-attendees have two days to raise any concerns.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no changes to the expected offsets for this business case for 2022.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

X Eric Bowles

DIRECTOR SIGNATURE:

X Kelly Magalsky

Structures and Improvements

1.0 CHANGE REQUEST #1 – 2.17.2022

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$3,600,000	\$3,350,000

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
MM-YYYY	\$176,000	\$3,350,000	\$500,000- \$1,000,000	\$3,850,000- \$4,350,000

Type of Change	In-year Update
Primary Reason for Change	Scope Change
Response needed by	3/31/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The existing cooling units in the Data Center are having partial equipment failures. The cooling coils are failing due to the use of raw well water and have been temporarily repaired by our in-house HVAC team on a short-term basis. The units are no longer reliable and need to be replaced as soon as possible to ensure continuity. The cooling system needs to be revised to ensure the damage does not continue in future units. The revised design will include creating a closed loop system that will ensure treated water is used on the replacement units. The design will include the same, if not more, redundancy as the current design as required for critical operations systems.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The Avista Data Center serves all areas of Avista, both Gas and Electric and all states. The Data Center cooling system is critical to ensure all the Data Center equipment maintains functionality. The redundancy and dependability of the cooling system is a critical element to the reliability of the Data Center as a whole. Loss of the Data Center would have a dramatic impact on the operation of the Company as a whole.

The Data Center cooling system is critical to ensure all the Data Center equipment maintains functionality. The redundancy and dependability of the cooling system is a critical element to the reliability of the Data Center as a whole. Not approving this project may result in equipment failures which may require transferring services from the Data Center to an off-site Data Center at the expense of O&M and may also

Structures and Improvements

impact customer service. Some Data Center services may need to be dropped all together to maintain critical systems. The equipment required to be replaced are long lead time items and are not readily available in the event of a failure. A failure to the Data Center cooling system would result in an impact to the Data Center for up to 5 months, thus impacting the operations of most areas of the Company.

The project estimate for this work is \$2,000,000. Absorbing all of this into ER7001 limits Facilities ability to complete work both manager requested and asset condition work. The backlog of projects is growing yearly and pushing this work further will create a future bowl wave of work. Adding a portion of the Data Center Cooling System project cost into ER7001 will allow Facilities to put needed projects back on the list for 2022.

Structures and Improvements

1.1.3 Please reference analysis or information that support the problem and attach to this document.

RED: Projects Added if funded at \$500k
GREEN: Projects Added, along with RED, if funded at \$1M.

Project	Estimate	Accuracy
CDA Shop Exhaust	\$ 10,000	30%
Walk through Gate Jimmie Dean	\$ 12,000	30%
CDA OH Exhaust Fan	\$ 5,000	30%
GOB Sidewalk missing after demo of fleet building	\$ 60,000	30%
Gap in IR Canopy Roof--moved from Safety Action Item List	TBD	30%
CDA BUCC add three desks	\$ 150,000	30%
St. Maries Renovate and update bathrooms	\$ 110,000	80%
Elk City Restroom/ Building upgrade	\$ 170,000	80%
Wash Bay undercarriage	\$ 75,000	80%
Paving back lot at Ritzville office	\$ 75,000	30%
New exterior windows Ritzville office	\$ 25,000	30%
Manager Requested Total	\$ 692,000	
St Maries- Insulation System	\$ 50,000	30%
GOB North Service bldg stair replacement	\$ 36,000	30%
CDA Replace stairs at CS Entrance	\$ 13,000	30%
Orofino Flooring	\$ 12,000	30%
CDA Gutters	\$ 35,000	30%
Light in Kamiah	\$ 6,500	30%
Grangeville Storage Yard	\$ 75,000	30%
Colfax electrical panel	\$ 6,000	30%
Kamiah concrete driveway	\$ 9,000	30%
Orofino Gutter Replacement	\$ 5,000	30%
Othello BUR Replacement	\$ 65,000	30%
GOB Transformer/ Switchgear Completion	\$ 160,000	100%
Data Center Cooling System	\$ 2,000,000	90%
Kellogg BUR Replacement	\$ 65,000	30%
Medford Asphalt and parking lot	\$ 300,000	30%
Kellogg Permeable Asphalt- Test??	\$ 90,000	30%
Asset Condition Total	\$ 2,877,500	
Jimmy Dean Expansion- Add Offices	\$ 80,000	
Allocation	\$ 350,000	
Drop-In/ Safety/ Failure Projects Remaining Total	\$ 270,000	
Furniutre Allocation	\$ 250,000	
Total Budget	\$ 4,219,500	

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

None

Structures and Improvements

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

The alternative is to absorb the critical Data Center work into the existing ER7001 allocation. Not adding any additional funding and differing work another year. While this is an option as stated previously the bowl wave of work will continue to grow and will need to be funded in the future.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

