BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-22_____

DOCKET NO. UG-22_____

EXH. EMA-5

ELIZABETH M. ANDREWS

REPRESENTING AVISTA CORPORATION

Direct and Indirect - Offsets Matrix

Efficiency Adj	ROR/CF	
2%	0.094626787	
Forecasted TTP		
2022	2023	2024
$ 456,050,711	$ 446,932,369	$ 441,252,014

	Efficiency Adj	Efficiency Adj	Efficiency Adj	Direct Offsets O&M			Indirect Offsets O&M		Direct Offsets - Capital		Indirect Offsets Capital	
	2022 2% x Return on Investment	2023 2% x Return on Investment	2024 2% x Return on Investment	O&M 2022 Direct	O&M 2023 Direct	O&M 2024 Direct	O&M 2022 Indirect	O&M 2023 Indirect	capital 2022 Direct	capital 2023 Direct	capital 2022 Indirect	capital 2023 Indirect
	System											
	2022 Eff. Adj	2023 Eff. Adj	2024 Eff. Adj	2022 DO	2023 DO	2024 DO						
Total Offsets	$ 354,489	$ 511,122	$ 562,416	$ 5,582,416	$ 6,364,225	$ 6,312,170	$ 103,203,335	$ 85,026,642	$ 3,619,093	$ 4,432,141	$ 18,155,268	$ 16,315,268
Include 2023/2024												
Less:												
ERM Benefits (EIM)				-4,833,333	-5,800,000	-5,800,000	0 (EIM reflected in Pro Forma Power Supply Adj)					
Colstrip				-142,998	0	0	-19,004,834 (reflected in Colstrip Capital Adjustment)					
System Amount:	$ 354,489	$ 511,122	$ 562,416	$ 606,085	$ 564,225	$ 512,170	$ 84,198,501	$ 85,026,642	$ 3,619,093	$ 4,432,141	$ 18,155,268	$ 16,315,268

O&M - ALLOCATED										
Direct						Indirect				
2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G	2024 WA-E	2024 WA-G	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G	
$ 3,894,384	$ 59,644	$ 4,417,089	$ 70,054	$ 4,409,761	$ 72,151	$ 60,724,380	$ 7,587,728	$ 42,321,729	$ 7,715,027	
$ (3,167,767)	$ -	$ (3,801,320)	$ -	$ (3,801,320)	$ -	$ -	$ -	$ -	$ -	(EIM (RY1) reflected in Pro Forma Power Supply Adj, annual amount not incremental
$ (142,998)	$ -	$ -	$ -	$ (14,090)	$ -	$ -	$ -	$ -	$ -	(reflected in Colstrip Capital Adjustment)
$ 583,619	$ 59,644	$ 615,769	$ 70,054	$ 594,351	$ 72,151	$ 60,724,380	$ 7,587,728	$ 42,321,729	$ 7,715,027	
2022 WA-E Direct	2022 WA-G Direct	2023 WA-E Direct	2023 WA-G Direct	2024 WA-E Direct	2024 WA-G Direct	2022 WA-E Indirect	2022 WA-G Indirect	2023 WA-E Indirect	2023 WA-G Indirect	

Growth Revenue per Adjustment 4.03 and 5.09

WA E 2023	WA G 2023
$ 891,504	$ 94,671
	Total WA 2023
	$ 986,175

WA E 2024	WA G 2024
$ 605,060	$ 71,103
Total WA 2024	Total 2023-2024
$ 676,163	$ 1,662,338

Total WA Electric		Total WA Natural Gas	
Indirect	Indirect	Indirect	Indirect
$ 60,724,380	$ 42,321,729	$ 7,587,728	$ 7,715,027
RY1	RY2	RY1	RY2
2022-2023	2023-2024	2022-2023	2023-2024

Direct and Indirect - Offsets Matrix

	Efficiency Adj	2%				**Efficiency Adj**	**Efficiency Adj**	**Efficiency Adj**	Direct Offsets O&M		
	ROR/CF	0.094626787	Forecasted TTP						O&M	O&M	O&M
	Witness	**Business Case**	**2022**	**2023**	**2024**	2022 2% x Return on Investment	2023 2% x Return on Investment	2024 2% x Return on Investment	2022 Direct	2023 Direct	2024 Direct
1	Kensok	Atlas	1,452,641	2,948,867	2,119,113	2,749	5,581	4,010	0	0	0
2	Thackston	Automation Replacement	349,999	349,999	600,000	662	662	1,136	0	0	0
3	Thackston	Base Load Hydro	958,925	963,504	963,504	1,815	1,823	1,823	0	0	0
4	Thackston	Base Load Thermal Program	2,484,254	2,693,105	2,623,988	4,702	5,097	4,966	0	9,500	0
5	Kensok	Basic Workplace Technology Delivery	813,479	800,005	800,003	1,540	1,514	1,514	0	0	0
*	Thackston	Boulder Park Generator	-	-	999,998	-	-	1,893	0	0	0
6	Thackston	Cabinet Gorge Dam	63,475,101	235,000	-	NA - Required			0	0	0
7	Thackston	Cabinet Gorge HVAC Replacement	-	1,500,000	-	-	2,839	-	0	0	0
8	Thackston	Cabinet Gorge Station Service	7,761,859	5,152,936	-	14,690	9,752	-	0	0	0
9	Thackston	Cabinet Gorge Stop Log	-	1,200,000	-	-	2,271	-	0	0	0

										Direct Offsets O&M		
	Efficiency Adj	2%				**Efficiency Adj**	**Efficiency Adj**	**Efficiency Adj**			
	ROR/CF	0.094626787	Forecasted TTP						O&M	O&M	O&M
	Witness	**Business Case**	**2022**	**2023**	**2024**	2022 2% x Return on Investment	2023 2% x Return on Investment	2024 2% x Return on Investment	2022 Direct	2023 Direct	2024 Direct
10	Thackston	Cabinet Gorge Underwater Pumps	395,000	395,016	-	748	748	-	0	0	0
11	Thackston	Cabinet Gorge Unit 4 Protection & Control	750,000	-	-	1,419	-	-	0	0	0
12	Rosentrater	Capital Tools & Stores	2,500,008	2,500,008	2,500,008	4,731	4,731	4,731	0	0	0
*	Rosentrater	Central 24 HR Operations Facility	-	0	4,598,545	-	-	8,703	0	0	0
13	Thackston	Clark Fork Settlement Agreement	4,839,609	5,622,720	3,877,380	NA - Required			0	0	0
14	Thackston	Colstrip 3&4 Capital	6,173,605	1,556,100	7,445,165			14,090	142,998	0	0
15	Rosentrater	Colstrip Transmission	325,001	370,002	639,999	NA - Required		1,211	0	0	0
16	Kensok	Control and Safety	1,324,039	1,282,468	1,485,787	2,506	2,427	2,812	0	0	0
17	Magalsky	Customer Experience	5,999,915	6,300,000	6,300,000				29,582	104,582	104,582
18	Magalsky	Customer Facing Technology Program	4,078,651	4,699,999	4,700,000	7,719	8,895	8,895		97,800	97,800
19	Magalsky	Customer Transactional Systems	3,859,166	3,500,000	3,749,987	7,304	6,624	7,097	0	0	0
20	Kensok	Data Center Compute and Storage Systems	1,260,205	2,063,801	1,972,626	2,385	3,906	3,733	0	0	0
21	Kensok	Digital Grid Network	2,801,323	2,121,419	2,461,518	5,302	4,015	4,659	0	0	0
22	Rosentrater	Distribution Grid Modernization	2,165,010	2,239,852	794,988				26,684	33,673	33,673
23	Rosentrater	Distribution Minor Rebuild	11,499,986	11,499,986	10,999,980	21,764	21,764	20,818	0	0	0
24	Rosentrater	Distribution System Enhancements	6,930,025	7,069,995	7,000,013			13,248	32,907	25,315	25,315
25	Rosentrater	Downtown Network - Asset Condition	1,600,000	1,999,999	2,400,000	3,028	3,785	4,542	0	0	0
26	Rosentrater	Downtown Network - Performance & Capacity	1,100,000	1,150,000	1,200,000				79,200	79,200	79,200
27	Rosentrater	Elec Relocation and Replacement Program	5,399,944	5,399,984	5,399,987	NA - Required			0	0	0
28	Rosentrater	Electric Storm	6,023,406	6,000,012	6,000,012	NA - Required			0	0	0
29	Magalsky	Electric Transportation	2,775,000	3,900,000	4,060,000	5,252	7,381	7,684	0	0	0
30	Kensok	Endpoint Compute and Productivity Systems	3,498,321	3,416,996	5,681,768	6,621	6,467	10,753	0	0	0

										Direct Offsets O&M		
	Efficiency Adj	2%				**Efficiency Adj**	**Efficiency Adj**	**Efficiency Adj**			
	ROR/CF	0.094626787	Forecasted TTP						O&M	O&M	O&M
	Witness	**Business Case**	**2022**	**2023**	**2024**	2022 2% x Return on Investment	2023 2% x Return on Investment	2024 2% x Return on Investment	2022 Direct	2023 Direct	2024 Direct
31	Kensok	Energy Delivery Modernization &	5,560,672	3,449,859	5,789,674				100,000	100,000	100,000
32	Kinney	Energy Imbalance Market	12,016,376	-	-				4,833,333	5,800,000	5,800,000
33	Kinney	Energy Imbalance Market	-	499,974	585,791	-	946	1,109			
34	Kensok	Energy Resources	2,727,599	2,679,478	2,695,981	5,162	5,071	5,102			
88	Kensok	Enterprise & Control Network Infrastructure (1a)	3,243,307			6,138	-	-	0	0	0
35	Kensok	Enterprise Business	93,045	422,064	100,000	176	799	189	0	0	0
36	Kensok	Enterprise Communication Systems	1,472,733	2,482,488	2,115,997	2,787	4,698	4,005	0	0	0
37	Kensok	Enterprise Network Infrastructure	2,235,285	2,341,928	1,544,361	4,230	4,432	2,923	0	0	0
38	Kensok	Enterprise Security	972,340	1,137,498	1,400,499	1,840	2,153	2,650	0	0	0
39	Kensok	Environmental Control & Monitoring Systems	1,123,937	964,347	887,389	2,127	1,825	1,679	0	0	0
40	Kensok	ET Modernization & Operational Efficiency - Technology	1,564,548	2,002,429	2,053,458	2,961	3,790	3,886	0	0	0
41	Kensok	Facilities and Storage Location Security	210,919	489,088	345,587	399	926	654	0	0	0
42	Kensok	Fiber Network Lease Service Replacement	1,392,970	1,687,126	1,392,938	2,636	3,193	2,636	0	0	0
43	Kensok	Financial & Accounting	1,788,284	2,775,001	2,150,001	3,384	5,252	4,069			
44	Rosentrater	Fleet Services Capital Plan	7,904,640	5,608,016	5,423,704	14,960	10,613	10,265	0	0	0
45	Rosentrater	Gas Above Grade Pipe Remediation Program	682,000	714,000	709,000	1,291	1,351	1,342	0	400	400
46	Rosentrater	Gas Airway Heights HP Reinforcement	9,634,502	-	-			-	2,312	0	0
47	Rosentrater	Gas Cathodic Protection	715,000	715,000	715,000	1,353	1,353	1,353	0	0	0
48	Rosentrater	Gas Facility Replacement	25,687,251	27,687,251	24,444,163	NA - Required			0	0	0
***	Rosentrater	Gas HP Pipeline	599,998	-	-	NA - Required			0	0	0
***	Rosentrater	Gas Isolated Steel	862,754	850,008	850,008	NA - Required			0	0	0
49	Rosentrater	Gas Non-Revenue Program	9,295,000	8,500,010	8,500,010	17,591	16,087	16,087	0	0	0

		Efficiency Adj	2%				**Efficiency Adj**	**Efficiency Adj**	**Efficiency Adj**	Direct Offsets O&M		
		ROR/CF	0.094626787	Forecasted TTP						O&M	O&M	O&M
		Witness	**Business Case**	**2022**	**2023**	**2024**	2022 2% x Return on Investment	2023 2% x Return on Investment	2024 2% x Return on Investment	2022 Direct	2023 Direct	2024 Direct
50		Rosentrater	Gas PMC Program	3,500,004	3,799,993	1,500,000				38,000	38,000	38,000
*		Rosentrater	Gas Pullman HP Reinforcement Project	-	-	2,400,004	-	-	4,542	0	0	0
51		Rosentrater	Gas Regulator Station Replacement Program	985,579	1,000,002	799,999				1,700	3,500	3,500
52		Rosentrater	Gas Reinforcement Program	1,299,997	1,299,999	1,300,002				2,400	2,400	2,400
53		Rosentrater	Gas Replacement Street and Highway Program	3,495,650	3,500,000	3,500,000	NA - Required			0	0	0
54		Rosentrater	Gas Telemetry Program	303,256	210,004	210,004	574	397	397	0	0	0
55		Rosentrater	Gas Transient Voltage Mitigation Program	875,000	965,000	250,000	NA - Required			0	0	0
56		Thackston	Generation DC Supplied System Update	550,001	550,001	400,000	NA - Required			0	0	0
57		Thackston	Generation Masonry	493,993	493,995	493,990	935	935	935	0	0	0
*		Thackston	Generation Protection Upgrades	-	-	587,500	-	-	1,112	0	0	0
58		Kensok	Generation, Substation & Gas Location Security	332,159	459,001	545,002	629	869	1,031	0	0	0
59		Kensok	High Voltage Protection (HVP) Refresh	226,712	336,542	190,320	NA - Required			0	0	0
60		Thackston	HMI Control Software	3,500,000	2,550,000	1,550,000	NA - Required			0	0	0
61		Kensok	Human Resources Technology	499,529	500,002	500,000				16,300	16,300	16,300
62		Kensok	Identity and Access Governance	672,255	418,119	191,368	1,272	791	362	0	0	0
63		Rosentrater	Jackson Prairie Joint Project	2,378,977	2,369,965	2,420,989	NA - Required, See PGA			0	0	0
64		Rosentrater	Joint Use	2,749,992	2,950,008	2,950,008	NA - Required			0	0	0
65		Thackston	KF_Fuel Yard Equipment Replacement	-	30,367,127	-	-	57,471	-	0	0	0
66		Kensok	Land Mobile Radio & Real Time Communication Systems	3,569,746	1,005,328	3,028,940	6,756	1,903	5,732	0	0	0

	Efficiency Adj	2%				**Efficiency Adj**	**Efficiency Adj**	**Efficiency Adj**	Direct Offsets O&M		
	ROR/CF	0.094626787	Forecasted TTP						O&M	O&M	O&M
	Witness	**Business Case**	**2022**	**2023**	**2024**	2022 2% x Return on Investment	2023 2% x Return on Investment	2024 2% x Return on Investment	2022 Direct	2023 Direct	2024 Direct
67	Rosentrater	LED Change-Out Program	299,964	299,964	299,964	568	568	568	0	0	0
68	Kensok	Legal & Compliance Technology	400,015	413,072	339,598	757	782	643	0	0	0
*	Thackston	Long Lake Plant Upgrade	-	-	19,541,000	-	-	36,982	0	0	0
69	Thackston	Monroe Street Abandoned Penstock Stabilization	-	899,992		-	1,703	-	0	0	0
70	Rosentrater	N Lewiston Autotransformer - Failed Plant	5,554,506	-	-			-	266,000	0	0
71	Kensok	Network Backbone	188,444	3,879,878	3,686,842	357	7,343	6,977	0	0	0
72	Rosentrater	New Revenue - Growth	73,429,598	67,348,997	67,371,967	NA - Required (see revenue offset)			0	0	0
73	Thackston	Nine Mile HED Battery Building	800,001	-	-	NA - Required			0	0	0
74	Thackston	Nine Mile Powerhouse Crane Rehab	1,699,988	-	-	3,217	-	-	0	0	0
75	Thackston	Nine Mile Units 3 & 4 Control Upgrade	-	2,000,000	1,999,999	-	3,785	3,785	0	0	0
76	Rosentrater	Oil Storage Improvements	-	1,762,827	-	-	3,336	-	0	0	0
77	Kensok	Outage Management System & Advanced Distribution Management System (OMS & ADMS)	-	10,000,000	15,000,000	-	18,925	28,388	0	0	0
78	Thackston	Peaking Generation Business Case	445,001	458,000	450,000	842	867	852	0	0	0
*	Thackston	Post Falls North Channel Spillway Rehabilitation	-	-	18,499,999	-	-	35,012	0	0	0
79	Rosentrater	Protection System Upgrade for PRC-002	80,000	11,879,164	-	NA - Required		-	0	0	0
80	Thackston	Regulating Hydro	2,947,845	2,961,000	2,961,000	5,579	5,604	5,604	0	0	0

										Direct Offsets O&M		
	Efficiency Adj	2%				**Efficiency Adj**	**Efficiency Adj**	**Efficiency Adj**			
	ROR/CF	0.094626787	Forecasted TTP						O&M	O&M	O&M
	Witness	**Business Case**	**2022**	**2023**	**2024**	2022 2% x Return on Investment	2023 2% x Return on Investment	2024 2% x Return on Investment	2022 Direct	2023 Direct	2024 Direct
81	Rosentrater	Saddle Mountain 230/115kV Station (New) Integration Project Phase 2	19,962,533	-	-	37,780	-	-	0	0	0
82	Rosentrater	SCADA - SOO and BuCC	1,026,882	736,223	699,972	NA - Required			0	0	0
83	Kensok	Security Compliance	250,001	250,001	244,774	NA - Required			0	0	0
84	Thackston	Spokane River License Implementation	629,226	535,000	492,301	NA - Required			0	0	0
85	Rosentrater	Spokane Valley Transmission Reinforcement Project	2,000,000	-	-	NA - Required			0	0	0
86	Rosentrater	Strategic: Clean Energy Fund	2,297,174	0	0	4,347	-	-	0	0	0
87	Thackston	Strategic: Upriver Park	225,225	0	0	NA - Required		-	0	0	0
88	Rosentrater	Structures and Improvements/Furniture	3,639,388	3,349,639	3,349,609				11,000	11,000	11,000
89	Rosentrater	Substation - New Distribution Station Capacity Program	5,765,300	11,076,449	12,701,549	10,911	20,963	24,038	0	0	0
90	Rosentrater	Substation - Station Rebuilds Program	12,998,326	58,412,186	41,493,604	24,600	110,547	78,528	0	0	0
91	Kensok	Technology Failed Assets	611,563	556,208	556,198	1,157	1,053	1,053	0	0	0
92	Rosentrater	Telematics 2025	438,347	808,250	-				0	42,555	0
93	Rosentrater	Transmission - Minor Rebuild- Asset Condition	3,400,375	3,343,418	3,343,419	6,435	6,328	6,328	0	0	0
*	Rosentrater	Transmission -	-	-	8,500,000	-	-	16,087	0	0	0
94	Rosentrater	Transmission Construction - Compliance	2,111,069	1,550,000	-	3,995	2,933	-	0	0	0

	Efficiency Adj	2%				**Efficiency Adj**	**Efficiency Adj**	**Efficiency Adj**	Direct Offsets O&M		
	ROR/CF	0.094626787	Forecasted TTP						O&M	O&M	O&M
	Witness	**Business Case**	**2022**	**2023**	**2024**	2022 2% x Return on Investment	2023 2% x Return on Investment	2024 2% x Return on Investment	2022 Direct	2023 Direct	2024 Direct
95	Rosentrater	Transmission Major Rebuild - Asset Condition	5,680,751	12,000,000	11,000,000	10,751	22,710	20,818	0	0	0
96	Rosentrater	Transmission NERC Low-Risk Priority Lines Mitigation	2,554,255	2,499,984	-	NA - Required			0	0	0
97	Rosentrater	Tribal Permits & Settlements	259,776	249,996	249,996	NA - Required			0	0	0
98	Thackston	Upper Falls Trash Rake Replacement	-	1,500,000	-	-	2,839	-	0	0	0
99	Thackston	Use Permits	150,012	150,012	150,012	NA - Required			0	0	0
*	Rosentrater	Westside 230/115kV Station Brownfield Rebuild Project	-	-	8,924,475	-	-	16,890	0	0	0
100	Howell	Wildfire Resiliency Plan	24,544,986	27,000,000	29,000,001	46,452	51,098	54,884	0	0	0
101	Rosentrater	Wood Pole Management	12,999,684	12,999,684	12,999,684	24,602	24,602	24,602	0	0	0
102	Rosentrater	WSDOT Control Zone	749,998	1,200,005	1,399,999	NA - Required			0	0	0
103	Thackston	WSDOT Franchises	99,996	99,996	99,996	NA - Required			0	0	0
			456,050,711	446,932,369	441,252,014						

		System					
		2022 EA	2023 EA	2024 EA	2022 DO	2023 DO	2024 DO
	Total Offsets	354,489	511,122	562,416	5,582,416	6,364,225	6,312,170
	Include 2023/2024						
	Less:						
	ERM Benefits				-4,833,333	-5,800,000	-5,800,000
	Colstrip				-142,998	0	0
System Amount:		$ 354,489	$ 511,122	$ 562,416	$ 606,085	$ 564,225	$ 512,170

* No offset form provided for projects starting in 2024; 2% efficiency adjustment applied.

** No offset form provided for Enterprise & Control Network; please see comment section for this Business C

*** No offset form provided similar to other mandatory projects. No direct or indirect offsets determined.

Efficiency Adj	2%	Indirect Offsets O&M		Direct Offsets - Capital		Indirect Offsets Capital				
ROR/CF	0.094626787	O&M	O&M	capital	capital	capital	capital			
Witness	**Business Case**	2022 Indirect	2023 Indirect	2022 Direct	2023 Direct	2022 Indirect	2023 Indirect	Purpose	Svc.Jur	
Kensok	Atlas	265,625	265,625	0	0	398,438	398,438		CDAA	CDAA
Thackston	Automation Replacement	348	347	0	0	0	0		EDAN	P/T Ratio
Thackston	Base Load Hydro	0	0	0	0	0	0	Reliability	EDAN	P/T Ratio
Thackston	Base Load Thermal Program	93,408	118,119	0	0	0	0		EDAN	P/T Ratio
Kensok	Basic Workplace Technology Delivery	0	0	0	0	0	0		CDAA	CDAA
Thackston	Boulder Park Generator	0	0	0	0	0	0		EDAN	P/T Ratio
Thackston	Cabinet Gorge Dam	0	0	0	0	0	0	Regulation	EDAN	Required
Thackston	Cabinet Gorge HVAC Replacement	2,218	2,390	0	0	0	0		EDAN	P/T Ratio
Thackston	Cabinet Gorge Station Service	22,807	24,196	0	0	0	0		EDAN	P/T Ratio
Thackston	Cabinet Gorge Stop Log	14,266	14,537	0	0	0	0		EDAN	P/T Ratio

Efficiency Adj	2%	Indirect Offsets O&M		Direct Offsets - Capital		Indirect Offsets Capital				
ROR/CF	0.094626787	O&M	O&M	capital	capital	capital	capital			
Witness	**Business Case**	2022 Indirect	2023 Indirect	2022 Direct	2023 Direct	2022 Indirect	2023 Indirect	Purpose	Svc.Jur	
Thackston	Cabinet Gorge Underwater Pumps	4,723	4,803	0	0	0	0		EDAN	P/T Ratio
Thackston	Cabinet Gorge Unit 4 Protection & Control	7,209	7,805	0	0	0	0		EDAN	P/T Ratio
Rosentrater	Capital Tools & Stores	16,664,421	16,664,421	0	0	0	0		CDAA	CDAA
Rosentrater	Central 24 HR Operations Facility	0	0	0	0	0	0			Required
Thackston	Clark Fork Settlement Agreement	0	0	0	0	0	0	Regulation	EDAN	Required
Thackston	Colstrip 3&4 Capital	19,004,834							Avista, WA Share	Elec Direct
Rosentrater	Colstrip Transmission	0	0	0	0	0	0	Compliance	EDAN	Required
Kensok	Control and Safety	1,333,333	1,333,333	0	0	2,000,000	2,000,000	Compliance	CDAA	CDAA
Magalsky	Customer Experience	444,711	951,942						CDAA	CDAA
Magalsky	Customer Facing Technology Program	8,742,835	9,879,395						CDAA	CDAA
Magalsky	Customer Transactional Systems	0	0	0	0	0	0	Compliance	CDAA	CDAA
Kensok	Data Center Compute and Storage Systems	400,000	400,000	0	0	600,000	600,000		CDAA	CDAA
Kensok	Digital Grid Network	1,333,333	1,333,333	0	0	2,000,000	2,000,000	Compliance /Reliability	CDAA	CDAA
Rosentrater	Distribution Grid Modernization	120,178	162,738	0	0	0	0		EDAN	4 factor
Rosentrater	Distribution Minor Rebuild	0	0	0	0	0	0	Reliability/ safety	EDAN	4 factor
Rosentrater	Distribution System Enhancements	28,683	28,683	1,174,833	903,779	0	0		EDAN	4 factor
Rosentrater	Downtown Network - Asset Condition	33,000	33,000	250,000	250,000	0	0	Reliability/ safety	EDWA	Elec Direct
Rosentrater	Downtown Network - Performance & Capacity	75,000	75,000	0	0	0	0	Reliability	EDWA	Elec Direct
Rosentrater	Elec Relocation and Replacement Program	0	0	0	0	0	0	Regulation	EDAN	Required
Rosentrater	Electric Storm	0	0	0	0	0	0	Reliability/ safety	EDAN	Required
Magalsky	Electric Transportation	3,119,812	4,058,720	0	0	0	0		EDWA	Elec Direct
Kensok	Endpoint Compute and Productivity Systems	400,000	400,000	0	0	600,000	600,000		CDAA	CDAA

Efficiency Adj	2%	Indirect Offsets O&M		Direct Offsets - Capital		Indirect Offsets Capital				
ROR/CF	0.094626787	O&M	O&M	capital	capital	capital	capital			
Witness	**Business Case**	2022 Indirect	2023 Indirect	2022 Direct	2023 Direct	2022 Indirect	2023 Indirect	Purpose	Svc.Jur	
Kensok	Energy Delivery Modernization &	803,887	1,203,887	0	0	0	0		CDAA	CDAA
Kinney	Energy Imbalance Market								EDAN	P/T Ratio
Kinney	Energy Imbalance Market								EDAN	P/T Ratio
Kensok	Energy Resources								EDAN	P/T Ratio
Kensok	Enterprise & Control Network Infrastructure (1a)	1,333,333		0	0	2,000,000		Compliance /Reliability	CDAA	CDAA
Kensok	Enterprise Business	14,386,000	14,386,000	0	0	0	0	Security/	CDAA	CDAA
Kensok	Enterprise Communication Systems	400,000	400,000	0	0	600,000	600,000		CDAA	CDAA
Kensok	Enterprise Network Infrastructure	1,333,333	1,333,333	0	0	2,000,000	2,000,000	Compliance /Reliability	CDAA	CDAA
Kensok	Enterprise Security	6,390,000	6,390,000	0	0	0	0	Security	CDAA	CDAA
Kensok	Environmental Control & Monitoring Systems	400,000	400,000	0	0	600,000	600,000		CDAA	CDAA
Kensok	ET Modernization & Operational Efficiency - Technology	233,750	132,000	0	0	0	0		CDAA	CDAA
Kensok	Facilities and Storage Location Security	0	0	0	0	0	0	Safety/ security	CDAA	CDAA
Kensok	Fiber Network Lease Service Replacement	0	0	0	0	0	0		CDAA	CDAA
Kensok	Financial & Accounting	348,244	348,244	0	0	0	0		CDAA	CDAA
Rosentrater	Fleet Services Capital Plan	82,560	97,466	0	21,190	0	0		CDAA	CDAA
Rosentrater	Gas Above Grade Pipe Remediation Program	0	3,200	0	0	0	0	Compliance	GDAA	GDAA
Rosentrater	Gas Airway Heights HP Reinforcement	122,900	122,900	0	0	0	0		GDWA	Gas Direct
Rosentrater	Gas Cathodic Protection	17,000	17,500	0	0	0	0		GDAA	GDAA
Rosentrater	Gas Facility Replacement	0	0	0	0	0	0	Regulation	GDAA	Required
Rosentrater	Gas HP Pipeline	0	0	0	0	0	0	Regulation	GDAA	Required
Rosentrater	Gas Isolated Steel	0	0	0	0	0	0	Regulation	GDAA	Required
Rosentrater	Gas Non-Revenue Program	1,997,000	1,998,000	0	0	0	0		GDAA	GDAA

Efficiency Adj	2%	Indirect Offsets O&M		Direct Offsets - Capital		Indirect Offsets Capital				
ROR/CF	0.094626787	O&M	O&M	capital	capital	capital	capital			
Witness	**Business Case**	2022 Indirect	2023 Indirect	2022 Direct	2023 Direct	2022 Indirect	2023 Indirect	Purpose	Svc.Jur	
Rosentrater	Gas PMC Program	3,995,000	4,114,000	0	0	0	0		GDAA	GDAA
Rosentrater	Gas Pullman HP Reinforcement Project	0	0	0	0	0	0		GDWA	Gas Direct
Rosentrater	Gas Regulator Station Replacement Program	0	0	0	0	0	0		GDAA	GDAA
Rosentrater	Gas Reinforcement Program	21,500	21,500	0	0	0	0		GDAA	GDAA
Rosentrater	Gas Replacement Street and Highway Program	0	0	0	0	0	0	Regulation	GDAA	Required
Rosentrater	Gas Telemetry Program	63,000	70,200	0	0	0	0		GDAA	GDAA
Rosentrater	Gas Transient Voltage Mitigation Program	0	0	0	0	0	0	Regulation	GDAA	Required
Thackston	Generation DC Supplied System Update	0	0	0	0	0	0	Regulation	EDAN	Required
Thackston	Generation Masonry	209,500	209,500	0	0	0	0		EDAN	P/T Ratio
Thackston	Generation Protection Upgrades	0	0	0	0	0	0	Regulation	EDAN	P/T Ratio
Kensok	Generation, Substation & Gas Location Security	0	0	0	0	0	0	Safety/ security	CDAA	CDAA
Kensok	High Voltage Protection (HVP) Refresh	0	0	0	0	0	0	Regulation /tariff	CDAA	Required
Thackston	HMI Control Software	0	0	0	0	0	0	Regulation	EDAN	Required
Kensok	Human Resources Technology	400,000	400,000	0	0	0	0		CDAA	CDAA
Kensok	Identity and Access Governance	0	0	0	0	0	0		CDAA	CDAA
Rosentrater	Jackson Prairie Joint Project	0	0	0	0	0	0	Regulation	GDAA	Required
Rosentrater	Joint Use	0	0	1,375,000	1,475,000	1,375,000	1,475,000	Regulation/ Reliability	EDAN	Required
Thackston	KF_Fuel Yard Equipment Replacement	130,325	144,953	0	0	0	0	Safety	EDAN	P/T Ratio
Kensok	Land Mobile Radio & Real Time Communication Systems	400,000	400,000	0	0	600,000	600,000	Safety	CDAA	CDAA

Efficiency Adj	2%	Indirect Offsets O&M		Direct Offsets - Capital		Indirect Offsets Capital				
ROR/CF	0.094626787	O&M	O&M	capital	capital	capital	capital			
Witness	**Business Case**	2022 Indirect	2023 Indirect	2022 Direct	2023 Direct	2022 Indirect	2023 Indirect	Purpose	Svc.Jur	
Rosentrater	LED Change-Out Program	192,720	192,720	0	0	0	0		EDAN	4 factor
Kensok	Legal & Compliance Technology	45,333	45,333	0	0	0	0		CDAA	CDAA
Thackston	Long Lake Plant Upgrade	0	0	0	0	0	0		EDAN	P/T Ratio
Thackston	Monroe Street Abandoned Penstock Stabilization	308,766	320,380	0	0	0	0		EDAN	P/T Ratio
Rosentrater	N Lewiston Autotransformer - Failed Plant	371,680	0	0	0	0	0		EDAN	4 factor
Kensok	Network Backbone	1,333,333	1,333,333	0	0	2,000,000	2,000,000	Compliance /Reliability	CDAA	CDAA
Rosentrater	New Revenue - Growth	0	0	0	0	0	0	Regulation		Required
Thackston	Nine Mile HED Battery Building	0	0	0	0	0	0	Regulation	EDAN	Required
Thackston	Nine Mile Powerhouse Crane Rehab	35,170	36,927	0	0	0	0		EDAN	P/T Ratio
Thackston	Nine Mile Units 3 & 4 Control Upgrade	20,398	21,740	0	0	0	0		EDAN	P/T Ratio
Rosentrater	Oil Storage Improvements	18,635	18,635	0	0	0	0	0	CDAA	CDAA
Kensok	Outage Management System & Advanced Distribution Management System (OMS & ADMS)	0	48,025	0	0	0	0		EDAN	4 factor
Thackston	Peaking Generation Business Case	9,845	11,021	0	0	0	0		EDAN	P/T Ratio
Thackston	Post Falls North Channel Spillway Rehabilitation	0	0	0	0	0	0		EDAN	P/T Ratio
Rosentrater	Protection System Upgrade for PRC-002	0	0	0	0	0	0	Compliance	EDAN	Required
Thackston	Regulating Hydro	0	0	0	0	0	0	Reliability	EDAN	P/T Ratio

Efficiency Adj	2%	Indirect Offsets O&M		Direct Offsets - Capital		Indirect Offsets Capital				
ROR/CF	0.094626787	O&M	O&M	capital	capital	capital	capital			
Witness	**Business Case**	2022 Indirect	2023 Indirect	2022 Direct	2023 Direct	2022 Indirect	2023 Indirect	Purpose	Svc.Jur	
Rosentrater	Saddle Mountain 230/115kV Station (New) Integration Project Phase 2	8,000	8,000	0	0	0	0	Reliability	EDAN	4 factor
Rosentrater	SCADA - SOO and BuCC	0	0	0	0	0	0	Compliance	CDAA	Required
Kensok	Security Compliance	0	0	0	0	0	0	Regulation	CDAA	Required
Thackston	Spokane River License Implementation	0	0	0	0	0	0	Regulation	EDAN	Required
Rosentrater	Spokane Valley Transmission Reinforcement Project	0	0	0	0	0	0	Compliance	EDAN	Required
Rosentrater	Strategic: Clean Energy Fund	500,000	-	799,260	1,698,341	2,600,000	2,600,000		EDWA	Elec Direct
Thackston	Strategic: Upriver Park	0	0	0	0	0	0	Regulation	CDWA	Required
Rosentrater	Structures and Improvements/Furniture	292,958	292,958	20,000	20,000	0	0		CDAA	CDAA
Rosentrater	Substation - New Distribution Station Capacity Program			0	0	0	0		EDAN	4 factor
Rosentrater	Substation - Station Rebuilds Program	1,951,800	1,951,800	0	0	0	0		EDAN	4 factor
Kensok	Technology Failed Assets	400,000	400,000	0	0	600,000	600,000		CDAA	CDAA
Rosentrater	Telematics 2025	161,361	201,361		63,831	181,830	241,830		CDAA	CDAA
Rosentrater	Transmission - Minor Rebuild- Asset Condition	2,540	2,721	0	0	0	0		EDAN	PT
Rosentrater	Transmission -	0	0	0	0	0	0		EDAN	PT
Rosentrater	Transmission Construction - Compliance	3,870	3,553	0	0	0	0		EDAN	4 factor

Efficiency Adj	2%	Indirect Offsets O&M		Direct Offsets - Capital		Indirect Offsets Capital				
ROR/CF	0.094626787	O&M	O&M	capital	capital	capital	capital			
Witness	**Business Case**	2022 Indirect	2023 Indirect	2022 Direct	2023 Direct	2022 Indirect	2023 Indirect	Purpose	Svc.Jur	
Rosentrater	Transmission Major Rebuild - Asset Condition	10,257	9,098	0	0	0	0		EDAN	4 factor
Rosentrater	Transmission NERC Low-Risk Priority Lines Mitigation	0	0	0	0	0	0	Regulation	EDAN	Required
Rosentrater	Tribal Permits & Settlements	0	0	0	0	0	0	Compliance	EDAN	Required
Thackston	Upper Falls Trash Rake Replacement	29,754	31,628	0	0	0	0		EDAN	P/T Ratio
Thackston	Use Permits	0	0	0	0	0	0	Regulation	EDAN	Required
Rosentrater	Westside 230/115kV Station Brownfield Rebuild Project	0	0	0	0	0	0	Regulation	EDAN	4 factor
Howell	Wildfire Resiliency Plan	206,050	206,050	0	0	0	0	Reliability/ safety	EDAN	4 factor
Rosentrater	Wood Pole Management	11,064,288	11,064,288						EDAN	4 factor
Rosentrater	WSDOT Control Zone	1,058,500	876,000					Regulation	EDWA	Required
Thackston	WSDOT Franchises	0	0	0	0	0	0	Regulation	EDWA	Required
		103,203,335	85,026,642	3,619,093	4,432,141	18,155,268	16,315,268			
		0	(reflected in Pro Forma Power Supply Adj)							
		-19,004,834	(reflected in Colstrip Capital Adjustment)							
		$ 84,198,501	$ 85,026,642	$ 3,619,093	$ 4,432,141	$ 18,155,268	$ 16,315,268			

Allocation Factors

	WA E	WA G
P/T Ratio	0.6554	0
4 factor	0.68266	
CDAA	0.4778	0.056052408
Elec Direct	1	0
Gas Direct	0	1
GDAA		0.68833

Efficiency Adj	2%	O&M								
ROR/CF	0.094626787	Direct						Indirect			
Witness	**Business Case**	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G	2024 WA-E	2024 WA-G	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G
Kensok	Atlas	1,314	154	2,667	313	1,916	225	126,928	14,889	126,928	14,889
Thackston	Automation Replacement	434	-	434	-	744	-	228	-	227	-
Thackston	Base Load Hydro	1,189	-	1,195	-	1,195	-	-	-	-	-
Thackston	Base Load Thermal Program	3,081	-	9,567	-	3,255	-	61,220	-	77,415	-
Kensok	Basic Workplace Technology Delivery	736	86	723	85	723	85	-	-	-	-
Thackston	Boulder Park Generator	-	-	-	-	1,240	-	-	-	-	-
Thackston	Cabinet Gorge Dam	-	-	-	-	-	-	-	-	-	-
Thackston	Cabinet Gorge HVAC Replacement	-	-	1,861	-	-	-	1,454	-	1,566	-
Thackston	Cabinet Gorge Station Service	9,628	-	6,392	-	-	-	14,948	-	15,858	-
Thackston	Cabinet Gorge Stop Log	-	-	1,488	-	-	-	9,350	-	9,528	-

Efficiency Adj	2%	O&M								
ROR/CF	0.094626787	Direct						Indirect			
Witness	**Business Case**	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G	2024 WA-E	2024 WA-G	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G
Thackston	Cabinet Gorge Underwater Pumps	490	-	490	-	-	-	3,095	-	3,148	-
Thackston	Cabinet Gorge Unit 4 Protection & Control	930	-	-	-	-	-	4,725	-	5,115	-
Rosentrater	Capital Tools & Stores	2,261	265	2,261	265	2,261	265	7,963,066	934,081	7,963,066	934,081
Rosentrater	Central 24 HR Operations Facility	-	-	-	-	-	-	-	-	-	-
Thackston	Clark Fork Settlement Agreement	-	-	-	-	-	-	-	-	-	-
Thackston	Colstrip 3&4 Capital	142,998	-	-	-	14,090	-	19,004,834	-	-	-
Rosentrater	Colstrip Transmission	-	-	-	-	-	-	-	-	-	-
Kensok	Control and Safety	1,197	140	1,160	136	1,344	158	637,131	74,737	637,131	74,737
Magalsky	Customer Experience	14,136	1,658	49,974	5,862	49,974	5,862	212,504	24,927	454,884	53,359
Magalsky	Customer Facing Technology Program	3,689	433	50,984	5,981	50,984	5,981	4,177,749	490,057	4,720,853	553,764
Magalsky	Customer Transactional Systems	3,490	409	3,165	371	3,391	398	-	-	-	-
Kensok	Data Center Compute and Storage Systems	1,140	134	1,866	219	1,784	209	191,139	22,421	191,139	22,421
Kensok	Digital Grid Network	2,533	297	1,918	225	2,226	261	637,131	74,737	637,131	74,737
Rosentrater	Distribution Grid Modernization	18,216	-	22,987	-	22,987	-	82,041	-	111,095	-
Rosentrater	Distribution Minor Rebuild	14,858	-	14,858	-	14,212	-	-	-	-	-
Rosentrater	Distribution System Enhancements	22,464	-	17,282	-	26,325	-	19,581	-	19,581	-
Rosentrater	Downtown Network - Asset Condition	3,028	-	3,785	-	4,542	-	33,000	-	33,000	-
Rosentrater	Downtown Network - Performance & Capacity	79,200	-	79,200	-	79,200	-	75,000	-	75,000	-
Rosentrater	Elec Relocation and Replacement Program	-	-	-	-	-	-	-	-	-	-
Rosentrater	Electric Storm	-	-	-	-	-	-	-	-	-	-
Magalsky	Electric Transportation	5,252	-	7,381	-	7,684	-	3,119,812	-	4,058,720	-
Kensok	Endpoint Compute and Productivity Systems	3,164	371	3,090	362	5,138	603	191,139	22,421	191,139	22,421

Efficiency Adj	2%	O&M								
ROR/CF	0.094626787	Direct						Indirect			
Witness	**Business Case**	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G	2024 WA-E	2024 WA-G	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G
Kensok	Energy Delivery Modernization &	47,785	5,605	47,785	5,605	47,785	5,605	384,136	45,060	575,275	67,481
Kinney	Energy Imbalance Market	3,167,767	-	3,801,320	-	3,801,320	-	-	-	-	-
Kinney	Energy Imbalance Market	-	-	620	-	727	-	-	-	-	-
Kensok	Energy Resources	3,383	-	3,324	-	3,344	-	-	-	-	-
Kensok	Enterprise & Control Network Infrastructure (1a)	2,933	344	-	-	-	-	637,131	74,737	-	-
Kensok	Enterprise Business	84	10	382	45	90	11	6,874,326	806,370	6,874,326	806,370
Kensok	Enterprise Communication Systems	1,332	156	2,245	263	1,914	224	191,139	22,421	191,139	22,421
Kensok	Enterprise Network Infrastructure	2,021	237	2,118	248	1,397	164	637,131	74,737	637,131	74,737
Kensok	Enterprise Security	879	103	1,029	121	1,267	149	3,053,451	358,175	3,053,451	358,175
Kensok	Environmental Control & Monitoring Systems	1,016	119	872	102	803	94	191,139	22,421	191,139	22,421
Kensok	ET Modernization & Operational Efficiency - Technology	1,415	166	1,811	212	1,857	218	111,697	13,102	63,076	7,399
Kensok	Facilities and Storage Location Security	191	22	442	52	313	37	-	-	-	-
Kensok	Fiber Network Lease Service Replacement	1,260	148	1,526	179	1,260	148	-	-	-	-
Kensok	Financial & Accounting	1,617	190	2,510	294	1,944	228	166,408	19,520	166,408	19,520
Rosentrater	Fleet Services Capital Plan	7,149	839	5,072	595	4,905	575	39,451	4,628	46,574	5,463
Rosentrater	Gas Above Grade Pipe Remediation Program	-	888	-	1,205	-	1,199	-	-	-	2,203
Rosentrater	Gas Airway Heights HP Reinforcement	-	2,312	-	-	-	-	-	122,900	-	122,900
Rosentrater	Gas Cathodic Protection	-	931	-	931	-	931	-	11,702	-	12,046
Rosentrater	Gas Facility Replacement	-	-	-	-	-	-	-	-	-	-
Rosentrater	Gas HP Pipeline	-	-	-	-	-	-	-	-	-	-
Rosentrater	Gas Isolated Steel	-	-	-	-	-	-	-	-	-	-
Rosentrater	Gas Non-Revenue Program	-	12,108	-	11,073	-	11,073	-	1,374,595	-	1,375,283