The Structures and Improvements Business Case was created to sever small to mid-range projects for facilities located throughout out service territory. These Asset Condition and operation need projects are vital to keeping operations running for Avista offices.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No Change

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Eric Bowles	BC Owner	<i>Eric Bowles</i>	2.17.2022
Alicia Gibbs	BC Sponsor	Alicia Gibbs	2.17.2022
	FP&A		

Structures and Improvements

1.0 CHANGE REQUEST #2 – 3.22.2022

Previous Requests	Requested	Approved
<i>5-Year Plan</i>	\$3,600,000	\$3,350,000

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
MM-YYYY	\$0	\$3,350,000	\$550,000	\$3,900,000

Type of Change	In-year Update
Primary Reason for Change	Scope Change
Response needed by	4/29/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

After considering employee experience, legal obligations, and ergonomic information, the facilities department is recommending offering an Avista chair for their home office to employees who work at home as part of a fully offsite or hybrid work schedule.

Based on information collected at Mission, we are missing 400 chairs on campus. Chairs are approximately \$900/each.. Office furniture is a capital expense in ER7001/ 7003, and chairs are depreciated over 15 years. The capital expense to replace missing chairs and provide secondary chairs as requested, based on role classification and other considerations, is estimated to be around \$550k (assuming 600 chairs- See highlighted approved option for quantity).

This quantity of seating exceeds the current budgeted amount in ER7001/ 7003. ER7003, the furniture portion of the overall Structures and Improvements Business Case, is only funded at \$250,000 for 2022 for all furniture needs throughout all Avista facilities.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

A quality office chair that is fit properly to the employee can reduce the risk of a costly claim. In addition, employees are less likely to file work comp claims if they feel their employer has taken the extra measures to ensure their safety. If an employee did have an ergonomic issue arise, they are more likely to use conservative treatment measures that are less costly and don't require filing a claim at all.

Our risk for ergo claims does go up with employees working at home. Whether that be hybrid or fully remote. We have much less control over their work environment.

Structures and Improvements

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Currently, there is no federal requirement that we provide chairs to work from home employees; additionally there are no state requirements in the states where we have employees. Some states (e.g. California) do require that the employers provide their telework employees with office equipment such as chairs, and that is something we look at each time we have a new remote request.

Despite there being no legal requirement, OSHA does still apply to employees working from home and we could see workers comp claims from ergonomic-related injuries of teleworking employees. Here is an interesting article from Forbes on the issue:

<https://www.forbes.com/sites/larryenglish/2021/03/09/the-hidden-costs-when-remote-workers-spend-all-day-on-the-couch/?sh=4626150c6bbe>

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

None

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

Potential options:

Options included: returning office chairs, providing additional office chairs, and offering an employee stipend. After evaluating benefits and risks, it was determined that offering the option of a second chair reduced potential ergonomic claim risk, improved the employee experience, minimized barriers to employees coming into the office, and minimized potential injuries related to returning the office chair. Although not calculated, there is a potential soft offset from injury claims.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

- Minimized safety concerns
- Employee may feel like employer has taken extra measures to ensure safety
- Reduced barriers to working in the office


1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

No Change Needed

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Structures and Improvements

Name	Role	Signature	Date
Eric Bowles	BC Owner	<i>Eric Bowles</i>	3/22/2022
Alicia Gibbs	BC Sponsor	Alicia Gibbs 	3/22/2022
	FP&A		

ER7001 Structures and Improvements

1.0 CHANGE REQUEST #3- 6.2022

Previous Requests	Requested	Approved	Comments
5-Year Plan	\$3,600,000	\$3,350,000	Initial Request
Change #1	\$1M-\$500K	\$500,000	Data Center Cooling Units
Change #2	\$550,000	\$550,000	Chairs

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
06-2022	\$745,000	\$4,400,000	\$135,000	\$4,535,000

Type of Change	In-year Update
Primary Reason for Change	Scope Change
Response needed by	6/22/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

The new cafeteria provider and their systems require changes to the Avista Café and technology for the Café startup. Much of the equipment is needed for the new cashless payment system, failed equipment replacements, and to provide afterhours food service coolers.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

This work is required to open the Avista Café and provide food service to the Mission campus. Without the cashless system the current model would be changed considerably and increase the labor and subsidy costs.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

The subsidy funding models were created and approved by the Café Steering Committee and leadership.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

The Avista Café works from a subsidy model, the approved model was reviewed by the Café Steering Committee. Avista has provided a subsidized Café benefit to employees for the last 4 years (prior to COVID-19). The approval of this funds request will fund the Capital portion of the startup of the continuation of this benefit.