Efficiency Adj	2%	O&M								
ROR/CF	0.094626787	Direct						Indirect		
Witness	**Business Case**	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G	2024 WA-E	2024 WA-G	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G
Rosentrater	Gas PMC Program	-	26,157	-	26,157	-	26,157	-	2,749,878	-	2,831,790
Rosentrater	Gas Pullman HP Reinforcement Project	-	-	-	-	-	4,542	-	-	-	-
Rosentrater	Gas Regulator Station Replacement Program	-	1,170	-	2,409	-	2,409	-	-	-	-
Rosentrater	Gas Reinforcement Program	-	1,652	-	1,652	-	1,652	-	14,799	-	14,799
Rosentrater	Gas Replacement Street and Highway Program	-	-	-	-	-	-	-	-	-	-
Rosentrater	Gas Telemetry Program	-	395	-	274	-	274	-	43,365	-	48,321
Rosentrater	Gas Transient Voltage Mitigation Program	-	-	-	-	-	-	-	-	-	-
Thackston	Generation DC Supplied System Update	-	-	-	-	-	-	-	-	-	-
Thackston	Generation Masonry	613	-	613	-	613	-	137,306	-	137,306	-
Thackston	Generation Protection Upgrades	-	-	-	-	729	-	-	-	-	-
Kensok	Generation, Substation & Gas Location Security	300	35	415	49	493	58	-	-	-	-
Kensok	High Voltage Protection (HVP) Refresh	-	-	-	-	-	-	-	-	-	-
Thackston	HMI Control Software	-	-	-	-	-	-	-	-	-	-
Kensok	Human Resources Technology	7,789	914	7,789	914	7,789	914	191,139	22,421	191,139	22,421
Kensok	Identity and Access Governance	608	71	378	44	173	20	-	-	-	-
Rosentrater	Jackson Prairie Joint Project	-	-	-	-	-	-	-	-	-	-
Rosentrater	Joint Use	-	-	-	-	-	-	-	-	-	-
Thackston	KF_Fuel Yard Equipment Replacement	-	-	37,666	-	-	-	85,415	-	95,002	-
Kensok	Land Mobile Radio & Real Time Communication Systems	3,228	379	909	107	2,739	321	191,139	22,421	191,139	22,421

Efficiency Adj	2%	O&M								
ROR/CF	0.094626787	Direct						Indirect		
Witness	**Business Case**	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G	2024 WA-E	2024 WA-G	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G
Rosentrater	LED Change-Out Program	388	-	388	-	388	-	131,562	-	131,562	-
Kensok	Legal & Compliance Technology	362	42	374	44	307	36	21,662	2,541	21,662	2,541
Thackston	Long Lake Plant Upgrade	-	-	-	-	24,238	-	-	-	-	-
Thackston	Monroe Street Abandoned Penstock Stabilization	-	-	1,116	-	-	-	202,365	-	209,977	-
Rosentrater	N Lewiston Autotransformer - Failed Plant	181,588	-	-	-	-	-	253,731	-	-	-
Kensok	Network Backbone	170	20	3,509	412	3,334	391	637,131	74,737	637,131	74,737
Rosentrater	New Revenue - Growth	-	-	-	-	-	-	-	-	-	-
Thackston	Nine Mile HED Battery Building	-	-	-	-	-	-	-	-	-	-
Thackston	Nine Mile Powerhouse Crane Rehab	2,109	-	-	-	-	-	23,050	-	24,202	-
Thackston	Nine Mile Units 3 & 4 Control Upgrade	-	-	2,481	-	2,481	-	13,369	-	14,248	-
Rosentrater	Oil Storage Improvements	-	-	1,594	187	-	-	8,905	1,045	8,905	1,045
Kensok	Outage Management System & Advanced Distribution Management System (OMS & ADMS)	-	-	12,920	-	19,379	-	-	-	32,785	-
Thackston	Peaking Generation Business Case	552	-	568	-	558	-	6,452	-	7,223	-
Thackston	Post Falls North Channel Spillway Rehabilitation	-	-	-	-	22,947	-	-	-	-	-
Rosentrater	Protection System Upgrade for PRC-002	-	-	-	-	-	-	-	-	-	-
Thackston	Regulating Hydro	3,656	-	3,673	-	3,673	-	-	-	-	-

Efficiency Adj	2%	O&M								
ROR/CF	0.094626787	Direct						Indirect			
Witness	**Business Case**	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G	2024 WA-E	2024 WA-G	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G
Rosentrater	Saddle Mountain 230/115kV Station (New) Integration Project Phase 2	25,791	-	-	-	-	-	5,461	-	5,461	-
Rosentrater	SCADA - SOO and BuCC	-	-	-	-	-	-	-	-	-	-
Kensok	Security Compliance	-	-	-	-	-	-	-	-	-	-
Thackston	Spokane River License Implementation	-	-	-	-	-	-	-	-	-	-
Rosentrater	Spokane Valley Transmission Reinforcement Project	-	-	-	-	-	-	-	-	-	-
Rosentrater	Strategic: Clean Energy Fund	4,347	-	-	-	-	-	500,000	-	-	-
Thackston	Strategic: Upriver Park	-	-	-	-	-	-	-	-	-	-
Rosentrater	Structures and Improvements/Furniture	5,256	617	5,256	617	5,256	617	139,989	16,421	139,989	16,421
Rosentrater	Substation - New Distribution Station Capacity Program	7,449	-	14,310	-	16,410	-	-	-	-	-
Rosentrater	Substation - Station Rebuilds Program	16,793	-	75,466	-	53,608	-	1,332,416	-	1,332,416	-
Kensok	Technology Failed Assets	553	65	503	59	503	59	191,139	22,421	191,139	22,421
Rosentrater	Telematics 2025	-	-	20,335	2,385	-	-	77,106	9,045	96,220	11,287
Rosentrater	Transmission - Minor Rebuild- Asset Condition	-	-	-	-	-	-	-	-	-	-
Rosentrater	Transmission -	-	-	-	-	-	-	-	-	-	-
Rosentrater	Transmission Construction - Compliance	2,727	-	2,003	-	-	-	2,642	-	2,425	-

Efficiency Adj	2%	O&M									
ROR/CF	0.094626787	Direct						Indirect			
Witness	**Business Case**	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G	2024 WA-E	2024 WA-G	2022 WA-E	2022 WA-G	2023 WA-E	2023 WA-G
Rosentrater	Transmission Major Rebuild - Asset Condition	7,339	-	15,504	-	14,212	-	7,002	-	6,211	-
Rosentrater	Transmission NERC Low-Risk Priority Lines Mitigation	-	-	-	-	-	-	-	-	-	-
Rosentrater	Tribal Permits & Settlements	-	-	-	-	-	-	-	-	-	-
Thackston	Upper Falls Trash Rake Replacement	-	-	1,861	-	-	-	19,501	-	20,729	-
Thackston	Use Permits	-	-	-	-	-	-	-	-	-	-
Rosentrater	Westside 230/115kV Station Brownfield Rebuild Project	-	-	-	-	11,530	-	-	-	-	-
Howell	Wildfire Resiliency Plan	31,711	-	34,883	-	37,467	-	140,662	-	140,662	-
Rosentrater	Wood Pole Management	16,795	-	16,795	-	16,795	-	7,553,147	-	7,553,147	-
Rosentrater	WSDOT Control Zone	-	-	-	-	-	-	-	-	-	-
Thackston	WSDOT Franchises	-	-	-	-	-	-	-	-	-	-
		3,894,384	59,644	4,417,089	70,054	4,409,761	72,151	60,724,380	7,587,728	42,321,729	7,715,027
		-3,167,767	0	-3,801,320	0	-3,801,320	0	0	0	0	0
		-142,998	0	0	0	-14,090	0	-19,004,834	0	0	0
		$ 583,619	$ 59,644	$ 615,769	$ 70,054	$ 594,351	$ 72,151	$ 41,719,546	$ 7,587,728	$ 42,321,729	$ 7,715,027
		2022 WA-E Direct	2022 WA-G Direct	2023 WA-E Direct	2023 WA-G Direct	2024 WA-E Direct	2024 WA-G Direct	2022 WA-E Indirect	2022 WA-G Indirect	2023 WA-E Indirect	2023 WA-G Indirect

WA E 2023	WA G 2023
$ 891,504	$ 94,671

WA E 2024	WA G 2024
$ 605,060	$ 71,103

Total WA 2023	Total WA 2024	Total 2023-2024
$ 986,175	$ 676,163	$ 1,662,338

Efficiency Adj	2%	
ROR/CF	0.094626787	
Witness	**Business Case**	Comments
Kensok	Atlas	Multi-year program currently scheduled to run through 2026 to strategically replace the suite of custom Geographic Information System (GIS) applications known as Avista Facility Management (AFM). The AFM is a cornerstone to Avista's ability to provide responsive service across its territory. If AFM is not replaced with a modern GIS platform, the ability of Avista to meet customer, regulatory, compliance requirements will be at risk. Modernizing Avista's GIS and deploying mobile GIS applications is anticipated to provide indirect labor benefits through existing labor efficiencies and avoiding a need to add future FTEs. Savings for labor split 40% O&M and 60% Cap split.
Thackston	Automation Replacement	This program replaces automated control systems at Avista's generation facilities that are obsolete and spare parts are no longer available for purchase. These systems are currently operating with a significant risk of an unplanned failure that would require an extend outage to replace the control system. Indirect benefit of risk cost reduction and avoided outage and cyber security risk, not quantified here.
Thackston	Base Load Hydro	Related to the ongoing operations of four Avista's hydroelectric generating plants located on the Spokane River: Post Falls, Upper Falls, Monroe Street and Nine Mile. Costs and benefits of these projects included in power supply adjustment. The projects in this program benefit customers because they are necessary to maintain reliability and availability of these generating facilities.
Thackston	Base Load Thermal Program	The Base Load Thermal Program provides funding to Coyote Springs 2 and Kettle Falls Generating Station for small to medium size projects. Costs and benefits of these projects included in power supply adjustment. The projects in this program benefit customers because they are necessary to maintain reliability and availability of these generating facilities. One project has been identified for Kettle Falls Generation Station in asphalting the landfill access road scheduled for 2023 resulting in
Kensok	Basic Workplace Technology Delivery	This investment 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 labor costs. No indirect savings quanitified.
Thackston	Boulder Park Generator	No direct or indirect offsets prior to 2024, see Business Case.
Thackston	Cabinet Gorge Dam	Construction of the Fishway is required under the Clark Fork Settlement Agreement and License.
Thackston	Cabinet Gorge HVAC Replacement	The replacement of this equipment will result in the continued safe operation of Cabinet Gorge Hydroelectric Development (HED), ensuring we provide reliable and affordable energy to the customers we serve. Costs and benefits of this project included in power supply adjustment. 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. 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.
Thackston	Cabinet Gorge Station Service	The replacement of this equipment will result in the continued safe operation of Cabinet Gorge Hydroelectric Development (HED), ensuring we provide reliable and affordable energy to the customers we serve. Costs and benefits of this project included in power supply adjustment. 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. 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.
Thackston	Cabinet Gorge Stop Log	The replacement of this equipment will result in the continued safe operation of Cabinet Gorge Hydroelectric Development (HED), ensuring we provide reliable and

Efficiency Adj	2%	
ROR/CF	0.094626787	
Witness	**Business Case**	Comments
Thackston	Cabinet Gorge Underwater Pumps	The replacement of this equipment will result in the continued safe operation of Cabinet Gorge Hydroelectric Development (HED), ensuring we provide reliable and affordable energy to the customers we serve. Costs and benefits of this project included in power supply adjustment. 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. 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.
Thackston	Cabinet Gorge Unit 4 Protection & Control	The replacement of this equipment will result in the continued safe operation of Cabinet Gorge Hydroelectric Development (HED), ensuring we provide reliable and affordable energy to the customers we serve. Costs and benefits of this project included in power supply adjustment. The calculated indirect savings considers the
Rosentrater	Capital Tools & Stores	Indirect savings associated with the cost to repair versus purchase new, and cost to rental of all equipment if not purchased.
Rosentrater	Central 24 HR Operations Facility	No direct or indirect offsets prior to 2024, see Business Case.
Thackston	Clark Fork Settlement Agreement	Capital requirement enforceable under the Clark Fork Federal Energy Regulatory Agency (FERC) License, for Project #2058, required under the Federal Power Act.
Thackston	Colstrip 3&4 Capital	Direct O&M savings included in separate Colstrip Adjustment PF 3.19. Indirect benefits relate to estimated safety, environmental, plant capacity, heat rate and
Rosentrater	Colstrip Transmission	Colstrip Project Transmission Agreement, NERC - NERC may assess penalties of up to $1 million per day, per violation for non-compliance.
Kensok	Control and Safety	A lifetime avoided cost of $10M-$20M over 2-3 years is due to necessity to sustain network automated business processes and avoid "cyber intrusion". Minimum
Magalsky	Customer Experience	Direct savings associated with retirement of legacy software. Indirect savings - Due to the deflection of customer contacts, this investment will reduce the number of
Magalsky	Customer Facing Technology Program	Direct savings associated with software that will be retired as a result of these investments. Indirect savings - this capital investment enables customers to self-serve through digital channels (versus manual phone calls with CSRs) reducing the need to hire additional CSRs than we otherwise would need to, absent this investment.
Magalsky	Customer Transactional Systems	Required investment - requires regular updates from software providers and regular security updates to ensure customer data is protected. This investment 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.
Kensok	Data Center Compute and Storage Systems	Indirect savings range 100k-10M. productivity related - minimum avoided "Indirect" annual savings estimated at $1M*40% O&M -related to avoided labor if processes were manual.
Kensok	Digital Grid Network	A lifetime avoided cost of $10M-$20M over 2-3 years is due to necessity to sustain network automated business processes and avoid "cyber intrusion". Minimum estimated avoided costs if these business processes were not available (requiriung manual work) reflect "Indirect" annual $10M*40% O&M/3 years.
Rosentrater	Distribution Grid Modernization	See Direct and Indirect savings described on form. Capital offsets were identified and categorized as direct savings. The first addresses how asset condition affects reliability where there are direct O&M savings due to a reduction in the average number of equipment outage events incurred per year based on asset condition. The second category addresses savings when Multi-Program Integrated Refresh Planning is utilized to execute prescribed refresh work.
Rosentrater	Distribution Minor Rebuild	Capital required as a result of unplanned failing equipment, customer request impacting our current service, or accident. Unquantified Indirect cost for this business case is avoidance of outages by replacing failing equipment.
Rosentrater	Distribution System Enhancements	Direct capital and O&M savings from both wood pole management offsets and outage work offsets, indirect O&M savings due to lower line losses
Rosentrater	Downtown Network - Asset Condition	Direct capital reduction - Adequate investment in the Asset Condition category will result in reduced investment in an adjacent category – Failed Plant. Indirect savings related to avoided training labor as replacement of obsolete equipment reduces the skillset that our cablemen must learn and keep up to date through
Rosentrater	Downtown Network - Performance & Capacity	Direct savings associated with labor reductions for remote work versus in-person verification of switching work; indirect savings related to avoided need for increases in FTEs to support ongoing construction and O&M work.
Rosentrater	Elec Relocation and Replacement Program	Required work - franchise agreements with the state, county, and city jurisdictions within our service territories.
Rosentrater	Electric Storm	Outage restoration, ICE calculation: an average storm affects 20,000 customers at a cost of $116.15 per customer per hour. This becomes the avoided indirect cost per hour, per event. This equates to $2.3M per hour of a storm event.
Magalsky	Electric Transportation	Indirect benefits associated with savings associated with customer transportation fuel and maintenance reductions, as well as avoided CO2 emmissions. Additional
Kensok	Endpoint Compute and Productivity Systems	Indirect savings range 100k-10M. productivity related - minimum avoided "Indirect" annual savings estimated at $1M*40% O&M -related to avoided labor if processes were manual.

Efficiency Adj	2%	
ROR/CF	0.094626787	
Witness	**Business Case**	Comments
Kensok	Energy Delivery Modernization &	Direct savings associated with this project relate to the reduction in extended Support costs of approximately $100K/year. Indirect savings relate to reduction in risk and avoided labor increases due to work load efficiencies.
Kinney	Energy Imbalance Market	Direct offsetting revenues included in power supply adjustment
Kinney	Energy Imbalance Market	Direct offsetting revenues included in power supply adjustment
Kensok	Energy Resources	Direct savingss are not reasonably quantifiable here. However benefits associated with this work offsets costs through incorporation in power supply baseline
Kensok	Enterprise & Control Network Infrastructure (1a)	A lifetime avoided cost of $10M-$20M over 2-3 years is due to necessity to sustain network automated business processes and avoid "cyber intrusion". Minimum estimated avoided costs if these business processes were not available (requiriung manual work) reflect "Indirect" annual $10M*40% O&M/3 years. This business case will sunset in 2022 after the completion of two projects. For better visibility and tracking, this business case has been divided in to three new Business Cases for 2021-2024, consisting of Enterprise Network Infrastructure, Control and Safety Network Infrastructure, and Network Backbone Infrastructure.
Kensok	Enterprise Business	The projects in this business case support continued disaster recovery investments to continue operating Avista's critical system by ensuring we have the right
Kensok	Enterprise Communication Systems	Indirect savings range 100k-10M. productivity related - minimum avoided "Indirect" annual savings estimated at $1M*40% O&M -related to avoided labor if processes were manual.
Kensok	Enterprise Network Infrastructure	A lifetime avoided cost of $10M-$20M over 2-3 years is due to necessity to sustain network automated business processes and avoid "cyber intrusion". Minimum estimated avoided costs if these business processes were not available (requiriung manual work) reflect "Indirect" annual $10M*40% O&M/3 years.
Kensok	Enterprise Security	Investments in cyber security tools like firewalls, security incident and event monitoring, intrusion prevention, and endpoint protection systems help identify, detect, protect, respond, and recover from a cybersecurity incident. The Indirect avoided cost a Cybersecurity event is $6.39m per event.
Kensok	Environmental Control & Monitoring Systems	Indirect savings range 100k-10M. productivity and safety related - minimum avoided "Indirect" annual savings estimated at $1M*40% O&M -related to avoided labor if processes were manual.
Kensok	ET Modernization & Operational Efficiency - Technology	user efficiency - estimated avoided labor savings
Kensok	Facilities and Storage Location Security	Indirect savings associated with these investments in access control systems and video surveillance are prudent versus returning to a manual physical brass key management program, relate to safety, benefits not quantifiable.
Kensok	Fiber Network Lease Service Replacement	$60,000 annual lease cost avoided starting 2027 - 2032
Kensok	Financial & Accounting	Indirect benefits relate to labor efficiencies as a result of reduced time for employees to complete routine monthly reconciliation and close processes, enabling
Rosentrater	Fleet Services Capital Plan	O&M indirect savings related to crew down time that would occur if fleet was unreliable. Specifically, there is annual labor savings by maintaining the capital plan and having a predictable labor requirement, and demand repair work orders would increase over time if the Company did not control the total overall average age of fleet, resulting in an indirect (increase) in O&M expense and capital.
Rosentrater	Gas Above Grade Pipe Remediation Program	The primary mission of this investment is to replace above ground gas pipelines that are either not in compliance with state or federal pipeline safety codes, or have been deemed to have a high risk with respect to safety, reliability, etc. Federal mandated inspection requirements are per 49 CFR Part 192.721 and 192.481. Direct savings associated with the elimination of recurring patrolling and atmospheric corrosion inspections when an above ground pipeline is remediated by installing the replacement pipeline underground, then these periodic inspections are no longer required. Indirect savings associated with cost avoidance of performing future O&M projects to repair pipe wrap, paint, and hangers.
Rosentrater	Gas Airway Heights HP Reinforcement	Direct savings will result from the elimination of the Cold Weather Action Plan (CWAP) if this project is completed as scoped. Based on historical weather data and expected active CWAP occurences, this equates to 0.2 yearly events or $2,312 annually. Indirect savings would result by eliminating the likely outage response that would occur from a cold weather outage in this part of the system if this project were not complete. Other qauntifiable benefits provided but not included in the matrix relate to impacts to customer safety and property with an outage.
Rosentrater	Gas Cathodic Protection	This corrosion control program is mandated under 49 CFR, Subpart I. This rule requires buried steel piping be coated and have a cathodic protection in place. When
Rosentrater	Gas Facility Replacement	Regulatory mandate to complete - US Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) mandates gas distribution
Rosentrater	Gas HP Pipeline	Regulatory mandate to complete - US Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) mandates gas distribution
Rosentrater	Gas Isolated Steel	Regulatory mandate to complete - US Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) mandates gas distribution
Rosentrater	Gas Non-Revenue Program	Indirect savings from repairing leaks in a permanent manner as opposed to a temporary manner. Leaks that are repaired temporarily require future permanent work as well. Indirect cost savings based on avoided labor that would have occured and charged to expense to do repairs if the capital item had not been completed. CFR

Efficiency Adj	2%	
ROR/CF	0.094626787	
Witness	**Business Case**	Comments
Rosentrater	Gas PMC Program	Avista is required by state commission rules and tariffs 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 gas measurement for our customers and compliance with the applicable state tariffs. Customers benefit from
Rosentrater	Gas Pullman HP Reinforcement Project	No direct or indirect offsets prior to 2024, see Business Case.
Rosentrater	Gas Regulator Station Replacement Program	This annual program replaces or upgrade existing at-risk Gate Stations, Regulator Stations and Industrial Meter Sets ("stations") located throughout Avista's gas territory that are at the end of their service life and/or not up to current Avista standards. These stations require annual maintenance per 49 CFR 192.739. Direct savings relate to direct O&M savings not needed for upgraded plant.
Rosentrater	Gas Reinforcement Program	Direct savings will result from the elimination of the Cold Weather Action Plan (CWAP) if this project is completed as scoped. Based on historical weather data and expected active CWAP occurences, this equates to $2,400 annually. Indirect savings would result by eliminating the likely outage response that would occur from a cold weather outage in this part of the system if this project were not complete. Other qauntifiable benefits provided butnot included in the matrix relate to impacts to customer safety and property with an outage.
Rosentrater	Gas Replacement Street and Highway Program	Required per franchise agreements with State, County, and City agencies related to gas facilities located in public right of ways, violation of those agreements by not relocating when required to do so, would result in fines.
Rosentrater	Gas Telemetry Program	Indirect benefits associated with improved safety, timely data, compliance with DOT and WA state requirements, certain labor avoidance, etc. as described per the offset form.
Rosentrater	Gas Transient Voltage Mitigation Program	CFR 49 192-467(f) states that pipelines in close proximity to electric systems must be protected against damage from fault currents. The purpose of this program is to investigate and mitigate AC voltage hazards on steel gas piping systems. Avista is mitigating these high voltage conditions because they are a safety risk for both company employees, as well as the general public
Thackston	Generation DC Supplied System Update	The Generation DC Supplied System business case ensure the critical power systems at generation and control facilities are safe and reliable. Required per NERC PRC -005-06 Protection System, Automatic Reclosing and Sudden Pressure Relays.
Thackston	Generation Masonry Protection Upgrades	Projects in this business case benefit customers because sound structures and the remedy of crumbling masonry is necessary to maintain safety, reliability, and No direct or indirect offsets prior to 2024, see Business Case.
Kensok	Generation, Substation & Gas Location Security	Indirect savings associated with these investments in access control systems and video surveillance are prudent versus returning to a manual physical brass key management program, relate to safety, benefits not quantifiable.
Kensok	High Voltage Protection (HVP) Refresh	Tariff FCC Number 1, Section 13.7, requires Avista to provide high voltage protection for leased communication circuits in high voltage areas newer than September 12, 1994, also a safety requirement
Thackston	HMI Control Software	Avista's Human Machine Interface (HMI) system is used to safely, reliably, and securely operate generating systems in accordance with NERC Critical Infrastructure Protection (CIP) Standards, and includes cyber assets that allows operator to control generation systems from various physical locations within Avista's secured generation control network.
Kensok	Human Resources Technology	Direct savings related to reductions in printing, copier maintenance and filing of paper documents. Indirect savings related to labor efficiencies, allowing existing staff to be more productive, and avoid need for future hiring.
Kensok	Identity and Access Governance	This business case provides assurance that Avista staff are provided with the appropriate access to systems and revoked when no longer needed in a timely mannerEmployee efficiencies are mentioned, indirect benefits relate to safety, not quantifiable.
Rosentrater	Jackson Prairie Joint Project	Jackson Prairie provides gas storage capability that reduces future gas price risk and volatility to the benefit of customers and is not quantifiable here. All optimization benefits are captured in the purchase gas adjustment filing which is reviewed and approved by the commission annually
Rosentrater	Joint Use	Required per Joint Use licenses. Direct capital savings - Joint use licensees pay for up to half of the cost of pole replacements and infrastructure upgrades. Indirect benefit quantified associated with reliability of network and avoided future outage cost to customers.
Thackston	KF_Fuel Yard Equipment Replacement	Three key drivers of investment: safety, environmental and asset condition. Plant delivery contractors have had serious safety incidents including a fatality due to the inadequate equipment capabilities. This project will provide the plant employees and contractors a safe offloading system with environmental equipment to ensure a reliability to the plant.
Kensok	Land Mobile Radio & Real Time Communication Systems	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. Indirect savings range 100k-10M. productivity related - minimum avoided "Indirect" annual savings estimated at $1M*40% O&M -related to avoided labor if processes were manual.