ER7001 Structures and Improvements

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

Alternatives discussed would be to reduce the offerings and hire a register attendant, reducing sales and increasing labor expenses resulting in a higher subsidy.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

The Café is an employee benefit making Avista an attractive place to work in a tight labor market. Keeping employees onsite for lunch while providing opportunities for productive networking and overall employee satisfaction.

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The Structures and Improvements Business Case is still valid, this change is a drop in project related to business change.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Eric Bowles	BC Owner	<i>Eric Bowles</i>	6/20/2022
Alicia Gibbs	BC Sponsor	Alicia Gibbs	6/20/22
	FP&A		

ER7001 Structures and Improvements

1.0 CHANGE REQUEST #4- 7.2022

Previous Requests	Requested	Approved	Comments
5-Year Plan	\$3,600,000	\$3,350,000	Initial Request
Change #1	\$1M-\$500K	\$500,000	Data Center Cooling Units
Change #2	\$550,000	\$550,000	Chairs
Change #3	\$135,000	\$135,000	Café Startup

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
06-2022	\$745,000	\$4,535,000	\$98,000	\$4,633,000

Type of Change	In-year Update
Primary Reason for Change	Scope Change
Response needed by	7/29/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

There have been failures in the system that are unable to be absorbed into the existing allocation.

- Café Flooring- Carpet is failing, peeling up and requiring duct tape to ensure safety and prevent trip hazards
 - Estimate: \$25,000
- Spokane Valley Call Center Gate- The vehicle gate is no longer working and the operator and gate need to be replaced to maintain the security perimeter and provide access for employees.
 - Estimate: \$25,000
- Executive Flooring Replacement- Carpet is failing, peeling up and requiring duct tape to ensure safety and prevent trip hazards. The Boardroom and CR512 are already being replaced and replacing the remaining area in total will be more efficient and save on mobilization costs.
 - Open Office Area and Private Offices
 - Estimate \$48,000

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

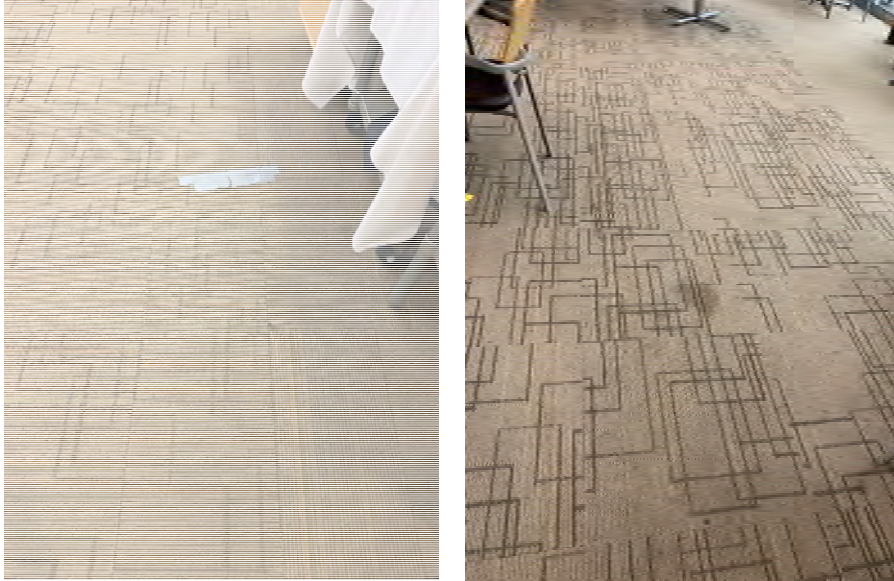
We discussed waiting until 2023 to fund this work but due to the use of these assets doing this work as soon as possible makes the most sense. The flooring is creating a

ER7001 Structures and Improvements

trip hazard due to peeling corners and the gate is part of general access to the Spokane Valley Call Center requiring its immediate replacement.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Café Flooring:



Spokane Vallet Call Center Gate:



ER7001 Structures and Improvements

Executive Flooring Replacement:



- 1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.**

None

- 1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).**

We discussed waiting until 2023 to fund this work but due to the use of these assets doing this work as soon as possible make the most sense.

- 1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.**

The Structures and Improvements Business Case was created to serve small to mid-range projects for facilities located throughout our service territory. These Asset Condition and operation need projects are vital to keeping operations running for Avista offices.

- 1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.**

The Structures and Improvements Business Case is still valid, this change is a drop in project related to unplanned failures.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Eric Bowles	BC Owner	<i>Eric Bowles</i>	7/18/22
Alicia Gibbs	BC Sponsor	Alicia Gibbs	7/18/22
	FP&A		

ER7001 Structures and Improvements

1.0 CHANGE REQUEST #5- 8.2022

Previous Requests	Requested	Approved	Comments
<i>5-Year Plan</i>	\$3,600,000	\$3,350,000	Initial Request
<i>Change #1</i>	\$1M-\$500K	\$500,000	Data Center Cooling Units
<i>Change #2</i>	\$550,000	\$550,000	Chairs
<i>Change #3</i>	\$135,000	\$135,000	Café Startup
<i>Change #4</i>	\$98,000	\$98,000	Added Projects

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
07-2022	\$1,958,531	\$4,633,000	\$112,000	\$4,745,000

Type of Change	In-year Update
Primary Reason for Change	Scope Change
Response needed by	8/31/2022

ER7001 Structures and Improvements

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

There have been failures in the system that are unable to be absorbed into the existing allocation.

- Davenport Basement Structural
 - Estimate: \$80,000
- Grangeville Water Leak and Repair
 - Estimate: \$85,000
- Electric Shop Roll Up Door- Higher Cost Estimate due to installation requirements
 - Estimate \$185,000

We have been able to absorb some of these changes by differing work into 2023 reducing our ask to the \$112,000.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

The projects listed are critical failures requiring immediate repair/ replacement. We have deferred some work that has not yet started but most projects are already inflight.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Davenport: A structural analysis was completed by a third party requiring that we move forward with shoring of the basement space.

Grangeville: An active water leak has been identified requiring excavation of the line and a repair. It will require compaction of the area and patching upon completion

Electric Shop: The roll up door is partially failed and is requiring replacement. A temporary SOP is in place to ensure safe operation in the short term.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

None

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

We discussed waiting until 2023 to fund this work but due to the use of these assets doing this work as soon as possible makes the most sense.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

The Structures and Improvements Business Case was created to serve small to mid-range projects for facilities located throughout our service territory. These Asset Condition and operation need projects are vital to keeping operations running for Avista offices.

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1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The Structures and Improvements Business Case is still valid, this change is a drop in project related to unplanned failures.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Eric Bowles	BC Owner	<i>Eric Bowles</i>	8/16/22
Alicia Gibbs	BC Sponsor	Alicia Gibbs	8/16/22
	FP&A		

ER7001 Structures and Improvements

1.0 CHANGE REQUEST #6- 10.17.2022

Previous Requests	Requested	Approved	Comments
5-Year Plan	\$3,600,000	\$3,350,000	Initial Request
Change #1	\$1M-\$500K	\$500,000	Data Center Cooling Units
Change #2	\$550,000	\$550,000	Chairs
Change #3	\$135,000	\$135,000	Café Startup
Change #4	\$98,000	\$98,000	Added Projects
Change #5	\$92,000	\$92,000	Added Projects
Change #1.1	-	\$55,000	Continuation of pending request #1/ Sandpoint HVAC

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
10-2022	\$2,840,411	\$4,780,000	\$275,000	\$5,055,000

Type of Change	In-year Update
Primary Reason for Change	Scope Change
Response needed by	10/21/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

This project would be for the purchase of a property that is adjacent to the Clarkston Service Center. This space has been an automotive repair facility and would be easily modified to allow service and repairs on all classes of Avista vehicles in Clarkston. This is an unbudgeted property purchase as Avista was unaware the land was available for sale until 10/ 2022.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

Currently, equipment maintenance and repair work done in Clarkston, WA is completed in what normally would be a parking stall for vehicles. This space was never intended to be a maintenance bay. The mechanics tool box sits on a slope that is over 2% and there is not way to install a vehicle lift in the space. The lack of a lift requires employees to do work on their knees using jacks and “creapers” on the slanted floor.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

In 2018 a design was completed to add an addition to the Clarkston office for the Fleet team. This design was completed and capital dollars were requested for this project in 2019. This project was not prioritized for funding in 2019 and 2020. While this project has remained valid the current estimated cost for this addition is between \$600-750K. The proposed project will meet the needs of the team without impacting the operations and current traffic flow of the current Clarkston Service Center.

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- 1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.**

None

- 1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).**

In 2018 a design was completed to add an addition to the Clarkston office for the Fleet team. This design was completed and capital dollars were requested for this project in 2019. This project was not prioritized for funding in 2019 and 2020. While this project has remained valid the current estimated cost for this addition is between \$600-750K. The proposed project will meet the needs of the team without impacting the operations and current traffic flow of the current Clarkston Service Center.

- 1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.**

The Structures and Improvements Business Case was created to sever small to mid-range projects for facilities located throughout out service territory. These Asset Condition and operation need projects are vital to keeping operations running for Avista offices.