Efficiency Adj	2%
ROR/CF	0.094626787

Witness	Business Case	Comments
Rosentrater	LED Change-Out Program	Required to maintain compliance with WA State Initiative 937 (Clean Energy Initiative). Savings listed as indirect because energy efficiency savings associated with the change to LED bulbs already included in the test period. Capital work included here for replacement of existing LED bulbs.
Kensok	Legal & Compliance Technology	This investment enables improvements in enterprise applications thus saving people time. Additionally, enhancement aids Avista in being compliant with and avoiding potential fines from regulatory agencies that govern Avista business, i.e. FERC. These fines range from $1,000/day to $1,000,000/day. Quantified savings relate to labor efficiencies.
Thackston	Long Lake Plant Upgrade	No direct or indirect offsets prior to 2024, see Business Case.
Thackston	Monroe Street Abandoned Penstock Stabilization	Equipment at end of its useful life and needs replaced to ensure that Monroe Street 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.
Rosentrater	N Lewiston Autotransformer - Failed Plant	Direct O&M is rental savings, cost of diesel fuel and serviceman labor savings; indirect savings is ICE calculation cost of risk/outage savings
Kensok	Network Backbone	A lifetime avoided cost of $10M-$20M over 2-3 years is due to necessity to sustain network automated business processes and avoid "cyber intrusion". Minimum estimated avoided costs if these business processes were not available (requiriung manual work) reflect "Indirect" annual $10M*40% O&M/3 years.
Rosentrater	New Revenue - Growth	Tariff requirements, revenues associated with growth plant included in offsets adjustment as "other revenue"
Thackston	Nine Mile HED Battery Building	Avista's battery storage systems are the backbone for supplying power to the protective relays, breakers, controls and communication systems which ensure the safe and reliable operation. 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.
Thackston	Nine Mile Powerhouse Crane Rehab	Equipment at end of its useful life and needs 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.
Thackston	Nine Mile Units 3 & 4 Control Upgrade	The control system operating Nine Mile HED's Units 3 and 4 hydroelectric generators is obsolete, spare parts are no longer available for purchase, and the units are currently operating with a significant risk of an unplanned failure that would require an extend outage to replace the control system. In addition, operating Avista's generation facilities on obsolete automation control equipment creates a cyber security risk. 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.
Rosentrater	Oil Storage Improvements	Indirect savings associated with avoided labor, facilities and hazardous waste labor hours that would be required if a spill occurred because this work was not complete.
Kensok	Outage Management System & Advanced Distribution Management System (OMS & ADMS)	Indirect Savings (calculated for WA): Modernizing Avista's outage management software business processes is anticipated to provide indirect labor, avoided costs associated with future reduced labor needs. These high-level estimated savings are based on a review a of current and previous projects completed at Avsita, with a uniform efficiency value applied based on the types of applications deployed. See offset form. Efficiency adjustment allocated to EDAN.
Thackston	Peaking Generation Business Case	These projects replace failed, damaged, and underperforming equipment to ensure plant reliability and availability are maintained at a high level. 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.
Thackston	Post Falls North Channel Spillway Rehabilitation	No direct or indirect offsets prior to 2024, see Business Case.
Rosentrater	Protection System Upgrade for PRC-002	NERC reliability standard PRC-002-2, Non-compliance can carry a fine of up to a million dollars per day based on severity. T
Thackston	Regulating Hydro	Projects relate to the ongoing operations of Avista's four largest hydroelectric generating plants, Noxon Rapids, Cabinet Gorge, Long Lake and Little Falls and benefit customers because they are necessary to maintain reliability and availability of these generating facilities. This work restores critical assets and systems to normal reliability levelsand may add a redundant system or control to improve the resiliency of the generating units. Indirect savings are realized in some instances by creating opportunities to re-direct existing labor and expense away from damaged or sub-optimal performing equipment, and maintenance efforts can be directed to other items that need to be addressed.

Efficiency Adj	2%	
ROR/CF	0.094626787	
Witness	**Business Case**	Comments
Rosentrater	Saddle Mountain 230/115kV Station (New) Integration Project Phase 2	Indirect savings to customers, estimate based risk of 1 outage per year
Rosentrater	SCADA - SOO and BuCC	NERC CIP-007 requires Avista to address security vulnerabilities within Electronic Security Perimeters, TOP-001-5 Real-time Assessment requirements, CIP-012 Protections, failure to meet these NERC requirements result in penalties
Kensok	Security Compliance	Maintaining compliance helps Avista reduce the likelihood of security breaches while also avoiding financial penalties from regulatory bodies. Regulatory bodies requiring increased security posture include the U.S. Department of Energy (FERC/NERC CIP Requirements), U.S. Department of Homeland Security (TSA SD1 and SD2), and potentially the U.S. Department of Defense (Cybersecurity Maturity Model Certification and Compliance). Indirect benefits relate to security, not quantifiable.
Thackston	Spokane River License Implementation	Capital requirement enforceable under the Spokane River Federal Energy Regulatory Agency (FERC) License, for Project #2545, required under the Federal Power Act.
Rosentrater	Spokane Valley Transmission Reinforcement Project	NERC TPL-001-4 system deficiency, completion of this project is required to ensure Avista maintains compliance with NERC regulations. Non-compliance can carry a fine of up to a million dollars per day based on severity.
Rosentrater	Strategic: Clean Energy Fund	Direct capital savings is due to WA Dept. of Commerce Clean Energy Fund Grant of $2.5M; Indirect O&M related to demand response value; Indirect capital related to 5 yr delay of a $12M substation.
Thackston	Strategic: Upriver Park	Capital requirement enforceable under the Spokane River Federal Energy Regulatory Agency (FERC) License, for Project #2545, required under the Federal Power Act.
Rosentrater	Structures and Improvements/Furniture	Direct O&M savings associated with energy efficiency of newer equipment, Direct Capital reduced due to reduced scope of work, Indirect O&M avoided due to unplanned failures if work not complete, more efficient workspace, etc.
Rosentrater	Substation - New Distribution Station Capacity Program	Having the right amount of backup capacity in each area is critical for the continued appropriate management of the electric system. Any direct savings would be offset by direct costs due to more stations to inspect, test and maintain. Some savings will be seen with SCADA being extended to about 40 substations over the next several years – this will benefit our wildfire prevention efforts, quicker outage remediation and general maintenance needs. Indirect savings are negative for this program. Adding SCADA to substations means more data collected about the substation which will require more personnel to analyze and manage the data. Adding new substations to the electric system will require additional GPSS personnel (Batterymen, Servicemen, and general staff) to inspect, test and maintain the new substations plus Substation Engineers to manage the compliance and maintenance requirements for these new substations.
Rosentrater	Substation - Station Rebuilds Program	Substation Rebuild - The Company rebuilds two substations per year on average. Without this work, 1 additional GPSS Serviceman would be needed to address the limp along maintenance needed to keep those stations in service. Indirect savings provided related to Two locations * 10 hours of O&M * 52 weeks = 1,040 hours of additional maintenance service work (or $176,800) would be needed annually if these station rebuilds did not take place. This figure does not include tools, materials and vehicle costs (miles and maintenance) used during this equipment maintenance. Other projects for Asset Maintenance work, are completed due to Asset Maintenance issues like Asset Condition, Equipment Failures, Safety Issues, and Environmental Issues. Most are substation equipment replacements for equipment that has failed in service and are replaced on an emergency basis. Estimated indirest savings result from estimated 95 locations * 4 hours of O&M * 52 weeks = 19,760 hours of additional maintenance would be needed (or $1,775,000 avoided maintenance annually).
Kensok Rosentrater	Technology Failed Assets Telematics 2025	Indirect savings range 100k-10M. productivity related - minimum avoided "Indirect" annual savings estimated at $1M*40% O&M -related to avoided labor if Direct maintenance savings. Indirect savings described in the form.
Rosentrater	Transmission - Minor Rebuild- Asset Condition	Indirect savings related to replacing an existing conductor with another that has fewer losses due to a reduced impedance. Power loss savings calculated using the average line loading per Avista's Transmission System Planning. A Mid-C Heavy Load price of energy was used to calculate the savings.
Rosentrater Rosentrater	Transmission - Transmission Construction - Compliance	No direct or indirect offsets prior to 2024, see Business Case. Indirect benefits related to line losses.

Efficiency Adj	2%
ROR/CF	0.094626787

Witness	Business Case	Comments
Rosentrater	Transmission Major Rebuild - Asset Condition	Indirect related to power loss savings
Rosentrater	Transmission NERC Low-Risk Priority Lines Mitigation	This business case provides Risk Avoidance with no indirect savings, activities are driven by NERC. While there is one case study that suggests another utility paid $40m as a result of not replacing conductors, there is no calculation to report risk avoidance amounts.
Rosentrater	Tribal Permits & Settlements	Costs are directly associated with compliance and adhering to federal law and regulations 25 CFR 169 and 162, legal requirements to obtain and maintain easement permits/leases for Avista's facilities located on Tribal reservations.
Thackston	Upper Falls Trash Rake Replacement	The replacement intake rake is not anticipated to be faster or more efficient but will address safety concerns. This project also will not impact operations and maintenances costs as the new rake will require similar maintenance as the existing. 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.
Thackston	Use Permits	Costs of acquiring legal rights to maintain and/or extend rights-of-way (ROW) for Avista's electric transmission/distribution and gas infrastructure across public lands.
Rosentrater	Westside 230/115kV Station Brownfield Rebuild Project	No direct or indirect offsets prior to 2024, see Business Case.
Howell	Wildfire Resiliency Plan	No direct savings is determinant at this time. Indirect savings is based on Interruption Customer Estimate or ICE at $116.15/customer*hour. 2021 indirect savings of $206,500 is included for 2022-2023. Wildfire Risk reduction is not quantified here.
Rosentrater	Wood Pole Management	The National Electric Safety Code (NESC) is adopted as Washington Law under WAC296-45-045. Part 013C of this code describes the application, Part 121 defines the
Rosentrater	WSDOT Control Zone	Required per RCW Title 47 Public Highways and Transportation. Indirect is related to avoiding penalties.
Thackston	WSDOT Franchises	Direct costs of acquiring legal rights to maintain and/or extend rights-of-way (ROW) for Avista's electric transmission/distribution and gas infrastructure on public highways, through franchises with the State of Washington issued by WSDOT. While there are no quantifiable indirect savings, were Avista unable to secure highway franchises, we would be forced to seek alternative routes. In addition to the direct additional costs, there would be indirect costs, including the opportunity costs of having to prioritize road moves over other work with no benefit to reliability, the potential for increased permitting and restoration costs by having to move away from road rights-of-way, and the costs of potential legal challenges or the need to use eminent domain.

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* No offset form provided for projects starting in 2024; 2% efficiency adjustment applied.

** No offset form provided for Enterprise & Control Network; please see comment section for this Business Case.

*** No offset form provided similar to other mandatory projects. No direct or indirect offsets determined.

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. **Business Case Name:** Atlas

2. **Business Case Owner:** Mike Littrel

3. **Director Responsible:** Josh DiLuciano/Hossein Nikdel

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):

No direct savings identified for this business case.

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, if may cost more in the future (cost avoidance).

Atlas is a multi-year year program which is currently scheduled to run through 2026 to strategically replace the suite of custom Geographic Information System (GIS) applications known as Avista Facility Management (AFM). AFM is the system of record for spatial electric facilities in Washington and Idaho and gas facility data in Washington, Idaho and Oregon and provides the connectivity model to support GIS engineering and analysis applications. The AFM applications and data model have been used for nearly two decades and are approaching technology obsolescence. The existing data model used by AFM is being replaced by a new industry standard model called the Utility Network. The AFM is a cornerstone to Avista's ability to provide responsive service across its territory. If AFM is not replaced with a modern GIS platform, the ability of Avista to meet customer, regulatory, compliance requirements will be at risk. Replacing AFM will enable Avista to take advantage of commercial GIS applications that provide improved mobile and desktop functionality, increased collaboration capabilities and increased reliability.

Modernizing Avista's GIS and deploying mobile GIS applications is anticipated to provide the following indirect labor savings. These high-level estimated savings are based on a review a of current and previous GIS projects completed in the Atlas Business case with a uniform efficiency value applied based on the types of applications deployed. This method was used to forecast anticipated savings for future projects because specific projects for 2022 and 2023 have not yet been approved. The following are high-level estimates and the Company does not have a way to track if these benefits will be realized.

Atlas Indirect Savings Estimates

GIS Mobile Applications Annual Indirect Offset Potential		
Estimated Number of Users	75	
Estimated Efficiency per User	15	minutes per day
Estimated Usage Days per year	200	
Standard Hourly Labor Rate	$85.00	
Estimated Percent of Users in WA	75%	
Estimated Annual Indirect Labor Offset	$239,063	

GIS Modernization Annual Indirect Offset Potential		
Estimated Number of Users	200	
Estimated Efficiency per User	10	minutes per day
Estimated Usage Days per year	200	
Standard Hourly Labor Rate	$85.00	
Estimated Percent of Users in WA	75%	
Estimated Annual Indirect Labor Offset	$425,000	

Total Annual Indirect Labor Offset	**$664,063**

Quantified indirect savings:

2022	2023	Lifetime
$664,063	$664,063	

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.

Not applicable for this business case.

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 Josh DiLuciano Hossein Nikdel

Director Signature DocuSigned by: Josh DiLuciano A3C71874F0564DB... DocuSigned by: Hossein Nikdel E4E2D9C7EE4747F...

Date Oct-25-2021 | 8:04 AM PDT Oct-25-2021 | 7:36 AM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Generation Automation Replacement

2. Business Case Owner:

Jeremy Winkle

3. Director Responsible:

Andy Vickers

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
$0	$0	$0

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, if may cost more in the future (cost avoidance).

This program replaces automated control systems at Avista's generation facilities that are obsolete and spare parts are no longer available for purchase. These systems are currently operating with a significant risk of an unplanned failure that would require an extend outage to replace the control system.

Operating Avista's generation facilities on obsolete automation control equipment creates a cyber security risk. The software required to maintain and troubleshoot obsolete the control systems is no longer support and must operate on a Windows 7 or older operating system. Since the software systems no longer receive security updates, Avista's generation control network is more vulnerable to cyber security risks and viruses. Replacing obsolete control system with modern systems reduces Avista's risk to cyber assets required to deliver generate reliable power to customers.

Asset analysis of this project results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this time frame. This 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.

Quantified indirect savings:

2022	2023	Lifetime
$348	$347	$12,366

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 _____Andy Vickers_____

Director Signature _____  _____

Date _____10/26/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Base Load Hydro

2. Business Case Owner: Bob Weisbeck, Sr Manager Hydro Operations and Maintenance

3. Director Responsible: Andy Vickers, Director of Generation Production and Substation Support

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):

Response - The projects included in the Base Load Hydro Program consist of a number of individual projects related to the ongoing operations of four Avista's hydroelectric generating plants located on the Spokane River: Post Falls, Upper Falls, Monroe Street and Nine Mile. This program also includes work in support of the Generation Control Center and the Post Street Substation, located in downtown Spokane.

The projects in this program benefit customers because the are necessary to maintain reliability and availability of these generating facilities. The projects replace failed or damaged equipment and equipment that has reached or is near the end of its useful life (asset condition). It can also include projects related to safety and compliance. This work restores critical assets and systems to normal reliability levels. In addition, these projects may add a redundant system or control to improve the resiliency of the generating units and support continued operation in the event of a failure of a system, control, instrument, system disturbance, etc. In addition, projects may be executed to enable units to be returned to service quickly as possible if such an event will cause an outage.

As a result, these project generally to do not carry any direct savings as they are focused on restoring a status quo and not on incremental improvements in reduced maintenance or reduction of labor. While these projects are not intended to directly lead to savings, they are critical to the maintaining the ongoing unit reliability and plant resiliency.

Quantified direct savings:

2022	2023	Lifetime
0	0	

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, if may cost more in the future (cost avoidance).

Response - The dynamics of operating equipment are such that there are always items that need to be addressed to maintain the at the highest reliability and availability as possible. As work is accomplished as described above, indirect savings are realized in some instances by creating opportunities to re-direct existing labor and expense away from damaged or sub-optimal performing equipment. As these systems and equipment are replaced or improved, maintenance efforts can be directed to other items that need to be addressed.

Historically these projects are described by three main categories: Asset Condition, Equipment Failure, and Safety/Compliance. These projects benefits customers by allowing effective and efficient use of maintenance resources to continue to address necessary improvements with damaged equipment or equipment that is near or has reached the end of its useful life. While it does create a benefit, it does not result in quantifiable offsets that can be reasonably captured.

Quantified indirect savings:

2022	2023	Lifetime

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.

Response - In addition to the reliability and availability that provide some direct and indirect but unquantifiable benefits, there are projects that are driven by regulatory compliance and safety related actions. These may or may not be related to the continued operation of the units but are performed to insure employee and public safety or in some instances, avoid fines or penalties for non-compliance. As with other projects, these are not performed to reduce maintenance or reduce labor. Often these add

These projects are part of a program and consist of multiple projects over multiple years, perhaps over one thousand individual projects over nearly 40 years so lifetime impacts are not practical to attain. As presented in the response, the benefits of this work may not result in a direct measured benefit.

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 Andy Vickers

Director Signature Andrew Vickers

Date 10/26/2021

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

GPSS Base Load Thermal Program

2. Business Case Owner:

Thomas Dempsey

3. Director Responsible:

Andy Vickers

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):

Response:

The Base Load Thermal Program provides funding to Coyote Springs 2 and Kettle Falls Generating Station for small to medium size projects. This Program consists of multiple projects between the two generating facilities focusing primarily on a mix of planned equipment replacement projects and failed plant projects. These projects replace failed, damaged and under performing equipment to ensure plant reliability and availability are maintained at a high level. Historical data reveals nearly 60% of the projects are planned asset replacement projects while the remainder of these projects are unplanned equipment failures which directly impact plant operations. One project has been identified for Kettle Falls Generation Station in asphalting the landfill access road scheduled for 2023. This project will have a direct O&M savings through annual road maintenance expenses.

Quantified direct savings:

2022	2023	Lifetime
	$9,500	$65,000

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, if may cost more in the future (cost avoidance).

Response:

Many projects in the Base Load Thermal Program are asset replacement projects in which the asset is replaced with like kind equipment at or near the point of failure. Other projects are time-based and planned asset replacement projects. One project identified for 2022 at Kettle Falls is the purchase of a Certified Power Trane for the D10T dozer.

Asset analysis of some of the projects nested in the Base Load Thermal Program results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this time frame. This 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.

Quantified indirect savings:

2022	2023	Lifetime
$93,408	$118,119	$339,699

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.

Response:

In addition to the reliability and resiliency that provide some direct and indirect but unquantifiable benefits, there are projects that provide no direct benefits. These projects consist of regulatory compliance and legally required projects that either allow units to continue to operate or in some instances, avoid fines or penalties for non-compliance. As with other projects, these are not performed to reduce maintenance or reduce labor. Often these add burden to these elements and increase costs to operate the units. One project identified at Kettle Falls is the annual landfill cover that is required to be installed by the Department of Ecology.

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 _____Andy Vickers_____

Director Signature _____  _____

Date _____10/27/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Basic Workspace Technology

2. Business Case Owner:

Dave Husted

3. Director Responsible:

Jim Corder

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):

This business case does not yield any notable direct cost savings for our customers.

Quantified direct savings:

2022	2023	Lifetime
$0.00	$0.00	$0.00

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, if may cost more in the future (cost avoidance).

The Basic Workspace Technology (BWT) 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.

New inventory levels are maintained to ensure that recipients are provided with technology equipment in a timely fashion. When an employee leaves their role a technology review and assessment is performed. Used technology that has not exceeded its useful lifespan is retained as spare inventory. Sparing levels are maintained and used primarily for like-replacement in break/fix scenarios. If spare inventory levels exceed our thresholds, they will be issued to new employees rather than purchasing new equipment. Used equipment that no longer has useful value is taken out of circulation and decommissioned.

Issuing equipment beyond its useful lifespan introduces the risk of productivity reduction by using inferior devices that are more prone to breakdown. The stability and reliability gained from the issuance of new equipment is realized as both indirect savings and productivity gain.

Roughly 1,500 people leverage BWT in their day-to-day job duties. Without proper technological equipment, productivity would be severely impacted and staffing levels would need to significantly increase. The Company does not have a method to quantify such a broad indirect saving.

Quantified indirect savings:

2022	2023	Lifetime
$0.00	$0.00	$0.00

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 James B Corder

Director Signature DocuSigned by: James B Corder 7002E4872104449...