- 1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.**

The Structures and Improvements Business Case is still valid, this change is a drop in project related to property coming available adjacent to an existing Service Ce.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Eric Bowles	BC Owner	<i>Eric Bowles</i>	10/17/22
Alicia Gibbs	BC Sponsor	<i>Alicia Gibbs</i>	10/18/2022
	FP&A		

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1.0 CHANGE REQUEST #7- 12.13.2022

Previous Requests	Requested	Approved	Comments
5-Year Plan	\$3,600,000	\$3,350,000	Initial Request
Change #1	\$1M-\$500K	\$500,000	Data Center Cooling Units
Change #2	\$550,000	\$550,000	Chairs
Change #3	\$135,000	\$135,000	Café Startup
Change #4	\$98,000	\$98,000	Added Projects
Change #5	\$92,000	\$92,000	Added Projects
Change #1.1	-	\$55,000	Continuation of pending request #1/ Sandpoint HVAC
Change #6	\$275,000	\$275,000	Clarkston Property Purchase

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
12-2022	\$3,399,279	\$5,055,000	-\$395,000	\$4,660,000

Type of Change	In-year Update
Primary Reason for Change	Scope Change
Response needed by	12/23/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

Facilities has a couple of projects that we were unable to complete in 2022. We have run into issues with finding appropriate skilled contractors able to complete this work. We are returning

ER7001 Structures and Improvements

these dollars to the CPG for use elsewhere and will fund this work out of the existing ER7001 2023 allocation.

- \$180K: COF- Electric Shop Roll Up Door
 - Contractor was unable to get the shop drawings from the manufacturer in time for us to complete this in 2023 as expected.
- \$85K: Grangeville- Water Leak/ Concrete Work
 - Unable to find a contractor willing to do this work in 2022. Looking to schedule this work in early 2023.
- \$50K: CDA BUCC- Add Desks for Training
 - Were able to accommodate this request at Mission campus using existing furniture, cabling and minimal electrical changes that were charged to the SCADA Training project.
- \$25K: Furniture Allocation
 - Underspend due to not purchasing Executive Assistant Furniture, waiting on Sr Leadership Feedback
- \$55K: River Outflow Piping at Service Building- Accounting Correction
 - Project was designed in 2021 during the completion of Upriver Park then placed on hold. Once designed it was determined by Facilities and Environmental that the benefit of the work was not worth the \$1M+ price tag, design costs were credited to Capital.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

Work is still needed and Facilities is returning these dollars to the CPG for use elsewhere and will fund this work out of the existing ER7001 2023 allocation.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

None

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented, including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

None

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

None

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

The Structures and Improvements Business Case was created to sever small to mid-range projects for facilities located throughout out service territory. These Asset Condition and operation need projects are vital to keeping operations running for Avista offices.

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1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The Structures and Improvements Business Case is still valid, this change is a drop in project related to property coming available adjacent to an existing Service Ce.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Eric Bowles	BC Owner	<i>Eric Bowles</i>	12/13/22
Kelly Magalsky	BC Sponsor	<i>Kelly Magalsky</i>	12-13-22
	FP&A		

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Substation - New Distribution Station Capacity Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Distribution Station Capacity Program focuses on new substation construction and SCADA installations in substations. 2022 Transfer to Plant included SCADA for all Subs (St Maries upgrade project), Flint Rd Substation transformers, Southeast minor station rebuild and Airway Heights capacity upgrades. After further analysis, the Airway Heights project scope was updated from a full transformer upgrade to only relay and breaker upgrades. In addition, the Clearwater SCADA project was originally scheduled to be built and completed in 2022, but the schedule was adjusted to 2023 because of resource and outage constraints. Finally, the property purchase for the Bruce Rd substation in the future wasn't able to be completed in 2022 as originally planned due to negotiations extending beyond original expectations. These changes impacted the transfer to plant for 2022.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

No cost overruns were associated with this Business Case (project) for 2022. This Business Case was monitored through the year and reviewed at the Electrical Engineering Budget Committee each month.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no revisions to the offsets. Most projects within this business case add equipment to the service territory which results in higher maintenance costs for inspections, testing and maintenance work.

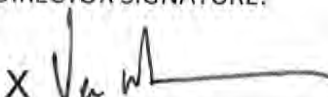
I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

APPROVED: 2/20/2023
X 

Signed by: glenn.mudden@awstacorp.com

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Substation - Station Rebuilds Program

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

This business case supports substation rebuild requirements across our entire service territory. This includes the purchase of major equipment spares (i.e. power transformers and high voltage breakers), small equipment replacements (i.e. Voltage Regulators), and major substation rebuild projects. In 2022, this business case was responsible for more than 60 separate work items. The variance in the Transfer to Plant is due to a significant decrease in small equipment replacement projects because of resource and material availability constraints and a delay in the planned replacement of a mobile transformer (\$3.8M) due to resource constraints.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

No cost overruns were associated with this Business Case (project) for 2022. This Business Case was monitored through the year and reviewed at the Electrical Engineering Budget Committee each month.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

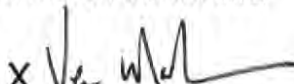
There are no changes to the offsets defined for this program. All replaced equipment will be inspected, tested, and maintained per maintenance programs.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

APPROVED
2/20/2023
X 

DIRECTOR SIGNATURE:

X 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Transmission Compliance - Construction

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Transmission Compliance - Construction Business Case was developed to comply with standards and codes. Many of the projects within this Business Case are developed to comply with North American Electric Reliability Corporation required standards. Others are developed to comply with National Electric Safety Code (NESC) rules as adopted into the Washington Administrative Code. Work associated with this Business Case is typically identified via Avista's System Planning Group; or, in the case of NESC driven projects, the Transmission Line Design Group.

For the January-December fiscal year 2022 the Transmission Compliance - Construction Business Case was funded (spend) at \$2,650,000 and later amended by a \$1,250,000 Request for additional funds via the Capital Planning Group (CPG). The transfer to plant variance stems from the Boulder-Irvin #1 115kV Transmission Line Rebuild Project. The cause of the variance can be attributed to underestimating/underbudgeting. Originally a feasibility estimate of \$500,000/mile was made for the 4-mile project and wasn't updated to reflect the impact of building Distribution underbuild span lengths (16 poles per mile as opposed to 10 poles per mile for Transmission only). Additionally, the feasibility estimate didn't take into consideration the inflation driven large impacts to Supply Chain and construction costs that occurred in 2021-2022.

This project, along with another similar project (captured in a different Business Case) show that this type of construction will now cost \$1,000,000/mile or more depending upon complexities encountered.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

Cost overruns were associated with this Business Case (project) for 2022. This Business Case was monitored through the year and reviewed at the Electrical Engineering Budget Committee each month. As cost overruns were identified, a decision was made to request additional funds through the CPG process. Attached is the formal request for additional funding.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are offsets associated with this project. The nature of the project includes replacing conductor, as such and with placing into service in 2022, we can assume an indirect O&M savings due to lower line losses as originally reported. Attached is the associated Capital Investments Offset form.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

APPROVED
By Ken Swelgart at 2:43 pm, Feb 10, 2023

DIRECTOR SIGNATURE:



2022-2023 CAPITAL PROJECT SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Transmission Construction – Compliance

2. Business Case Owner: Ken Sweigart

3. Director Responsible: Vern Malensky

4. **Direct Savings** - Description of Estimated Direct Savings Resulting from this Business Case (please describe and quantify any hard cost savings Avista’s customers will gain due to the work under this project. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other):

Quantified direct savings:

2022	2023	Lifetime

5. **Indirect Savings** - Description of Estimated Indirect Savings and/or Productivity Gains Resulting from this Project (please describe and quantify any indirect cost savings or productivity gains Avista’s customers will gain from this project). For example, deploying this capital investment reduces the future need to hire X number of employees. For a new substation or transmission line, are there efficiencies to be gained from less line losses. Or, if we don’t do this project now, it may cost more in the future (cost avoidance).

The business case includes indirect savings realized when replacing an existing conductor with another that has fewer losses due to a reduced impedance. Power loss savings were made using the average line loading that was provided by Avista’s Transmission System Planning Department. A Mid-C Heavy Load price of energy was used to calculate the savings.

Quantified indirect savings:

2022	2023	Lifetime
\$5,599.01	\$4,966.87	

6. No Direct or Indirect Savings – These are projects where there are NO identifiable direct or indirect cost savings for customers, as they are required by law, or simply after thorough review have no offsets. (For these projects, please think through any potential offsets, as having no offsets is a high hurdle). If the work is required by law or rule, please identify the law and describe and quantify any risk or penalty Avista’s customers will endure due to non-compliance.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

Director Name Vern Malensky

Director Signature Vern Mal

Date 2/14/2023

Transmission Compliance – Construction BC 2022 In-Year #1

1.0 CHANGE REQUEST #1 – 11-1-2022

Previous Requests	Requested	Approved
5-Year Plan	\$2,650,000	\$2,650,000

For new change requests, update the Change Request # and Date. Add a new line to the table to log previous change requests

Month - Year	YTD Spend	Current Approval	Requested Change	Proposed Annual Total
#1: 11-2022	Wait for Oct #'s	\$2,650,000	\$1,250,000	\$3,900,000

Type of Change	In-year Update
Primary Reason for Change	Revised Cost
Response needed by	11/18/2022

1.1 ALL ITEMS IN THIS SECTION MUST THOROUGHLY DESCRIBE THE REASON FOR THE FUNDS CHANGE REQUEST, INCLUDING BUT NOT LIMITED TO:

1.1.1 Identify what has changed such that the current approved amount is not sufficient.

Request covers the need to rebuild the Boulder-Irvin #1 115kV Transmission Line due to the majority of poles failing NESC strength requirements. Strength analysis was triggered by a Joint Use attachment request. The 2022 project phase is in construction and is expected to complete in November. Inflation and construction complexity have led to the revised expected spend for 2022. The remaining work is to be completed in 2023. The work scope for 2022 was such that reducing scope to match budget proved difficult.