Date Nov-03-2021 | 12:04 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Cabinet Gorge Fishway

2. Business Case Owner: Nate Hall

3. Director Responsible: Bruce Howard

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):

Answer: There are no quantifiable direct savings for implementing this compliance element of the Clark Fork Settlement Agreement and License. Construction of the Fishway is required under the Settlement Agreement (see below for additional information).

Quantified direct savings:

2022	2023	Lifetime
NA	NA	NA

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, if may cost more in the future (cost avoidance).

Answer: There are no quantifiable direct savings for implementing this compliance element of the Clark Fork Settlement Agreement and License. Construction of the Fishway is required under the Settlement Agreement (see below for additional information).

Quantified indirect savings:

2022	2023	Lifetime
NA	NA	NA

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: Please see the form for the Clark Fork Settlement Agreement and License Implementation for additional context. Regarding the Fishway, construction of a permanent fish passage facility is required as part of the Settlement Agreement and Amendments. This facility will also fulfill the reserved mandatory conditioning authority of the U.S. Fish and Wildlife Service under Section 18 of the Federal Power Act. By reaching an agreement regarding fish passage, Avista avoided a mandate from the agency, which was likely a more complex and expensive structure, as well as the risk that such a facility would be subject to ongoing new requirements if it did not perform to the agency's satisfaction. In settlement, we have protected customers from substantial redevelopment risks. This project also fulfills Endangered Species Act requirements for bull trout, a listed species. These agreements last at least the term of the license.

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 Bruce Howard

Director Signature DocuSigned by: Bruce Howard CDB9B5DDD0114A5...

Date Oct-29-2021 | 10:25 AM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Cabinet Gorge HVAC Replacement

2. Business Case Owner: Chris Clemens

3. Director Responsible: Andy Vickers

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):

There will be no Direct Savings resulting from this Business Case. This equipment has reached the end of its useful life and needs replaced. The replacement of this equipment will result in the continued safe operation of Cabinet Gorge Hydroelectric Development (HED), ensuring we provide reliable and affordable energy to the customers we serve.

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

Asset analysis of this project results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this timeframe. This 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.

Quantified indirect savings:

2022	2023	Lifetime
$2,218	$2,390	$187,246

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.

Though there are no Direct Savings, there are Indirect Savings. By completing this work, we will ensure we continue to operate Cabinet Gorge Dam safely. We are required, by law, enforced by the Federal Energy Regulatory Commission, to provide efficient, safe, reliable, and secure energy for consumers. The HVAC system has reached the end of its useful life and needs to be replaced to ensure safe operation of the (HED) in the future. The HVAC system is not merely for personal comfort. This system will maintain a normal plant operating temperature. This will protect the electronic equipment in the plant to ensure we do not have premature failure of other critical plant equipment.

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 _____Andy Vickers_____

Director Signature ____  _____

Date _____10/25/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Cabinet Gorge Station Service

2. Business Case Owner: Chris Clemens

3. Director Responsible: Andy Vickers

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):

There will be no Direct Savings resulting from this Business Case. This equipment has reached the end of its useful life and needs replaced. The replacement of this equipment will result in the continued safe operation of Cabinet Gorge Hydroelectric Development (HED), ensuring we provide reliable and affordable energy to the customers we serve.

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

Asset analysis of this project results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this timeframe. This 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.

Quantified indirect savings:

2022	2023	Lifetime
$22,807	$24,196	$456,522

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.

Though there are no Direct Savings, there are Indirect Savings. By completing this work, we will ensure we continue to operate Cabinet Gorge Hydroelectric Development (HED), safely. We are required, by law, enforced by the Federal Energy Regulatory Commission, to provide efficient, safe, reliable, and secure energy for consumers. The Station Service Equipment is mostly original to the construction of the plant and has reached the end of its useful life. It needs to be replaced to ensure safe operation of the HED in the future.

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 _____Andy Vickers_____

Director Signature ____  _____

Date _____10/25/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Cabinet Gorge Stop Log Replacement

2. Business Case Owner: Chris Clemens

3. Director Responsible: Andy Vickers

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):

There will be no Direct Savings resulting from this Business Case. This equipment has reached the end of its useful life and needs replaced. The replacement of this equipment will result in the continued safe operation of Cabinet Gorge Hydroelectric Development (HED), ensuring we provide reliable and affordable energy to the customers we serve.

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

Asset analysis of this project results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this timeframe. This 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.

Quantified indirect savings:

2022	2023	Lifetime
$14,266	$14,537	$152,344

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.

Though there are no Direct Savings, there are Indirect Savings. By completing this work, we will ensure we continue to operate Cabinet Gorge Hydroelectric Development (HED) safely. We are required, by law, enforced by the Federal Energy Regulatory Commission, to provide efficient, safe, reliable, and secure energy for consumers. These Stoplogs have reached the end of their useful life and need to be replaced to ensure safe operation of the (HED) in the future.

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 _____Andy Vickers_____

Director Signature _____  _____

Date _____10/25/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Cabinet Gorge Unwatering Pumps

2. Business Case Owner: Chris Clemens

3. Director Responsible: Andy Vickers

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):

There will be no Direct Savings resulting from this Business Case. This equipment has reached the end of its useful life and needs replaced. The replacement of this equipment will result in the continued safe operation of Cabinet Gorge Hydroelectric Development (HED), ensuring we provide reliable and affordable energy to the customers we serve.

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

Asset analysis of this project results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this timeframe. This 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.

Quantified indirect savings:

2022	2023	Lifetime
$4,723	$4,803	$13,849

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.

Though there are no Direct Savings, there are Indirect Savings. By completing this work, we will ensure we continue to operate Cabinet Gorge Hydroelectric Development (HED) safely. We are required, by law, enforced by the Federal Energy Regulatory Commission, to provide efficient, safe, reliable, and secure energy for consumers. These Pumps have reached the end of their useful life and need to be replaced to ensure safe operation of the (HED) in the future.

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 _____Andy Vickers_____

Director Signature _  _____

Date ___10/25/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Cabinet Gorge Unit 4 Protection & Control Upgrade

2. Business Case Owner: Chris Clemens

3. Director Responsible: Andy Vickers

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):

There will be no Direct Savings resulting from this Business Case. This equipment has reached the end of its useful life and needs replaced. The replacement of this equipment will result in the continued safe operation of Cabinet Gorge Hydroelectric Development (HED), ensuring we provide reliable and affordable energy to the customers we serve.

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

Asset analysis of this project results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this timeframe. This 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.

Quantified indirect savings:

2022	2023	Lifetime
$7,209	$7,805	$56,732

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.

Though there are no Direct Savings, there are Indirect Savings. By completing this work, we will ensure we continue to operate Cabinet Gorge Hydroelectric Development (HED), safely. We are required, by law, enforced by the Federal Energy Regulatory Commission, to provide efficient, safe, reliable, and secure energy for consumers. The current Protection and Controls have reached the end of their useful life and need to be replaced to ensure safe operation of the (HED) in the future.

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 _____Andy Vickers_____

Director Signature ____  _____

Date _____10/25/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Capital Tools & Stores Equipment

2. Business Case Owner:

Cody Krogh

3. Director Responsible:

Alicia Gibbs

4. **Indirect Savings**

The indirect savings for this business case can be shown by comparing the cost of operating equipment up to warranty expiration, to both the annual cost of continued repairs to equipment past the warranty stage and the annual cost of renting all equipment. This is shown in exhibit A (business case model-capital tools_rev1). This model uses Avista's most common battery-operated press, in which there is a known warranty, repair, replacement, and rental cost. This information was used to calculate the projected annual savings gained by purchasing equipment as warranty expires. This calculation was then carried forward to the other categories of equipment.

Repair

Repair fees for the equipment used in the model are 36% of the initial purchasing price of this equipment. Assuming equipment must be repaired once per year, an additional $793,543.84 would be incurred annually to the initial purchase price of the equipment. As all equipment ages repairs will continue to increase. This leads to slowed production, and safety issues.

	2022	2023	2024
O&M Savings gained by purchasing after warranty expires vs. continued repairs	$793,543.84	$793,543.84	$793,543.84

Rental

Rental fees for the equipment used in the model were 320% higher than the purchase price. Rental equipment must be available at all times to assist in daily work, as well as restoring services. Equipment failure is often a concern with rental equipment, as it is uncertain what condition rental equipment is in, or how it has previously been maintained. This can lead to safety issues for equipment operators when failures occur, as well as lost production time. Renting all equipment would cost $15,870,876.80 annually.

	2022	2023	2024
O&M Savings gained by purchasing after warranty expires vs. rental of all equipment	$15,870,876.80	$15,870,876.80	$15,870,876.80

Exhibit A (business case model-capital tools_rev1)

N:\Capital Budget\Business Case Folder\2021 Business Case\business case model-capital tools_rev1.xlsx

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 _____ Alicia Gibbs_____

Director Signature _____ DocuSigned by: Alicia Gibbs 49C42855345E483... _____

Date _____ Nov-22-2021 | 12:52 PM PST _____

Tool Types	qty	life	ave cost	single purchase on 5 year rotation	ann. Repair	5 year repair cost	off-set for 5 yr purchase per tool	5 year off-set cost	annual off-set	annual rental off-set cost
Batter Assist	297	5	$ 2,619.00	$777,843	$ 942.84	$ 4,714.20	$ 2,095.20	$ 622,274.40	$ 124,454.88	$ 2,489,097.60
Line Equip	173	5	$ 2,022.00	$349,806	$ 727.92	$ 3,639.60	$ 1,617.60	$ 279,844.80	$ 55,968.96	$ 1,119,379.20
General Cap Equip	175	5	$ 5,826.00	$1,019,550	$ 2,097.36	$ 10,486.80	$ 4,660.80	$ 815,640.00	$ 163,128.00	$ 3,262,560.00
Gas Ops Equip	270	5	$ 4,715.00	$1,273,050	$ 1,697.40	$ 8,487.00	$ 3,772.00	$ 1,018,440.00	$ 203,688.00	$ 4,073,760.00
Testing & Safety Equip	200	5	$ 4,703.00	$940,600	$ 1,693.08	$ 8,465.40	$ 3,762.40	$ 752,480.00	$ 150,496.00	$ 3,009,920.00
Locatiing Equip	100	5	$ 5,988.00	$598,800	$ 2,155.68	$ 10,778.40	$ 4,790.40	$ 479,040.00	$ 95,808.00	$ 1,916,160.00
								$ 3,967,719.20	$ 793,543.84	$ 15,870,876.80

*- assumption is that family of tools hgas similar life and repair cost cycle
*- assumption qty is 3 year purchasing average
*- assumption Battery Assist based on info for most common crimper/cutter.
*-Use repair cost of 36% based on repair example
repair cost 36%
renta cost is assumed to be 320% annual of the purchase price based on rental model
rental cost 320%

Example:X) Battery Assist using Milwaukee #2678-220, Battery Cutter/Crimper

	year	0	1	2	3	4	5	cost	delta
5 year		$2,619						2619	
			8400	8400	8400	8400	8400	42000	-$39,381
annual rent cost		320.7%							

Assumptions

annual rent	$8,400.00
average tool cost	$2,619
x # tools	682

Example:XXXXXXXXXXXXXXXXX

	year	0	1	2	3	4	5	cost	delta
5 year		($2,619)						-2619	
			($8,400.00)	($8,400.00)	($8,400.00)	($8,400.00)	($8,400.00)	-42000	$39,381

Total cost impact		Rental of 1000 Tools per 5 years	$26,857,842.00

Example: **Milwaukee #2678-220, Battery Cutter/Crimper**

	year	0	1	2	3	4	5	cost	delta
5 year		-1461						-1461	
			-525	-525	-525	-525	-525	-2625	$1,164
annual repair cost		35.9%							

Assumptions

average repair	$941.12
3 yr average cost	$2,619
x # tools	682
x # expire/year	297

Example: Battery Assist Equipment

	year	0	1	2	3	4	5	cost	delta
5 year		($2,619)						-2619	
			($941.12)	($941.12)	($941.12)	($941.12)	($941.12)	-4705.6	$2,087

Total cost impact	$619,718.86

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Clark Fork Settlement Agreement

2. Business Case Owner: Nate Hall

3. Director Responsible: Bruce Howard

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):

Answer: There are no quantifiable direct savings calculable, as this Business Case funds implementation of the Clark Fork Settlement Agreement, which is contained in and enforceable under the Clark Fork Federal Energy Regulatory Agency (FERC) License, for Project #2058. A license from FERC is required to operate non-federal hydroelectric projects. Avista pioneered what became the Alternative Licensing Process by seeking concurrence of two states, five Tribes, multiple federal, state and local agencies, multiple non-governmental environmental organizations, land owners and other stakeholders. In developing a 27-party agreement, Avista avoided the potential of extensive litigation and license delays, as well as potentially costly applications of mandatory conditions. See below for additional information.

Quantified direct savings:

2022	2023	Lifetime
NA	NA	NA

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, if may cost more in the future (cost avoidance).

Answer: The FERC License achieved as a result of the Clark Fork Settlement Agreement allows significant operational flexibility at Noxon Rapids and Cabinet Gorge dams. The mitigation programs are what allow us, in part, to be able to load follow with these resources. For example, we currently have no ramping rate restrictions and relatively easy to meet flow requirements. Maintaining this operational flexibility was a goal of the relicensing process to ensure reliable energy to follow customer loads. If Avista had to

replace this load-following capacity with alternative sources, the additional costs would be in the hundreds of millions.

Quantified indirect savings:

2022	2023	Lifetime
NA	NA	NA

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: A FERC license is required under the Federal Power Act. That Act, in turn, triggers other federal and state regulatory oversight. These include the Clean Water Act, National Historic Preservation Act, National Environmental Policy Act, and Endangered Species Act. In some instances, federal or state agencies have mandatory conditioning authority. For example, states that have delegated CWA authority issue CWA Section 401 Certification for hydro projects, within which they place conditions. When 401 Certifications are final, FERC has no discretion, but must include such Certifications as license conditions, and licensees such as Avista must comply with these conditions. Another example are conditions referenced under the Federal Power Act in section 4(e), wherein federal land agencies with lands within a FERC project boundary may prescribe mandatory conditions. Other Sections of the Federal Power Act require FERC to consider recommendations from a wide array of state, tribal and federal entities [10(a)], to assign annual charges for occupancy of federal lands [10(e)] and allow the U.S. Fish & Wildlife Service to either prescribe fish passage or reserve the authority to later require it [18(e)]. All these authorities, and more, came in to play in the Clark Fork Settlement Agreement and issuance of the FERC License. Additionally, FERC included numerous license articles.

Avista is required to comply with all terms of the License. Non-compliance would expose Avista to potential enforcement by FERC under its FPA authority, as well as to enforcement by agencies which claim direct enforcement authority under specific statutes, as well as citizen enforcement allowed under statutes such as the CWA. Each authority contains its own provisions on allowed penalties. Additionally, parties to the settlement could petition FERC for enforcement and/or dispute resolution, creating legal costs in addition to penalty amounts. Avista would risk challenges to its operational flexibility on the Clark Fork as well as the lack of flexibility to comply with orders issued by FERC. Ultimately, non-compliance could allow FERC to open a License for a third party to take over. Finally, Avista would suffer reputational risks in not complying with the CFSA and License.

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 Bruce Howard

Director Signature DocuSigned by: Bruce Howard CDB9B5DDD0114A5...

Date Oct-28-2021 | 2:48 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. **Business Case Name:** Colstrip 3&4 Capital Projects

2. **Business Case Owner:** Thomas Dempsey – Sr Manager Thermal Operations and Maintenance

3. **Director Responsible:** Alexis Alexander – Director Generation Production and Substation Support

4. **Direct Savings**

Colstrip 3&4 Capital Projects Business Case comprises individual projects related to the ongoing operation of Colstrip. Table 1 outlines specific projects identified for transfer to plant in 2022. Avista's share of direct savings is $3,706 as listed in Table 1.

These projects are necessary to maintain reliability and operability of the generating units. These projects replace failed, damaged, or sub-optimal performing equipment and restores the unit back to normal reliability levels. In addition, these projects may add a redundant system or control to improve the resiliency of the unit to continue to operate in the event of a failure of a system, control, instrument, system disturbance, etc. or to be returned to service as quickly as possible in the event of an outage.

Table 1- Avista Share Direct & Indirect Summary

				Avista	
In Servic	Project Description	Total Savir	Source	Direct	Indirect
6/30/2022	Design/Build Dry Waste Disposal System	100,000	2022 Talen Hurdle	-	15,000
6/30/2022	4-5 Feedwater Heater Replacement (actual $ is less)	3,139,584	2021 Talen Hurdle	-	470,938
12/31/2022	Comm Effluent Pond Return Backup Line	2,240,577	2022 Talen Hurdle	-	336,087
12/31/2022	Lime Slaker Replacement	662,534	2022 Talen Hurdle	3,706	95,674

Note: Total direct savings of approximately $218,000 (System), including $214,000 (2021) and $3,706 (2022 direct offset included in Table 1 above), were included as offsets for 2021 and 2022 additions in the Company's Rate Year 1 effective December 2022. No further direct offsets are expected for Colstrip additions planned in 2023 and 2024.

5. **Indirect Savings**

Table 1 lists Avista's total share of indirect savings as $917,699 for 2022. (Additional indirect savings of $18,087,133 related to 2021 capital additions are not shown here. See Company witness Mr. Thackston Colstrip Unit 3 and 4 testimony at Exh. JRT-1.)

6. **No Direct or Indirect Savings**

In addition to the reliability and resiliency that provide some direct and indirect but unquantifiable benefits, there are projects that provide no direct benefits. These projects consist of regulatory compliance and legally required projects that either allow units to continue to operate or in some instances, avoid fines or penalties for non-compliance. As with other projects, these are not

performed to reduce maintenance or reduce labor. Often these add burden to these elements and increase costs to operate the units.

The benefits to customers to performing this work is the avoidance of possible fines, penalties, or legal proceedings if these "must do" types of projects are not performed.

Please see Andrews workpapers provided with the Company's case titled "2) Colstrip2021-2024 TTP Report" for additional detail.

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: Alexis Alexander

Director Signature: 

Date: 12/20/2021

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Colstrip Transmission

2. Business Case Owner: Jeff Schlect

3. Director Responsible: Mike Magruder

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
$0	$0	$0

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, if may cost more in the future (cost avoidance).

Quantified indirect savings:

2022	2023	Lifetime
$0	$0	$0

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.

Reliable operation of the Colstrip Transmission System is necessary to transfer Colstrip output to the respective systems of each joint project owner, including Avista. Avista and the other joint project owners are party to the Colstrip Project Transmission Agreement ("Agreement") which,

obligates Avista to fund its commensurate share of all construction and maintenance expenses for the ongoing operation, maintenance, renewal and replacement of the jointly owned Colstrip Transmission System facilities.

North American Electric Reliability Organization ("NERC") transmission planning and operational reliability standards describe compliance requirements both operationally and in planning standards. Meeting NERC compliance may require replacement of, or upgrades to, Colstrip Transmission System facilities. NERC may assess penalties of up to $1 million per day, per violation for non-compliance.

Consistent with Avista's rights and obligations under the Agreement, Avista must continue to fund the Colstrip Transmission System construction and maintenance budgets, as approved by the Colstrip Transmission Committee under Section 22 of the Agreement. NorthWestern Energy, as the Transmission Operator under the Agreement, manages all design and construction activities for the Colstrip Transmission System. Accordingly, ongoing capital funding under this item has no incremental construction labor or other staffing impacts to Avista. Nor do projects have any identifiable direct or indirect cost savings to Avista's customers.

Any failure by Avista to make payment or withhold capital funding for the Colstrip Transmission System will be an act of default pursuant to Section 25 of the Agreement. In any such case, a Colstrip project participant loses its right to use the Colstrip Transmission System, which would eliminate its ability to transfer its output from the Colstrip Project to its native load retail customers.

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 Mike Magruder

Director Signature Michael A Magruder

Date 11/3/2021

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Control and Safety Network Infrastructure

2. Business Case Owner: Shawna Kiesbuy

3. Director Responsible: Jim Corder

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):

There are no direct savings related to this business case.

Quantified direct savings:

2022	2023	Lifetime
$0.00	$0.00	$0.00

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 do not do this project now, it may cost more in the future (cost avoidance).

The network infrastructure investments in this business case are necessary to sustain our business by using technology to automate business processes. This business case specifically addresses network infrastructure requirements for energy control systems and systems necessary for the safety of our workforce and public. The business case considers business impact vs. likelihood/probability when sequencing and prioritizing resource allocations and responds to vendor-manufactured product obsolescence risks as well as cyber security risks.

This business case catalog of use cases includes the network infrastructure requirements for Substation-to-Substation Communication, Substation SCADA, SCADA/EMS Control, Generation Control, and Land Mobile Radio. The key performance indicator for the network availability and reliability is 99.9%, 24x7. Our investment sequencing is based on three drivers, 1) Compliance, 2) Initiatives, 3) Reliability. The Compliance driver should be regulation, Initiatives are generally executive sponsored (current example is a cybersecurity vulnerability risk on out-of-support assets), and the Reliability driver is often the highest volume of work.

The sequencing of the Reliability projects is driven first by the network asset end-of-support date for cybersecurity patching, then the performance and capacity to meet the business requirement, and lastly product obsolescence date.

Investment percentage for the cybersecurity Initiative is 44% in 2022, Reliability projects are 56%. In 2023, Reliability projects are 100% of the investment.

Quantified indirect savings:

2022	2023	Lifetime *
$0.00	$0.00	$10mm-$20mm

**According to the Company Enterprise Risk Register, under the "Loss of Communication or Network Technologies" and the "Cyber Intrusion" risks the probability of this failure has an income statement score of 3, which equates to a $10-$20 million avoided cost over a period of 2-3 years.*

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 James B Corder

Director Signature DocuSigned by: James B Corder

Date Nov-04-2021 | 3:39 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Customer Experience Platform (CXP)

2. Business Case Owner:

Stephanie Myers

3. Director Responsible:

Kelly Magalsky

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):

Direct savings resulting from this business case are from these categories:

1. Retirement of legacy software
    a. iContact - $12,312 (in 2022)
    b. Questline - $17,270 (in 2022)
    c. Convergys IVR/ACD - $75,000 (in 2023)
    d. InforCRM - $16,000 (after 2023)
    e. Sitecore CMS - $51,000 (after 2023)

Quantified direct savings:

2022	2023	Lifetime (Total 2022 +2023)
$29,582	$75,000	$104,582

Note: 2023 savings do not include 2022 savings that would continue to future years.

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, if may cost more in the future (cost avoidance).