1.1.2 Identify why this work is needed now and what risks may result if this request is not approved or if it is deferred.

Work is in construction and is expected to complete in November. To accommodate this work within TLD's existing budget, adjustments were made to the Transmission Major Rebuild – Asset Condition (TMR-AC) Business Case (BC) that shifted spend to 2023. If not for the Transmission Compliance – Construction (TCC) work this TMR-AC money would have been spent in 2022. Please see associated BCFCR TMR-AC BC release of \$1,250,000 to accommodate this work.

1.1.3 Please reference analysis or information that support the problem and attach to this document.

Please see 1.1.1.

1.1.4 Outline any business functions and processes that may be impacted (and how) by the business case for it to be successfully implemented; including additional O&M costs, employee or staffing, reductions to O&M (offsets), etc.

No impacts expected.

Transmission Compliance – Construction BC 2022 In-Year #1

1.1.5 Discuss what alternatives were considered. Describe why this is the best and/or least cost alternative (e.g., cost benefit analysis, attach as supporting documentation).

Please see 1.1.1.

1.1.6 Discuss, if given this change, how this investment is still prudent for the company to continue for the benefit of our customers.

Request of funds elevates prudence (deterrence of expensive Construction reduction modifications).

1.1.7 Confirm that the justification narrative is still valid given the nature of this change. If not, indicate that the narrative will be updated to incorporate.

The Justification Narrative is still valid.

2.0 CHANGE REQUEST APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

Name	Role	Signature	Date
Ken Sweigart	BC Owner		
	BC Sponsor		
	FP&A		

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Transmission Major Rebuild – Asset Condition

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Transmission Major Rebuild – Asset Condition Business Case was developed in response to the general aging of Transmission Line assets with replacements generally made in accordance with the Asset Management Transmission Line Priority Model spreadsheet. Work associated with this Business Case typically involves the replacement of existing structures (updated in height and strength class to accommodate future wire upgrades).

Starting in 2021 a large project (Lolo-Oxbow 230kV Structure Replacement Phase 2) began. This project was constructed over the 2021-2022 Winter, bridging the 2021-2022 fiscal years, with an in-service plan of May 2022 at approx. \$5.7M. Due to Avista entering the Energy Imbalance Market in 2022 it was decided to reduce the scope of this project, allowing for an earlier completion date at a revised in-service cost of approx. \$3.5M and subsequent availability of the Lolo-Oxbow 230kV Transmission Line for any needed check out and commissioning. This is the reason for the reduced Transfer to Plant in 2022. The remaining 2022 Business Case budget (spend) was redirected to the next prioritized project which is expected to be placed in service in 2023.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

No costs overruns were associated with this Business Case (project) for 2022. However, this Business Case is monitored through the year and reviewed at the Electrical Engineering Budget Committee each month. If a cost overrun were to occur, a discussion and decision would direct the appropriate path forward.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no revised offsets associated with this project. The nature of the project includes replacing conductor, as such and with placing into service in 2022, we can assume the same indirect O&M savings due to lower line losses as originally reported.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

APPROVED

x By Ken Swaigart at 2:47 pm, Feb 10, 2023

DIRECTOR SIGNATURE:

x 

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Transmission Major Rebuild – Asset Condition

2. Business Case Owner: Ken Sweigart

3. Director Responsible: Vern Malensky

4. **Direct Savings** - Description of Estimated Direct Savings Resulting from this Business Case (please describe and quantify any hard cost savings Avista’s customers will gain due to the work under this project. Such savings could include reductions in labor, reduced maintenance due to new equipment, or other):

Quantified direct savings:

2022	2023	Lifetime

5. **Indirect Savings** - Description of Estimated Indirect Savings and/or Productivity Gains Resulting from this Project (please describe and quantify any indirect cost savings or productivity gains Avista’s customers will gain from this project). For example, deploying this capital investment reduces the future need to hire X number of employees. For a new substation or transmission line, are there efficiencies to be gained from less line losses. Or, if we don’t do this project now, it may cost more in the future (cost avoidance).

The business case includes indirect savings realized when replacing an existing conductor with another that has fewer losses due to a reduced impedance. Power loss savings were made using the average line loading that was provided by Avista’s Transmission System Planning Department. A Mid-C Heavy Load price of energy was used to calculate the savings.

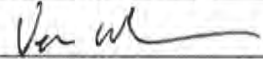
Quantified indirect savings:

2022	2023	Lifetime
\$10,256.75	\$9,098.73	

6. No Direct or Indirect Savings – These are projects where there are NO identifiable direct or indirect cost savings for customers, as they are required by law, or simply after thorough review have no offsets. (For these projects, please think through any potential offsets, as having no offsets is a high hurdle). If the work is required by law or rule, please identify the law and describe and quantify any risk or penalty Avista’s customers will endure due to non-compliance.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

Director Name Vern Malencky

Director Signature 

Date 2/14/2023

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Transmission NERC Low-Risk Priority Line Ratings Mitigation

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

The Low Priority Ratings Mitigation Business Case was developed in response to a North American Electric Reliability Corporation "Alert" requiring all utilities to field confirm their Transmission Line Capacity and Operating ratings. To bring the field conditions in line with the stated capacity ratings a multi-year program was initiated. The primary means to accomplish the mitigation involves changing existing structures with taller replacements.

For the January-December fiscal years 2022 and 2023 the Low-Risk Priority Line Ratings Mitigation Business Case was/is funded at \$2,500,000 respectively. Starting in 2022 a large project (Ninth & Central – Third & Hatch: Latah Tap 115kV Transmission Line Structure Replacement) began. Due to Supply Chain considerations the steel poles for the entire project were purchased in 2022, with only a percentage being installed. The 2022 budget did not allow for the entirety of the poles to be installed. The remaining poles will be installed in 2023.

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

No costs overruns were associated with this Business Case (project) for 2022. However, this Business Case is monitored through the year and reviewed at the Electrical Engineering Budget Committee each month. If a cost overrun were to occur, a discussion and decision would direct the appropriate path forward.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

There are no additional revised offsets associated with this project. The nature of the project (replacing poles only before end of life) does not change maintenance schedules, and therefore no offsets were /are realized.

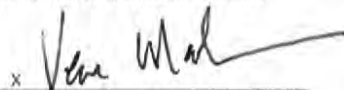
I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

APPROVED

x By Ken Swolgart at 2:49 pm, Feb 10, 2023

DIRECTOR SIGNATURE:

x 

CAPITAL ADDITIONS VARIANCE EXPLANATION FORM

BUSINESS CASE NAME:

Westside 230/115kV Station Brownfield Rebuild Project

FOR THE CURRENT REPORTING PERIOD (JAN – DEC 2022), HAS YOUR BUSINESS CASE JUSTIFICATION CHANGED SINCE FILED (on record with FP&A as of Sept 2021 for the 2022-2027 5 year planning cycle)?

Yes No If yes, please attach revised business case.

PLEASE EXPLAIN THE TRANSFER TO PLANT VARIANCE OF GREATER THAN \$500,000 AND +/-10% FOR THE CURRENT REPORTING PERIOD:

This business case supports the complete rebuild of the Westside Substation in Spokane, which was prioritized high due to equipment failure, asset condition and capacity needs. This is a transmission substation (230kV to 115kV) that required the teams to keep energized during the construction process to support reliable service to our customers in the area. Because of this constraint, the project was separated into three phases of construction. As work was completed in each phase, the project costs for that work were transferred to plant. Phase 1 was completed prior to 2020. Phase 2 includes Auto Transformer #2, high voltage breakers, and Transmission related components, which was completed in 2022. Phase 3 is anticipated to be complete in 2024. The reason for the transition to Phase 2 completion in 2022 instead of 2021 was due to planned outage constraints, supply chain issues and resource constraints, which limited the ability to complete this work as planned.

2022 Planned TTP: \$0 2022 Actual TTP: \$3,292,230 (100% over budgeted TTP)

EVIDENCE THAT ANY SIGNIFICANT COST OVERRUNS AND THE DECISION TO CONTINUE TO INVEST IN THE PROJECT WAS PRUDENT for example, stakeholder meeting approval, CPG funds change requests (please attach supporting documentation):

No cost overruns were associated with this Business Case (project) for 2022. This Business Case was monitored through the year and reviewed at the Electrical Engineering Budget Committee each month. There are no significant cost overruns associated with Phase 2 of the Westside Rebuild Project. There were construction delays due to COVID in 2020. A mid-year budget request (\$1.2m) was made in 2022 to include the cost of the high voltage breakers that arrived in late 2022 instead of the early 2023.

ARE THERE REVISED OFFSETS ASSOCIATED WITH THIS CHANGE IN PLANT ADDITIONS? Please explain.

The offsets for the Westside Rebuild Project have not changed. O&M costs will remain the same for the new station as they are for the current station, however the calendar for maintenance work will start new with each equipment install.

I have reviewed the information contained in this response for this specific business case, and to the best of my knowledge the information is true, correct, and comprehensive.

BUSINESS CASE OWNER SIGNATURE:

2/22/2023
APPROVED
X 

Signed by: glenn.madden@avistacorp.com

DIRECTOR SIGNATURE:

X 