Due to the deflection of customer contacts, this investment will reduce the number of calls made to the contact center; thus, resulting in less Contact Center Representatives (CSRs) needed to answer calls and maintain the grade of service than would be needed absent CXP.

The indirect savings are estimated using these categories (this can also be seen in section 1.4 of the business case justification narrative):

- **Case Deflection:** The investment could deflect the number of calls placed into our call centers

- **Case Resolution Time:** The investment can reduce the amount of time it takes to resolve a customer contact
- **Employee Productivity:** Due to streamlined tasks in the system, the investment could save employees time throughout their day
- **Faster Onboarding:** Due to the ease of use in the system, training a user to use the CXP will take less time and be more straightforward, thus allowing our employees to spend less time training

The investment will be delivered frequently throughout the life of the business case and indirect savings will be captured as new features are released.

2022	2023	Lifetime (Total 2022 + 2023)
$444,711	$951,942	$1,396,653

Note: 2023 savings do not include 2022 savings that would continue to future years.

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 __Kelly Magalsky_____

Director Signature _____  _____

Date _____10/27/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Customer Facing Technology (CFTP)

2. Business Case Owner:

Stephanie Myers

3. Director Responsible:

Kelly Magalsky

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):

Software that will be retired as a result of these investments are classified as direct savings and are as follows:

Retirement of usage analysis software:
Aclara - $90,000 (in 2023)

Retirement of web site communication software:
Cloud Engage - $7,800 (in 2023)

Quantified direct savings:

2022	2023	Lifetime
	$97,800	$97,800

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).

Deploying this CFTP capital investment which enables customers to self-serve through digital channels reduces the need to hire additional customer service representatives (CSRs) than we otherwise would need absent this investment. Due to the deflection of customer contacts from calls to self service, this investment will reduce the number of calls made to the contact center, therefore, resulting in less CSRs needed to answer calls and maintain the grade of service. As overall customer contacts through all

channels increases, this investment will help keep our rate of contact center cost growth lower than it otherwise would be without this investment. Our business is getting more complex and customers continually need help with more complex issues. These more complex issues are generally still resulting in a call which means that call times and cost per call are increasing in alignment with that complexity.

During the test year the average cost per call was $10.52. If we do not continue to invest in digital self service, some of the self service contacts would certainly turn into phone calls. We do not assume that every self-service interaction would turn into a phone call. We estimate that about 10% of all self-service contacts would be a phone call if the self-service tools were not available. This 10% estimate is identified as the indirect savings as a result of this estimate.

Self-service contacts are increasing year over year and it is estimated that in 2022 and 2023 this trend will continue; these estimates are as follows:

	Test Year	2022	2023
Cost per call:	$10.52	$10.52	$10.52
Self-service contacts	7,354,584(actual)	8,310,680 (est)	9,391,068 (est)
10% of self-service contacts	735,458	831,068	939,106
Estimated Indirect Savings:	**$7,737,022**	**$8,742,835**	**$9,879,395**

Note that the # of self service contacts for 2022 and 2023 are estimates based on a growth rate from previous years.

Quantified indirect savings:

2022	2023	Lifetime (Total 2022+2023)
$8,742,835	$9,879,395	$18,622,239

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: Kelly Magalsky_____

Director Signature ____  _____

Date _____10/25/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Customer Transactional Systems

2. Business Case Owner:

Stephanie Myers

3. Director Responsible:

Kelly Magalsky

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.

Capital improvements and enhancements to the Customer Transactional Systems, and the associated integrated data connections, are essential 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. We must keep this technology updated to support new requests such as: new billing and rate options, product and service offerings, payment arrangement and payment options, and meter data information.

These systems require regular updates from the software providers and regular security updates to ensure our customer data is protected. Without this investment we put our quality and reliability of serving our customers at risk.

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 _____Kelly Magalsky_____

Director Signature _____  _____

Date _____10/27/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Data Center Compute and Storage

2. Business Case Owner:

Walter Roys

3. Director Responsible:

Jim Corder

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):

No quantifiable direct savings.

The Data Center Compute and Storage Systems business case is a program of investments in server technology required to process and store massive amounts of data to automate and enable business processes that support our gas and electric customers across our service territory.

Devices purchased under this business case typically have a 5 year warranty. If they are not refreshed at that time, extended support will need to be purchased.

Quantified direct savings:

2022	2023	Lifetime
$0.00	$0.00	$0.00

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, if may cost more in the future (cost avoidance).

With the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies. These upgrades can in turn drive subsequent system replacements, creating a cascading event of change. We must start the operating system replacement approximately 4 years prior to the last date of published support in order to completely

refresh all devices with this operating system. Passed extended support agreements with vendors, the projects within this business case typically have no option to purchase additional support and therefore risk security breaches and increased likelihood of breakdown.

For example, when storage devices break down it can result in the inability to access technology such as share drives, and essential systems such as our meter data, customer billing platform and our mapping software. This results in a productivity reduction across all areas of the business for potentially as long as 12-18 months, the amount of time needed to upgrade and replace the system. Savings related to avoiding these down time issues could range from $100k - $10M a year representing at least 1 full-time employee up to 100 full-time employees needed to implement manual processes.

This is a high-level estimate that the Company does not have a way to track.

Systems in this business case are connected to corporate networks and the internet, therefore patching and upgrades are needed to keep these systems current and supportable while maintaining safety, security, and reliability. Keeping systems updated insures maximum protection against security breaches.

Maintaining compliance helps Avista reduce the likelihood of security breaches while also avoiding financial penalties from regulatory bodies.

The projects in this business case support continued operations of Avista's critical system processes by ensuring we have the right recovery capabilities to sustain operations. Without these recovery capabilities critical systems would not be available in the event of a disaster and would cause operational inefficiencies and an inability to sustain operations.

Quantified indirect savings:

2022	2023	Lifetime
$100k-$10M	$100k-$10M	$100k-$10M

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 James B Corder

Director Signature DocuSigned by: James B Corder 7002E4872104449...

Date Oct-29-2021 | 10:14 AM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Digital Grid Network

2. Business Case Owner: Shawna Kiesbuy

3. Director Responsible: Jim Corder

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):
No direct savings from this business case.

Quantified direct savings:

2022	2023	Lifetime
$0.00	$0.00	$0.00

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 do not do this project now, it may cost more in the future (cost avoidance).

The network infrastructure investments in this business case sustain our business by using technology to automate business processes. This business case specifically addresses network infrastructure required for our distribution digital grid. The business case considers business impact vs. likelihood/probability when sequencing work and allocating resources and responds to vendor-manufactured product obsolescence risk as well as cyber security risks.

This business case catalog of use cases includes the network infrastructure requirements for distribution automation, automatic meter reading, advanced metering infrastructure, and other field area network applications. The key performance indicator for the network availability and reliability is 99.9%, 24x7. Our investment sequencing is based on three drivers, 1) Compliance, 2) Initiatives, 3) Reliability. The Compliance driver should be regulation, Initiatives are generally executive sponsored (current example is a cybersecurity vulnerability risk on out-of-support assets), and the Reliability driver is often the highest volume of work.

The sequencing of the Reliability projects is driven first by the network asset end-of-support date for cybersecurity patching, then the performance and capacity to meet the business requirement, and lastly product obsolescence date.

Investment percentage for the cybersecurity Initiative is 80% in 2022, Reliability projects are 20%. In 2023, the cybersecurity Initiative is 70% and Reliability projects are 30% of the investment.

Quantified indirect savings:

2022	2023	Lifetime *
$0.00	$0.00	$10mm-$20mm

**According to the Company Enterprise Risk Register, under the "Loss of Communication or Network Technologies" and the "Cyber Intrusion" risks the probability of this failure has an income statement score of 3, which equates to a $10-$20 million avoided cost over a period of 2-3 years.*

6. **No Direct or Indirect Saving**s – 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 James B Corder

Director Signature DocuSigned by: James B Corder 7002E4872104449...

Date Nov-04-2021 | 3:37 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Distribution Grid Modernization

2. Business Case Owner: Heather Webster/Jesse Butler

3. Director Responsible: David Howell

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):

Response

The Grid Modernization Program's (GMP) mission is to systematically rebuild and upgrade the capacities and characteristics of the electric distribution system in an approach that utilizes a prioritization method balancing feeder health, performance, and criticality. In this respect, the rebuild program differs from traditional inspection and maintenance programs such as wood pole management, which refurbish and replace equipment in place and in kind. A Grid Modernization feeder rebuild replaces aging and/or failing infrastructure like a maintenance program while also achieving greater electrical capacity, code upgrade and compliance, route alignment for safety and efficiency, feeder ties and operations flexibility, energy efficiency savings, improved reliability performance, cost-effective feeder automation and more efficient use of company resources. Upon the completed construction of GMP projects, customers benefit from improved system reliability, safety, and operational performance.

One distribution feeder, Francis and Cedar will be fully completed in Q4 2021 and Beacon partially completing in 2023. The capital offset figures provided below were prorated by feeder based on feeder analysis information provided to the Commission in PC-DR-110 including attachments A and B. *(referenced in WUTC Rebuttal 200900-901-AVA-Exh-JD-LL 1-T_05_26_2021) Docket No. UE-200900, UG-200901, UE-200894).*

Two Capital offsets were identified and categorized as direct savings. The first addresses how asset condition affects reliability where there are direct O&M savings due to a reduction in the average number of equipment outage events incurred per year based on asset condition.

The following O&M Outage sub-reason events were considered:

1. Conductor – Primary	6. Lightning	10. Undetermined
2. Conductor – Secondary	7. Pole Fire	11. Weather
3. Connector – Primary	8. Regulator	12. Wildlife Guard
4. Connector - Secondary	9. Snow/Ice	13. Wind
5. Elbow		

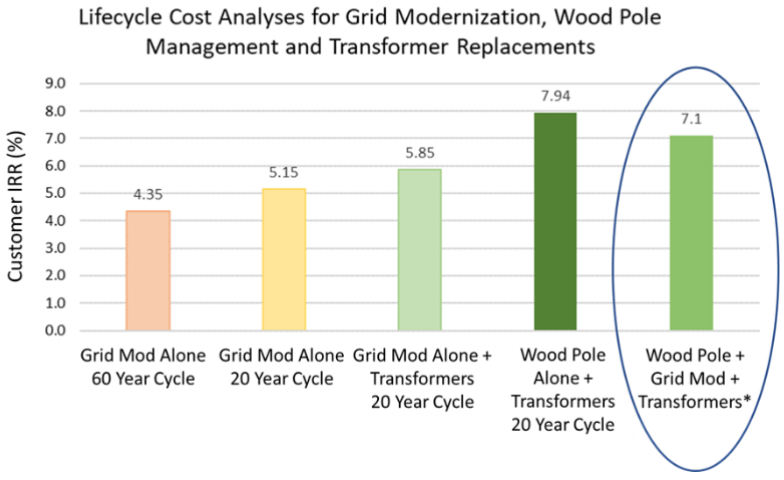
Quantified direct savings:

2022	2023	Lifetime (30 years)
$26,684	$33,673	$1,105,311

The second category addresses savings when Multi-Program Integrated Refresh Planning is utilized to execute prescribed refresh work. In this case, related programs include Grid Modernization, Wood Pole Management and Transformer Change Out. Customer Internal Rate of Return (CIRR) was utilized to compare different program refresh models and integrating the three provided the highest value to the customer.
Avista provided results of such a financial analysis in response to PC-DR-221, Attachment A, which is the Company's 2017 Wood Pole Management Program Review and Recommendations *(see Exh. JD/LL-2, pages 2-94)*.

The lifecycle cost analyses reported were based on the output of 172 different Availability Workbench models integrated together to provide optimized solutions for individual assets and programs including the transformer changeout work as part of the Wood Pole Management and Grid Modernization programs, which is identical to its application in Distribution Minor Rebuild. Including transformer changeouts with the program reduced the total lifecycle cost to customers by $18.3 million in direct costs and by $46.9 million in risk costs, for a combined reduction in lifecycle costs to customers of $65.2 million, compared with the "Run-to-Fail" alternative of allowing the transformers and attached equipment, including the cutout to fail in service and returning to the feeder later to replace them one at a time. *(see Exh. JD/LL-2, pages 52-54).*

Illustration No. 8 – Lifecycle Cost Analysis of Avista's Grid Modernization Program as Optimized with Wood Pole Management and Transformer Replacements[91]



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, if may cost more in the future (cost avoidance).

Response

Indirect Savings attributable to Grid Modernization is the replacement of equipment such as old conductor and transformers that have high energy losses with new equipment that is more energy efficient and improve the overall feeder energy performance. This creates the need for less power generation or acquisition and equates to lower rates for customers.

The table below shows the estimated kWh energy savings expected after completion of each project. These calculations are conservative in that not every energy efficiency improvement made during design and construction can be anticipated in the initial assessment. These estimates are derived from the initial assessments noted in the feeder baseline reports found in PC-DR-110 Attachment A-O. The primary reconductor savings are for trunk reconductor work only.

Feeder	State	Estimated Annual Pri. Reconductor MWh Savings	Estimated Annual Transformer Loss MWh Savings	Total Estimated Annual MWh Savings[1,2,3]
BEA 12F2	WA	8.8	260.5	269.3
F&C 12F1	WA	1.8	258.5	260.3

[1] *Additional MWh savings estimated through Distribution Automation enabled improvements are not included in these figures.*
[2] *Additional MWh savings estimated through the removal of Open Wire Secondary districts are not included in these figures*
[3] *Additional MWh savings estimated through power factor correction initiatives with capacitors, IVVC, or CVR are not included in these figures*

Quantified indirect savings:

2022	2023	Lifetime (30 years)
$120,178	$162,738	$5,948,995

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 David Howell

Director Signature David Howell

Date 10/28/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Distribution Minor Rebuild

2. Business Case Owner:

Amy Jones

3. Director Responsible:

David Howell

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, if may cost more in the future (cost avoidance).

While the work under this business case is a result of failing equipment, a customer request impacting our current service capabilities, or an accident, one indirect cost for this business case could be avoidance of outages. By replacing failing equipment, we could potentially be avoiding an outage. As calculated by the ICE (Interruption Cost Estimate), our current outage cost per customer per hour is $116.15. As an example, on average, this business case installs more than 900 poles per year. Let's say 25% of those 900 are deteriorating poles that need to be replaced otherwise they will fail. When they fail, that will result in an outage costing $116.15/customer/hour. We replace those deteriorating poles proactively through this business case reducing outage costs, increasing reliability and safety.

Quantified indirect savings:

2022	2023	Lifetime

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.

The Distribution Minor Rebuild Business Case is for unplanned repairs, replacement of failing equipment and/or small required upgrades on our system. These are jobs that are required to occur for safety, reliability, and compliance.

Business Case Activity	Description of Activity
Customer Requested	Required to accommodate customer load increases. This pertains to work on our electric system, which need is initiated by a customer's request for service, but which costs are not included among the costs the requesting customer pays under the Company's Commission-Approved Tariffs for Line Extensions. Under our Commission Authorized tariffs, the customer pays for the investments required to provide the capacity requested from the feeder to the customer's service entrance. But if the feeder itself lacks the capacity to serve the customer's incremental load, then the feeder upgrades needed to adequately serve the loads of all customers on the feeder are funded under this program as a cost borne by all customers.
Trouble	Required to repair equipment due to damage or theft.
NESC/Operating Standard Violations	Required per WAC 296-45-045.
Asset Condition	Replacement of failing equipment to maintain employee safety and service for customers. (i.e. Deteriorated pole WAC 296-45-385). Includes things such as deteriorated wood poles, broken crossarms, leaking transformer, failing equipment that are not storm related, etc.
Facility Upgrades	Small scale upgrades to support increasing load.
Facility Route Location Modifications	Unplanned OH to UG conversions, facility re-routes, etc.

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 __David Howell_____

Director Signature _David Howell_____

Date 10/27/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Distribution System Enhancements

2. Business Case Owner: Cesar Godinez

3. Director Responsible: Josh DiLuciano

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):

Most of the work completed in this business case is driven by capacity constraints caused by load growth on the electric distribution system. These capacity constraints are mitigated by segment reconductor and feeder tie work. As such, there are a couple of direct savings that are gained from reconductoring a line section of the electric distribution system. The first direct saving comes from the offset in Wood Pole Management (WPM) work. Our WPM work is on a 20-year cycle, meaning that the intent is to go through the entire system every 20 years. Given that our wood poles have about a 70-year lifespan, this translates to a direct saving in the form of not having to do WPM work on the electric distribution line sections that this business case reconductors. There are approximately 230,000 distribution poles in our system and approximately 7,597 miles of overhead electric distribution lines. This equates to about 30 poles/mile as a system average. In 2020, WPM spent $10,522,614 on 7,975 poles which comes out to about $1,319/pole. Thus, a line mile worth of WPM work would be $39,570 (30 poles/mile * $1,319/pole) in 2020. Given that we plan to reconductor 29.69 line miles of our electric distribution system in 2022 and 22.84 line miles in 2023 we've quantified our direct savings as $1,174,833 for 2022 and $903,779 for 2023. The other direct saving comes from our avoided cost in outage labor/work. Some of the equipment replaced by these reconductor jobs include arrestors, cutouts, insulators, pins, wire, connectors, jumpers, arms, and poles which in turn reduces the likely hood of them failing and creating outage work. On average we spend about $1,548 per line mile on outage work associated with "high impact" items and about $216 per line mile for "low impact" items. These values and the high/low impact items are shown in the table below.

	High Impact	Low Impact
Avg # outages per year	347.33	301.00
Avg # outage hours per year	1,106.88	741.44
Avg # customers out per year	39,962.00	8,822.00
Avg # customers outage hours per year	101,242.01	14,126.80
ICE cost per customer hour	$116.15	$116.15
Total OH Distribution Circuit Miles	7,597	7,597
Outage Cost per Circuit Mile	$1,547.88	$215.98

*numbers are using a 3 year average (2018 - 2020)

*excludes major event days

*High Impact outage subreasons (Conductor-Pri, Connector-Pri, Crossarm, Crossarm-rotten, Cutout/Fuse, Insulator, Insulator pin, Pole Fire, Pole - rotten, Switch/disconnect)

*Low Impact outage subreasons (Arrestor, Connector-Sec, Termination, Transformer-OH, Tree Growth)

Replacing these items as part of our reconductor work does not guarantee that an outage will be avoided in the future, but it does significantly reduce the likelihood of an outage occurring. To represent the cost savings from the reduction in outage work created by our reconductor work we are assuming that high impact items will reduce our outage work by 67% and low impact items will reduce our outage work by 33%. Thus, the quantified direct savings from a reduction in outage work for 2022 is $32,907 and for 2023 is $25,315.

The total direct savings from both WPM offsets and outage work offsets are shown in the table below.

Quantified direct savings:

2022	2023	Lifetime
$1,207,740	**$929,094**	

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, if may cost more in the future (cost avoidance).

There are also a couple of indirect savings that this business case produces from its segment reconductor and feeder tie work. The first being indirect savings associated with differed cost for needed substations. As stated above, most of the work in this business case is driven by capacity constraints which eventually lead to the need for more substation capacity. However, we are often able to differ/extend the need for more substation capacity by creating more/stronger feeder ties. This allows us to balance our load demands across other feeders/substation, which in turn pushes the need for more substation capacity out to later years. Assuming that our average reconductor/feeder tie cost $750,000 (1.5 miles at $500k per mile) and a substation rebuild on average cost about $7.5 million our

Asset Management group ran a simple revenue requirement model to determine what the impact might be to the customer. Their results are shown on the table below.

	levelized annual revenue requirement	CIRR
Rebuild Substation	$705,104.95	7.25%
Reconductor/Feeder Tie with rebuild Substation in 2 Years	$734,006.07	6.48%
Reconductor/Feeder Tie with rebuild Substation in 4 Years	$674,652.50	7.37%
Reconductor/Feeder Tie with rebuild Substation in 6 Years	$620,608.45	8.31%

Taking these results from Asset Management and calculating an average cost for the three scenarios that include the reconductor/feeder tie work and subtracting that average from the rebuild substation only scenario produces an indirect savings value of $28,683. This indirect savings value assumes that each year we have at least one reconductor/feeder tie job that differs the need for substation capacity. The other indirect cost savings associated with our reconductor work are realized in the form of less line losses. We normally reconductor smaller wire (say #4ACSR) to larger wire (556AAC). Thus, these reconductor jobs will result in lower line losses because of the lower impedances of the larger wire. However, these cost savings were not quantified for this document and thus are not added to the table below showing the total quantified indirect savings.

Quantified indirect savings:

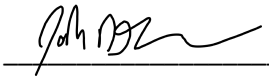
2022	2023	Lifetime
$28,683	**$28,683**	

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 Joshua DiLuciano

Director Signature 

Date 10/28/2021

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: ***Downtown Network – Asset Condition***

2. Business Case Owner: ***Stacie Maier***

3. Director Responsible: ***David Howell***

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):

Asset Condition projects in the Downtown Network system generally deal with one of two categories – deteriorated structural issues in our handholes, manholes and transformer vaults, or predicted failures in our transformers, network protectors, and cable.

Adequate investment in the Asset Condition category will result in reduced investment in an adjacent category – Failed Plant. Downtown Network's Failed Plant is, by definition, unplanned failures, so predicting future years can be difficult. However, in 2021, it appears that the Failed Plant category will spend $250-300k.

If Asset Condition spends was adequate and dedicated to the correct "about to fail" assets, immediately prior to failure, then theoretically Failed Plant spend could be reduced to zero dollars per year. See the Asset Condition Business Case documentation for further information on the different asset classes in the Downtown Network and our approach to achieving this target for each of these classes.

A standard 40-year life cycle is assumed for a lifetime savings.

Quantified direct savings: (capital)

2022	2023	Lifetime
$250k	**$250k**	**$10M**

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, if may cost more in the future (cost avoidance).

Replacement of obsolete equipment classes such as PILC (Paper Insulated Lead Cable) and live-front network protectors reduces the skillset that our cablemen must learn and keep up to date through annual training. Downtown Networks are a rare system and much of the training available is on the East Coast (Con-Ed in New York, Eaton in South Carolina).

Quantified indirect savings:

2022	2023	Lifetime
$33k	**$33k**	**$1.32M**

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.

Asset Condition business case work orders are also sometimes put forth in the name of public and/or employee safety. Such projects may avoid costly public or employee-driven lawsuits; however, the cost savings associated with avoiding these is difficult to quantify. For example, we may replace a manhole roof in order to, as previously noted, avoid spending unplanned Failed Plant dollars on it. However, at the same time, we are focusing on replacing a manhole whose roof failure could mean injury to members of the public using the road crossing over the top of the manhole, or employees working inside the manhole, or fire damage due to chunks of concrete spalling off and causing an electrical fault.

All such examples are also in consideration as we prioritize spend on Asset Condition projects, but they do not necessarily carry easily quantifiable savings. Put more simply, these kinds of capital asset replacements are done in order to protect the public (since the Company operates in public rights-of-way) and to hold to the obligation to keep our employees safe as they perform 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.

Director Name _____David Howell_____

Director Signature _David Howell_____

Date _____11/24/21_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: ***Downtown Network – Performance & Capacity***

2. Business Case Owner: ***Stacie Maier***

3. Director Responsible: ***David Howell***

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):

This business case supports the Vault Integration Project, which is extending remote Supervisory Control and Data Acquisition (SCADA) to all Downtown Network transformer vaults. SCADA enables Avista's Distribution Operations Office to remotely switch, and verify success of switching, without sending cablemen to physically enter and verify each transformer vault, for each switching order. Compared to pre-SCADA switching processes, this is estimated to save ~

30 switching orders per year, with six cablemen on vault patrol processes, at an estimated loaded cost of $110/hour, for four hours per switching order…totals an estimated $79,200/year saved.

Lifetime savings are estimated based on an industry-standard 40 year life of the SCADA system.

Quantified direct savings:

2022	2023	Lifetime
$79,200	**$79,200**	**$3.168M**

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, if may cost more in the future (cost avoidance).

30 switching orders per year, with six cablemen on vault patrol processes, for four hours per switching order…totals an estimated 720 man-hours saved, or approximately 1/3 of a FTE. This provides downward pressure on the need for additional employees to support ongoing construction, operations, and maintenance of the Downtown Network system.

Savings are estimated again at an average loaded cableman hourly rate of $110/hour, for 1/3 of a year.

Quantified indirect savings:

2022	2023	Lifetime
$75k	**$75k**	**$3M**

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.

This business case also supports system improvements that are further upstream into the utility's system, and are not appropriately assigned to any single customer or group of customers. For example, a cable exiting a substation, that supports thousands of downstream customers, may become overloaded as new customers are added to the feeder (and also as existing customers increase their usage). This business case is the avenue used to upgrade the cable such that the cable does not face thermal issues resulting in long term outages to all customers downstream. There are many similar examples throughout the system.

While this work may avoid costly lawsuits in the downtown core business environment, it is difficult to quantify these potential avoided costs.

Put more simply, this capital system reinforcement work is an obligation that the Company has to both new and existing customers. We are not doing this work in order to create savings; we are doing this work in order to provide reasonable service to our customers.

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 _____David Howell_____

Director Signature _____David Howell_____

Date _____11/24/21_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Electric Relocation and Replacement

2. Business Case Owner:

Amy Jones

3. Director Responsible:

David Howell

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, if may cost more in the future (cost avoidance).

Quantified indirect savings:

2022	2023	Lifetime

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.

The Electric Relocation and Replacement program is required due to franchise agreements with the state, county, and city jurisdictions within our service territories. If any state, county, or city jurisdiction is conducting road work in our service territory, we are required to move/relocate our facilities to accommodate the work. Any breach in these agreements could have an impact on Avista's ability to operate in the public right-of-way.

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 ___David Howell_____

Director Signature _____David Howell_____

Date 10/27/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: **Electric Storm**

2. Business Case Owner: **David Howell**

3. Director Responsible: **David Howell**

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):

There is no identified direct savings related to this business case. This business case is used to replace failed equipment due to storm activity.

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, if may cost more in the future (cost avoidance).

There is no identified direct savings related to this business case. This business case is completed to replace failed equipment due to extreme weather events.

Quantified indirect savings:

2022	2023	Lifetime

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.

Current RCW standards obligate us to perform repair work following storm damage. Therefore, an amount of capital is earmarked for a normal year of weather events.

Although there are no financial offsets, an ICE (Interruption Cost Estimate) may be calculated for determining an avoided indirect cost for having this program. An average storm affects 20,000 customers at a cost of $116.15 per customer per hour. This becomes the avoided indirect cost per event.

[$116.15/per customer x 20,000 customers = $2.3M/per hour of a storm event.]

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 _____David Howell_____

Director Signature _____David Howell_____

Date _____11/24/21_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Electric Transportation

2. Business Case Owner:

Rendall Farley

3. Director Responsible:

Kelly Magalsky

4. **Direct Savings**

Quantified direct savings – net revenue offsetting benefit:
2021 net revenues included in test period: $388,281 x 9/12 = $291,211
2022 net revenues: $507,000 | 2023 net revenues: $655,613

2022	2023	Lifetime (through 2030)
$215,789	$364,402	$16,400,000

5. **Indirect Savings**

The following summarizes results from the table below for light-duty passenger vehicles.

Quantified indirect savings – customer transportation fuel and maintenance savings:

2022	2023	Lifetime (through 2030)
$3,119,812	$4,058,720	$116,317,719

Quantified indirect savings – avoided CO_2 emissions (tons):

2022	2023	Lifetime (through 2030)
8,415	10,947	315,731

Table 7: Baseline EV adoption— annual costs and benefits for Avista Washington customers

Year	# EVs (WA)	Utility Billing Revenue	kWh	coincident kW (January 6pm)	Utility Generation and Delivery Cost	Net Revenue (Offsetting Benefit)	Avoided CO_2 Emis-sions (Tons)	Customer Transportation Fuel and Maintenance Savings
2021	1,605	$487,814	5,059,470	1,252	$99,534	$388,281	6,419	$2,379,700
2022	2,104	$639,530	6,633,019	1,641	$132,530	$507,000	8,415	$3,119,812
2023	2,737	$831,997	8,629,227	2,135	$176,384	$655,613	10,947	$4,058,720
2024	3,604	$1,095,637	11,363,632	2,811	$245,540	$850,097	14,416	$5,344,835
2025	4,811	$1,462,652	15,170,208	3,753	$345,272	$1,117,380	19,245	$7,135,242
2026	6,504	$1,977,097	20,505,880	5,073	$1,044,235	$932,862	26,014	$9,644,853
2027	8,868	$2,695,754	27,959,585	6,917	$1,418,903	$1,276,851	35,470	$13,150,670
2028	12,135	$3,689,051	38,261,765	9,465	$2,017,956	$1,671,094	48,540	$17,996,257
2029	16,411	$4,988,922	51,743,650	12,801	$2,804,287	$2,184,634	65,644	$24,337,404
2030	21,760	$6,615,031	68,609,191	16,973	$3,812,173	$2,802,859	87,040	$32,270,038

Notes:

Detailed load profiles acquired from charging data results in the following average characteristics per light-duty passenger EV:

3,153 kWh	electric energy consumption
0.78 kW	coincident peak demand at 6 pm in January
$304	utility billing revenue
$1,183	customer fuel cost savings
$300	customer maintenance cost savings
4 tons	avoided CO_2 emissions

These values multiplied by the projected number of EVs in the baseline adoption scenario result in the indirect customer benefits of:

1. **Net revenue**
2. **Transportation cost savings**
3. **Avoided CO2 emissions**

Net revenue is defined as the billing revenue from EV charging, subtracted by the utility cost of generation and delivery of electricity.

6. No Direct or Indirect Savings

NA - Indirect Savings 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.

Director Name _____Kelly Magalsky_____

Director Signature ___  _____

Date _____10/25/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Endpoint Compute and Productivity Systems

2. Business Case Owner:

Walter Roys

3. Director Responsible:

Jim Corder

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):

While this business case has no direct quantified savings, almost all system access and interactions require an endpoint device. Without endpoint devices, access to corporate data (customer billing, meter data, service dispatch, system maps, among others) is not available.

Quantified direct savings:

2022	2023	Lifetime
$0.00	$0.00	$0.00

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, if may cost more in the future (cost avoidance).

With the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies. These upgrades can in turn drive subsequent system replacements, creating a cascading event of change. Endpoint software and hardware is constantly being updated. Expired extended support agreements for hardware and software is not available from many vendors therefore the projects within this business case typically have no option to purchase additional support and therefore risk security breaches and increased likelihood of breakdown.

For example, 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 a productivity reduction across all areas of the business. Savings related to avoiding these down time issues could range from $100k - $10M a year representing at least 1 full time employee up to 100 full time employees needed to implement manual processes.

An Example of technology assets included in this business case:

- Laptop and desk computer systems
- Tablet computers
- Productivity software (Word, Excel, PowerPoint, Edge)
- Endpoint security patching systems
- Device management software
- Software distribution and installation systems

Systems in this business case are connected to corporate networks and the internet, therefore patching and upgrades are needed to keep these systems current and supportable while maintaining safety, security, and reliability. Keeping systems updated insures maximum protection against security breaches.

Maintaining compliance helps Avista reduce the likelihood of security breaches while also avoiding financial penalties from regulatory bodies.

Quantified indirect savings:

2022	2023	Lifetime
$100k - $10M	$100k - $10M	$100k - $10M

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 James B Corder

Director Signature DocuSigned by: James B Corder 7002E4872104449

Date Oct-29-2021 | 10:37 AM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. **Business Case Name:** EDMOE – Energy Delivery Modernization and Operational Efficiency

2. **Business Case Owner:** Michael Mudge

3. **Director Responsible:** Hossein Nikdel/Josh DiLuciano

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):

The Maximo Upgrade project is being performed in part to avoid Extended Support costs. The Extended Support costs are approximately $100K/year**.**

Quantified direct savings:

2022	2023	Lifetime
$100K	$100K	

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, if may cost more in the future (cost avoidance).

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. These technologies are used to automate and augment business solutions bringing efficiencies and capabilities to support the delivery of energy to our customers. The costs incurred under this business case across the next two years will be spent on product licenses, hardware, professional services, and labor in support of the technical systems in place across the Energy Delivery business area. Significant costs include the cost to license and implement a new Distribution Integrity Management Plan-(DIMP) solution, labor to continue enhancements to our GIS system in support of business process, labor to continue enhancements to our Maximo solution in support of business process, labor to upgrade our Maximo solution in line with vendor product lifecycles, labor and hardware updates necessary to support enhancements and upgrades of our AMI head end platform in support of business process and vendor product lifecycles, labor in support of upgrading MV90 and TWACS in line with vendor product lifecycles, labor and professional services for smaller applications in line with vendor product lifecycles. The timelines for this work have been developed with the best information available today and represent ideal scenarios. It is subject to change based on priorities, availability of shared labor, and our ability to find appropriate professional services.

The new DIMP solution provides the following benefits:

- Additional transparency/clarity to Avista's gas integrity investment decision making process.
- Adds probabilistic modeling into the gas system and addresses whether the right amount of capital is being employed in the business unit and helps identify the higher risk, more immediate maintenance targets.
- Promotes capital efficiency in terms of obtaining the most stakeholder value for each dollar spent by the company.
- Creates language commonality, that can be used across business units, incorporating a risk-based approach, to better help understand and determine investment priorities.
- Improves line of sight between business units and strategic objectives.

Currently, the implementation of DIMP is expected to result in a $200K annual reduction in risk profile beginning in 2023.

Enhancements to Avista's GIS applications is anticipated to provide the following indirect labor savings (This is separate and unique from those benefits achieved under the Atlas Program):

GIS Enhancements Annual Indirect Offset Potential		
Estimated Number of Users	200	
Estimated Efficiency per User	5	minutes per day
Estimated Usage Days per year	200	
Standard Hourly Labor Rate	$85.00	
Estimated Percent of Users in WA	75%	
Estimated Annual Indirect Labor Offset	$212,500	

Enhancements to Avista's Maximo applications is anticipated to provide the following indirect labor savings:

Maximo Enhancements Annual Indirect Offset Potential		
Estimated Number of Users	400	
Estimated Efficiency per User	5	minutes per day
Estimated Usage Days per year	200	
Standard Hourly Labor Rate	$85.00	
Estimated Percent of Users in WA	75%	
Estimated Annual Indirect Labor Offset	$425,000	

AMI Enhancements Annual Indirect Offset Potential		
Estimated Number of Users	60	
Estimated Efficiency per User	15	minutes per day
Estimated Usage Days per year	150	
Standard Hourly Labor Rate	$85.00	
Estimated Percent of Users in WA	75%	
Estimated Annual Indirect Labor Offset	$143,437	

AMI, FCS and MV90 Upgrades. These are meter head end solutions meaning they collect the reads from all the meters and distribute them to the billing solution. From time to time these solutions require updates to keep them in-line with vendor roadmaps and to keep them secure and stable (operational) on newer technologies (Database, Operating Systems, Hardware). Instability of these systems can take days to resolve and require resources from multiple disciplines including business analysts, technical analysts, DBA's and Central Systems engineers.

Meter Head End Upgrades Annual Indirect Offset Potential		
Estimated Number of Users	5	
Estimated Efficiency per User	480	minutes per day
Estimated Usage Days per year	9	3 faults per system
Standard Hourly Labor Rate	$85.00	
Estimated Percent of Users in WA	75%	
Estimated Annual Indirect Labor Offset	$22,950	

Further, If these solutions were to become unavailable for longer periods, billing tasks would require extensive manual intervention and put at risk the timely billing of customers and result at minimum in substantial estimated billing. The AMI Riva solution supports over 400,000 customers and process over $2M billed daily. The MV90 solution, for our commercial customers, supports 208 customers with over $2.3M billed daily. The FCS solution currently supports approx. 158,000 customers and processes $490K daily.

Quantified indirect savings:

2022	2023	Lifetime
$803,887	$1,003,887	

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.

Not applicable for this business case.

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	Hossein Nikdel	Josh DiLuciano
Director Signature	DocuSigned by: Hossein Nikdel E4E2D9C7EE4747F...	DocuSigned by: Josh DiLuciano A3C71874F6564DB...
Date	Oct-27-2021 | 10:27 AM PDT	Oct-27-2021 | 1:16 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Energy Imbalance Market

2. Business Case Owner: Kelly Dengel

3. Director Responsible: Scott Kinney

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):

Avista will join the Western EIM on March 2, 2022. Based on a benefit assessment completed by the consulting firm E3 Avista anticipates receiving annual system benefits of $5.8 million. Avista recognizes that the actual EIM benefits will change as the Company achieves operational experience after participating in the market for at least a year. As stipulated in WUTC rate order UE-200900, Avista is committed to working with a stakeholder group to evaluate and develop an EIM benefit methodology to predict future EIM benefits. However, until the stakeholder group is able to discuss, evaluate and verify different potential methodologies with actual EIM operating history, Avista plans to incorporate $5,800,000 of annual system benefits into its power supply baseline expense calculation. Actual EIM benefits will flow through the energy recovery mechanism similar to how other power supply optimization revenue is treated. After the stakeholder group approves an EIM benefit methodology in the future, then the Company will utilize the method to estimate future revenue offsets to power supply expenses. These offsets should not be considered additive since they are already being accounted for in power supply rate base expense.

Quantified direct savings:

2022	2023	Lifetime
$4,833,333*	$5,800,000	

(*10/12 of annual amount reflecting go-live date of March 2022.)

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, if may cost more in the future (cost avoidance).

Quantified indirect savings:

2022	2023	Lifetime

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 Scott Kinney

Director Signature /s/ Scott Kinney

Date October 22, 2021

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Energy Imbalance Market Modernization & Operational Efficiency

2. Business Case Owner: Kelly Dengel

3. Director Responsible: Scott Kinney

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):

Avista will join the Western EIM on March 2, 2022. Based on a benefit assessment completed by the consulting firm E3 Avista anticipates receiving annual system benefits of $5.8 million. Avista recognizes that the actual EIM benefits will change as the Company achieves operational experience after participating in the market for at least a year. As stipulated in WUTC rate order UE-200900, Avista is committed to working with a stakeholder group to evaluate and develop an EIM benefit methodology to predict future EIM benefits. However, until the stakeholder group is able to discuss, evaluate and verify different potential methodologies with actual EIM operating history, Avista plans to incorporate $5,800,000 of annual system benefits into its power supply baseline expense calculation. Actual EIM benefits will flow through the energy recovery mechanism similar to how other power supply optimization revenue is treated. After the stakeholder group approves an EIM benefit methodology in the future, then the Company will utilize the method to estimate future revenue offsets to power supply expenses. These offsets should not be considered additive since they are already being accounted for in power supply rate base expense.

Quantified direct savings:

2022	2023	Lifetime
$5,800,000	$5,800,000	

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, if may cost more in the future (cost avoidance).

Quantified indirect savings:

2022	2023	Lifetime

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 _Scott Kinney_____

Director Signature _/s/ Scott Kinney _____

Date _October 22, 2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Energy Resources Modernization & Operational Efficiency (ERMOE)

2. Business Case Owner: Brian Hoerner

3. Directors Responsible: Scott Kinney, Jason Lang, Andy Vickers, Bruce Howard

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):

In 2022 and 2023, one of the largest projects included in this business case is the Avista Decision Support System (ADSS). Direct savings are difficult to explicitly define for applications like ADSS. Academic and industry estimates are for between a 2% and 10% gain derived from more efficient (productive) utilization of existing generation assets. Estimates such as this one, and anecdotal internal analyses using ADSS technology in other ways (e.g., portfolio maintenance planning, accurate price bidding in EIM, more informed decisions when acquiring new resources), indicate the likely potential to save more annually than has or will be spent over the life of the technology. Therefore, we cannot reasonably quantify exact direct savings, however most of the benefits associated with ADSS are already incorporated into the power supply baseline expense determination by including resource optimization revenue, EIM benefits and California optimization revenue in the baseline calculation per the agreed upon stakeholder methodology. The strategy for and ability to achieve benefits associated with resource optimization, California day ahead trading, and EIM resource bidding is contingent upon ADSS optimization solutions. Since these offsets are already included as offsets in power supply expense, they are not additive but the potential savings are provided below as potential indirect savings.

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, if may cost more in the future (cost avoidance).

There are several categories of indirect savings that could arise from the Avista Decision Support System (ADSS), such as the following:

Commodity Energy Savings

The value of the commodity energy supplying Avista's retail load for the 12 months ending September 2021, at Mid-C wholesale market prices, was over $400 million. The savings then, using the 2% to 10% metric shared above, ranges between $8 and $40 million per year by being more efficient.

Maintenance Planning and Scheduling

Avista for decades has worked to bring more analytics to maintenance planning for its generation portfolio. Although additional ADSS enhancements are necessary before the full-fledged analytical ADSS Maintenance Planner module can be deployed, early beta tests have shown savings between $0.5-$4.0 million per year, depending on the complexity and number of maintenance projects being completed in a given year. The original business case justification for the Maintenance Planner module (expected to be completed in 2022-2023) was based on annual estimated savings of $1.5 million.

EIM Bidding

Bidding into the Western EIM program entails an entirely new level of interaction in wholesale markets. Avista decided to enter the EIM because our other trading partners were doing increasingly more of their intra-day business in the EIM, starving the NW hourly market of liquidity we have relied upon for decades to meet our load obligations reliably. Greatly less and falling NW real-time liquidity also compromises our ability to maximize the value of our portfolio. Besides having to work with EIM 5-minute market windows where in the past the market time step was hourly, the Company never needed to create detailed price curves for all of its assets for every bidding period. Although no specific estimates have been developed for ADSS' contribution in the EIM effort to date, its base schedule creation and Bidding module provide more accuracy and less staff effort than a manual process. The mid-point range of overall EIM savings included in our 2020 Washington GRC was nearly $6 million annually and was included in the power supply expense baseline calculation.

Planning Studies

ADSS has a unique ability to support resource planning in that it can re-optimize system operations when system conditions change. This enables robust scenario analysis. For example, ADSS allows Avista to model an historical year of operations but change inflows to our reservoirs, add new units or create entirely new power plants to see their detailed impacts on system costs and reliability. We can perform variable energy resource integration cost studies, and model how our system value changes when we have changing data or an opportunity/obligation to upgrade a facility. Further, with its detailed representations, the value of ancillary services can be valued differently among resources and the entirety of the portfolio.

Quantified indirect savings (total estimate):

2022	2023	Lifetime *
$8.5-$41 million	$8.5-$41 million	$85-$410 million, assuming a 10-year software life

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.

Another large project completing in 2022 and 2023 is the Nucleus - Energy, Trading and Risk Management (ETRM) system project. Nucleus is a critical Energy, Trading and Risk Management (ETRM) system that

provides functionality and data management for electric and natural gas transactions, a mechanism for tracking electric and natural gas positions, and accounting and internal/external reporting responsibilities for both electric and natural gas. Nucleus provides business critical benefits to both internal and external parties, capturing extensive data related to electric and natural gas transactions in addition to preforming calculations, tracking information for compliance and financial reporting. Internally, many departments benefit from Nucleus data, features and functions, including Risk Management, Credit, Resource Accounting, Transmission, Power Supply, Gas Supply and other departments requiring reporting information.

Capital improvements and enhancements to the ETRM application, and the associated integrated data connections, are essential to meet business requirements to service Avista customers, maintain compliance with state and federal rules and regulations, as well as compliance with external contracts for functions such as price reporting and contracts that are in place to assist in providing safe and reliable power and natural gas to our customers. Enhancements to this legacy system also allow flexibility for development designed to streamline manual processes and increase employee efficiency and accuracy.

ETRM systems like Nucleus are being used by most vertically integrated utilities. Each system costs millions to purchase, integrate, and support (software systems and staffing). Continuous updates to the Nucleus legacy ETRM system allows us to extend the life of the system and defer the purchase and integration costs of a replacement system.

Other smaller projects included in this business case include enhancements, upgrades, and ongoing licensing costs for various energy resource related systems. These fundamental systems require systematic upgrades and enhancements to maintain reliability, compatibility, interoperability, compliance, and reduce security vulnerabilities. This funding is necessary to mitigate the risk of unsupported applications, security liability, and significantly higher costs because of the deferment of upgrades and enhancements.

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 Jason Lang

Director Signature DocuSigned by: Jason Lang

Date Oct-25-2021 | 7:36 AM PDT

Director Name Scott Kinney

Director Signature DocuSigned by: Scott Kinney

Date Oct-25-2021 | 3:28 PM PDT

Director Name Andy Vickers

Director Signature DocuSigned by: Andy Vickers

Date Oct-25-2021 | 7:21 AM PDT

Director Name Bruce Howard

Director Signature DocuSigned by: Bruce Howard

Date Oct-25-2021 | 8:30 AM PDT

2022-2023 CAPITAL PROJECT
SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Enterprise Business Continuity

2. Business Case Owner: Andy Leija

3. Director Responsible: Clay Storey

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):
N/A
Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, [if may cost more in the future (cost avoidance).
Avista, like the rest of the energy sector, is highly dependent on technology and its availability to deliver energy to our customers. The time to recover technology due to an unplanned event is critical to business operations and can be costly. The cost can include employee time while technology systems are down, the time the employee needs to catch up from systems being down, and the cost of the employees working the incident to recover the systems down. Not to mention, depending on the severity or scale of the system outage, technology replacement costs and shipping times may also play a factor. Lastly, and as important but more difficult to calculate, our customer confidence and service value may also be affected.
The projects in this business case support continued disaster recovery investments to continue operating Avista's critical system by ensuring we have the right recovery capabilities to sustain operations in the event of a disaster. Without investments in recovery capabilities, critical systems would not be available in the event of a disaster and would cause operational inefficiencies and in extreme cases the inability to sustain operations. According to a recent article in Comparitech, the average cost of downtime for a medium-size company, such as Avista, is approximately $74k per hour. This would include a full inoperable data center, which could be a target of a ransomware attack. The average downtime due to a ransomware attack is an average of 16.2 days.[12] Therefore, an average ransomware attack that makes Avista's data center inoperable for approximately 16.2 days or 194 hours (based on a 12-hour day) can result in almost $14.386m of loss time. This does not even include the actual ransomware payment, should paying it be an option. Although the probability of a ransomware attack is low, the consequence or result is high. Therefore, Avista continues to invest in disaster recovery efforts to reduce or control for this pending risk.
Quantified indirect savings:

2022	2023	Lifetime
$0	$0	$14.386m/event

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.

N/A

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 _____Clay Storey_____

Director Signature _____DocuSigned by: Clay Storey B70F95F7961D4B6...

Date _11/2/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Enterprise Communication Systems

2. Business Case Owner:

Walter Roys

3. Director Responsible:

Jim Corder

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):

No quantifiable direct savings.

The Enterprise Communications business case is a program of investments in communications technology required to support communications for both customer interactions and intercompany communications. These communication technologies enable business processes that support our gas and electric customers across our entire service territory.

Quantified direct savings:

2022	2023	Lifetime
$0.00	$0.00	$0.00

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, if may cost more in the future (cost avoidance).

Investments in these technology assets provide indirect savings to our customers by cost avoidance related to downtime and loss of productivity due to potentially implementing manual business processes.

With the rapid pace of technological change, technology vendors require continuous upgrades to maintain systems and continuous support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies. These upgrades can in turn drive subsequent system replacements, creating a cascading event of change.

An Example of technology assets included in this business case:

- Call Center phone systems and software.
- Email Systems
- Virtual meeting systems (Microsoft Teams)
- Mobile phones

The systems in this business case benefit customers indirectly by providing reliable communications with customer service (phone systems, email) and reliable intercompany communications and collaboration with tools such as Microsoft Teams (Video, Chat, file sharing, coediting). This results in a productivity gain across all areas of the business. Savings related to avoiding down time issues with these systems could range from $100k - $10M a year representing at least 1 full time employee up to 100 full time employees needed to implement manual processes or compensate for lost productivity.

Systems in this business case are connected to corporate networks and the internet, and are present on most endpoint devices, therefore patching and upgrades are needed to keep these systems current and supportable while maintaining safety, security, and reliability. Keeping systems updated insures maximum protection against security breaches.

Maintaining compliance helps Avista reduce the likelihood of security breaches while also avoiding financial penalties from regulatory bodies.

Quantified indirect savings:

2022	2023	Lifetime
$100k - $10M	$100k - $10M	$100k - $10M

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 James B Corder

Director Signature DocuSigned by: James B Corder 7002E4872104449

Date Oct-29-2021 | 10:39 AM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Enterprise Network Infrastructure

2. Business Case Owner: Shawna Kiesbuy

3. Director Responsible: Jim Corder

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):

There are no direct savings related to this business case.

Quantified direct savings:

2022	2023	Lifetime
$0.00	$0.00	$0.00

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 do not do this project now, it may cost more in the future (cost avoidance).

The network infrastructure investments in this business case are necessary to sustain our business by using technology to automate business processes. This business case specifically addresses network infrastructure requirements for the back office and customer channels. The business case considers business impact vs. likelihood/probability when sequencing and prioritizing resource allocations and responds to vendor-manufactured product obsolescence risks as well as cyber security risks.

This business case catalog of use cases includes the network infrastructure requirements for customer contact cs, customer mobile and web site contact, all office functions, field workforce functions, fleet systems, dispatch operations, EIM functions, and security systems. The key performance indicator for the network availability and reliability is 99.9%, 24x7. The investment sequencing is based on three drivers, 1) Compliance, 2) Initiatives, 3) Reliability. The Compliance driver should be regulation, Initiatives are generally executive sponsored (current example is a cybersecurity vulnerability risk on out-of-support assets), and the Reliability driver is often the highest volume of work.

The sequencing of the Reliability projects is driven first by the network asset end-of-support date for cybersecurity patching, then the performance and capacity to meet the business requirement, and lastly product obsolescence date.

Investment percentage for the cybersecurity Initiative is 100% in 2022. In 2023, the cybersecurity Initiative is 50% and Reliability projects are 50% of the investment.

Quantified indirect savings:

2022	2023	Lifetime *
$0.00	$0.00	$10mm-$20mm

**According to the Company Enterprise Risk Register, under the "Loss of Communication or Network Technologies" and the "Cyber Intrusion" risks the probability of this failure has an income statement score of 3, which equates to a $10-$20 million avoided cost over a period of 2-3 years.*

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 James B Corder

Director Signature DocuSigned by: James B Corder

Date Nov-04-2021 | 3:40 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Enterprise Security

2. Business Case Owner: Andy Leija

3. Director Responsible: Clay Storey

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):

N/A

Quantified direct savings:

2022	2023	Lifetime
$0	$0	

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, if may cost more in the future (cost avoidance).

Investments in cyber security tools like firewalls, security incident and event monitoring, intrusion prevention, and endpoint protection systems help identify, detect, protect, respond, and recover from a cybersecurity incident. Without these tools, cybersecurity attacks, such as ransomware, data breaches, distributed denial of service, and other methods would significantly reduce Avista's operational capability and potentially expose sensitive information, including customer data. Recent reports on ransomware threats show that an average ransomware demand in 2020 was approximately $850k, not including the average cost of the associated forensic engagement to mitigate the incident, ranging from $40k - $208k[1]or the average employee loss time due to the downtime of the data center or systems.

[1] Ransomware Threat Report 2021. Unit 42 – Palo Alto Networks. April 2021.

In addition to ransomware threats, the number and cost of data breaches continue to go up for the energy sector in the United States[2]. According to a recent IBM report, the energy sector is second, only to healthcare, in the average total cost of a data breach by industry. Customer Personal Identifiable Information (PII) was the type of data most often lost or stolen in a breach. Each data breach incident, should it be realized, can cost an average of $6.39m per event. Moreover, should any sensitive data be taken, additional costs could be incurred in the form of penalties, lawsuits, credit protection insurance, etc. Because the threat landscape continues to change and become more complex daily, Avista's continuous investment in cybersecurity tools is critical.

Therefore, should a data breach event occur, whereby customer data is stolen, it can cost an average of $6.39m per event

Investments in these technology upgrades, enhancements, and licenses provide indirect savings by quantifying the efficiencies based on assumptions on minutes of loss time, percent of users, scale of attack, number of systems affected, etc. noted in the above projects. Continuous investment in cybersecurity reduces the likelihood of realizing the risk of a cybersecurity incident and adheres to growing security compliance requirements, and industry best practices. Depending on the type and reach of a cybersecurity incident, the consequence can be high. Therefore, Avista continues to invest in disaster recovery efforts to reduce or control for this pending risk.

Quantified indirect savings:

2022	2023	Lifetime
		$6.39m/event

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.

N/A

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 _____Clay Storey_____

Director Signature _____DocuSigned by: Clay Storey B70F95F7961D4B6...

Date _11/2/2021_____

[2] Cost of a Data Breach Report 2020. IBM Security. July 2020.

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Environmental Control and Monitoring Systems

2. Business Case Owner: Michael Busby

3. Director Responsible: Jim Corder

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): The Environmental Control and Monitoring systems business case will represent projects that are driven by performance and capacity related issues on the following assets:

There are no direct savings related to this business case.

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 fewer line losses? Or, if we do not do this project now, it may cost more in the future (cost avoidance).

Should this business case not be funded sufficiently, and we run these assets past their recommended life, we will experience an increased downtime of our automated business processes related to safety, control, customer facing, and back-office systems. The technology assets that are managed in this business case also monitors and controls some environmental variables that other technology assets require to prevent damage. The risk and likelihood of failures with this asset grows exponentially when they run past their expected life. Failures with these technology assets would increase labor costs in other areas of the company by having to implement manual processes. We would experience an increase cost of technology asset replacements because other technology assets could experience damage if the environment, they run in is not controlled within their manufacturer specifications.

Avista needs to replace these technology assets for cost avoidance related to significant risk of failures:

- DC power supply battery banks
- DC Converters
- AC Uninterruptable Power Supply systems
- HVAC systems
- Emergency Generator
- Propane Tanks

Investments in these technology asset replacements provide indirect savings to our Customers by cost avoidance related to increase in operating expense due to reinstating manual business processes. Avista Customers will also see cost avoidance related to early replacement of other technology assets that experienced damage because their environment was not controlled adequately. The amount of indirect savings would depend on the site and associated business process systems impacted by the failure.

Indirect savings related to operating expenses could range from $100k - $10M a year representing at least 1 full time employee up to 100 full time employees needed to implement manual process. This is also assuming we would not replace these assets when failed.

Indirect savings related to early replacements of other technology assets could range from $100k - $10M depending on the site that has environment control impacts. $100k is representation of a standard remote site with standard technology deployments. The $10M represents our central Datacenter environment. These are high-level estimates, and the Company does not have a way to track if these estimates will be realized.

2022	2023	Lifetime *
$100k-$10M	$100k-$10M	$100k-$10M/Year

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.

This business case also has a safety component attributed to the technology within this business case. The back-up power generators and uninterruptible power supplies keep communication equipment running during emergency power outage events. Crews responsible for restoration efforts rely on their communication devices to perform their work. If the technology has failed and is unavailable, the crews lose their ability to collaborate and operate in a safe manner. System Operations loses their ability to monitor the grid and to dispatch crews where needed.

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 James B Corder

Director Signature DocuSigned by: James B Corder 7002E4B72104449

Date Oct-26-2021 | 8:44 AM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Enterprise Technology Modernization and Operational Efficiency

2. Business Case Owner: Karen Schuh

3. Director Responsible: Jim Corder, Hossein Nikdel, Clay Storey, Pat Dever

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):

No Direct Savings are attributed to this business case.

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, if may cost more in the future (cost avoidance).

This business case focuses on the tools and systems used by the technology teams to deliver solutions to the rest of the organization and is mainly comprised of product licenses, hardware, upgrades, and enhancements. A few larger projects that will transfer-to-plant in 2022 and 2023 where potential indirect savings could occur include the following:

2022

Clarity Upgrade – Clarity is the project, portfolio, and resource management system for Enterprise Technology at Avista. An application upgrade is necessary to reduce security vulnerability, maintain support, and take advantage of the updated software capabilities and enhancements. If we do not upgrade this system, we would need to add additional staff to instill manual processes. The table below is used to calculate potential indirect savings of the Clarity Upgrade and does not consider having to instill manual processes.

Clarity Annual Indirect Offset Potential	
Estimated Number of Users	100
Estimated Efficiency per User (min)	5
Estimated Usage Days per year	200
Standard Hourly Labor Rate	$85.00

Estimate Percent of Users in WA	75%
Estimate Annual Indirect Labor Offset	$106,250

Data and Analytic Platform (DAAP) - The Data and Analytic Platform is a data management architecture for data processing and analytics that combines the strengths of traditional repository warehouses with data virtualization and distributed processing. The DAAP improves agility, increases multiuse and reduces risks by creating a common data platform from which data can be governed, accessed, leveraged, and used. The need to provide continuous improvements and enhancements to this enterprise application is required to meet business requirements that service our customers. The 4 primary areas for capturing measurable business value from a Data and Analytics Platform include:

- Improve infrastructure asset performance
- Drive efficiencies (i.e., cost optimization) enterprise wide
- Provide customers with additional information that helps inform them when making energy choices
- Pursue potential revenue growth opportunities

The following table calculates the potential indirect offsets related to driving efficiencies.

DAAP Annual Indirect Offset Potential	
Estimated Number of Users	75
Estimated Efficiency per User (min)	8
Estimated Usage Days per year	200
Standard Hourly Labor Rate	$85.00
Estimate Percent of Users in WA	75%
Estimate Annual Indirect Labor Offset	$127,500

2023

Mulesoft API Licenses – Mulesoft is our Application Programming Interface (API) service provider. An API is a type of software interface that allows communication between computers in a more simplified fashion. It only exposes objects or actions the developer needs. An API would provide the ability for a developer to use a function that copies a file from one location to another without requiring that the developer to understand the file system operations occurring behind the scenes. It provides a much more efficient process for creating an interface without having to fully migrate into the ecosystem. Offsets or efficiencies gained would have been realized upon the initial installation of the software and are detailed below as potential indirect offsets.

Mulesoft Annual Indirect Offset Potential	
Estimated Number of Users	125
Estimated Efficiency per User (min)	5
Estimated Usage Days per year	200
Standard Hourly Labor Rate	$85.00
Estimate Percent of Users in WA	75%
Estimate Annual Indirect Labor Offset	$132,813

App Dynamics – AppDynamics is a technology solution that provides system monitoring, root cause analysis automation and provides end-to-end business transaction-centric management of complex and distributed applications.

When AppDynamics was originally put in place, it was deemed to allow the Operations team to maintain the current level of service to the enterprise, and improve it, due to the ability to quickly isolate and resolve production performance issues. In addition to tangible operations benefits, the implementation of this software allows for an internal rate of return (IRR) range of 23.22% to 143.17%, as well as significant Operation & Maintenance (O&M) savings. These savings were realized upon the initial implementation of App Dynamics and would not be realized again for this upgrade. The Company calculated the potential indirect offsets of the upgrade to App Dynamics and represents an avoided cost should the system be abandoned and go back to manual processes of approximately $750,000.

In summary, investments in these technology upgrades, enhancements and licenses provide indirect savings by quantifying the efficiencies based on assumptions on minutes of efficiency, percent of users, etc. noted in the above projects. The above projects do not include all the projects included in this business case; these were provided as a sample of indirect savings that represent the entire business case. Therefore, these are high-level estimates, and the Company does not have a way to track if these estimates will be realized.

Quantified indirect savings:

2022	2023	Lifetime
$233,750	$132,000	

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.

Not applicable for this business case.

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 _____James Corder_____

Director Signature _____DocuSigned by: James B Corder 7002E4872104449...

Date _____Nov-03-2021 | 1:05 PM PDT

Director Name _____Hossein Nikdel_____

Director Signature DocuSigned by: Hossein Nkdel

Date Nov-03-2021 | 1:07 PM PDT

Director Name Clay Storey

Director Signature DocuSigned by: Clay Storey

Date Nov-04-2021 | 9:03 AM PDT

Director Name Patrick Dever

Director Signature DocuSigned by: Pat Dever

Date Nov-03-2021 | 1:50 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Facilities and Storage Location Security

2. Business Case Owner: Andy Leija

3. Director Responsible: Clay Storey

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):

N/A

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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).

This business case is refreshing legacy access control systems that provide security and safety to Avista staff and customers by reducing the use of physical brass keys. Managing physical brass keys is extremely inefficient and insecure because they can be lost, stolen, or not returned upon employee departure. The cost to regularly replace keys or re-key each entry for all employees due to key loss, theft, or unreturned keys across multi-state facilities whereby employees come and go to and from various sites would be more costly over time than refreshing the existing badged access control system.

In addition, this business case funds video surveillance refresh projects that provide theft and vandalism deterrence and can aid law enforcement if those events are to occur by having video evidence. Investments in both access control systems and video surveillance help protect our tools, equipment, vehicles, parts, facilities, employees, and customers. Depending on the type of crime committed against our facilities or people, the cost can range from mere vandalism or copper theft to endangering the lives of our employees and customers.

Therefore, indirect savings associated with these investments in access control systems and video surveillance are prudent versus returning to a manual physical brass key management program, that would need to track incidents of lost, stolen, or unreturned keys, and the needed replacement of keys or re-keying locks, as well as the cost for any break-ins or theft incidents resulting from lost, stolen, or unreturned keys. In addition, should a break-in result in loss of life, the indirect savings are unquantifiable. Thus, continuous investment in the security of our facilities is paramount for the safety of our people, both customers and employees.

Quantified indirect savings:

2022	2023	Lifetime

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.

N/A

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 _____Clay Storey_____

Director Signature _____DocuSigned by: Clay Storey B70F95F7961D4B6...

Date _11/2/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Fiber Network Leased Service Business Case

2. Business Case Owner: Shawna Kiesbuy

3. Director Responsible: Jim Corder

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):

This program is currently scheduled to complete in 2027. By completing this program, we will avoid annual lease costs of $60,000 ($5,000/month) through the life of the IRU (indefeasible rights of use agreement), which is effective through 2032. If the work does not complete in 2027, we will continue to delay the work and spend the $60,000 in annual IRU payments.

At the end of 2032, we do have an option to renew the contract, with a large up-front cost estimated to be in the Millions.

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$60,000 annual until completion

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 James B Corder

Director Signature DocuSigned by: James B Corder 7002E4872104449...

Date Oct-28-2021 | 12:44 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Financial Accounting Technology

2. Business Case Owner: Graham Smith

3. Director Responsible: Hossein Nikdel, Ryan Krasselt

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):

These business cases do not have any direct savings for 2022-2023

Quantified direct savings:

2022	2023	Lifetime
N/A	N/A	N/A

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).

2022 TTP:

The following items are descriptions of the major work items under the Finance and Account Business case for 2022 and 2023

Reconciliation Automation –

Avista is planning on deploying a month end close automation solution to increase the efficiency of our reconciliation and month end close processes. This will be a new cost to the company but the indirect benefit of reducing the time it will take employees to complete the routine monthly reconciliation and close processes. This will enable employees to work on higher value tasks. We also believe the enhancements will improve internal control over financial reporting and decrease the risk for control

deficiencies and financial statement misstatements. The indirect savings are estimated to be $41,105 in each of 2022 and 2023. Please see the attached spreadsheet for the calculation and assumptions.

Depreciation Forecast –

Avista is planning to make changes to our depreciation forecast capability in 2022. This work is predicted to improve the precision of the depreciation forecasts and reduce the labor requirements to generate the forecast. The indirect saving is estimated to be $6,614. Please see the attached spreadsheet for calculations and assumptions. In addition to the indirect labor savings, having increased precision of our depreciation forecast supports the stability of the company from a market perspective. Errors in the depreciation forecast can have a negative impact on the financial health of the company.

Financial System Enhancements -

In order to ensure that Avista maximizes the benefits for the investments made in our enterprise applications we use an 'Enhancement Program" to provide incremental enhancements to the enterprise systems to maintain alignment between the business processes and system processes. The enhancements can be small improvements in the systems such as enabling electronic ordering delivery with our key suppliers. This improvement will improve the accuracy and timeliness of orders for key materials. An additional example is to create a workflow to automate the process of approving new project numbers. This is currently a very manual process. The annual indirect offset potential is $95,625. Please see the attached spreadsheet for the calculations.

PowerPlan Upgrade -

This project will upgrade our fixed assets software to the current supported version. We are currently utilizing an old version of the software that is only supported on a best effort basis. By moving the most current version of the software we reduce the risk of having an error in this system that would prevent the closure of the financial books on a monthly, quarterly, or annual basis. Failure to properly close the books on a quarterly or annual period could result in a material deficiency resulting in significant risk to the financial stability of the company.

Remittance Processing Refresh -

Remittance processing solution was installed in 2011. It automates the process of opening, collating, and processing paper checks and remittance slips from Avista customers paying their bill via check. We receive about 23% of our remittance through this channel. The channel represents about $40 million dollars in revenue monthly. There are risks associated with the current system: 1) The server hardware is out of warranty and starting to fail. 2)the server operating systems approaching the end of extend support from Microsoft 3) the application is on extend support from the vendor. By implementing an upgrade, it is estimated to have a $2,400 direct costs savings by reducing the amount of Enterprise Technology labor required to repair the system.

The indirect savings of the project are estimated to reduce of risk of failure of this remittance channel and the according customer sentiment. Over the last ten years this solution has reduced 4.5 FTE required to support this business process. If this solution was abandoned, it would represent an increase in operating expenses of ~$202,500 (45,000*4.5)/year.

2023 TTP:

Quantified indirect savings:

2022	2023	Lifetime
$155,234	$152,834	

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.

No direct savings in this business case for 2022 and 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.

Director Name Hossein Nikdel Ryan Krasselt

Director Signature DocuSigned by: Hossein Nikdel E4E2D9C7EE4747F... DocuSigned by: Ryan Krasselt 02B36C86587D411...

Date Nov-09-2021 | 1:07 PM PST Nov-09-2021 | 1:31 PM PST

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Fleet Capital Plan

2. Business Case Owner: Greg Loew

3. Director Responsible: Alicia Gibbs

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
$0	$0	

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, if may cost more in the future (cost avoidance).

Annual labor savings by maintaining the capital plan and having a predictable labor requirement

Value	**2023**	**2024**	**2025**	**2026**
Annual Capital Full	$5,556,379	$5,794,138	$6,765,327	$8,550,317
Avg Age	11.63	11.45	11.34	11.10
Labor Hours	41,456	42,023	42,191	41,817
Annual Capital-HALF	$2,536,587	$2,816,819	$3,741,889	$3,859,175
Avg Age	12.43	12.73	13.07	13.42
Labor Hours	41,870	43,395	44,689	45,979
Labor Dollars Delta*	35,316	120,693	226,232	388,366

Avoided crew/labor downtime
Our 2021 analysis showed that demand repair work orders would increase over time when not controlling the total overall average age of fleet. A percentage of demand repair orders has some impact on the users of the trucks. On average for this exercise we assume each work order has a 2 minute impact on the crew.

	2021	2022	2023	2024	2025
Annual Demand Repair Work Orders	6,834	6,880	6,945	6,956	6,990
Crew down time per work order = 2mins	$82,008	$82,560	$83,340	$83,472	$83,880

*2022 hourly 4 person line crew labor rate of $360/hr

Quantified indirect savings:
Fleet indirect costs

2022	2023	Lifetime
$0	$35,316*	$770,607

*split 60% capital

Crew down time*

2022	2023	Lifetime
$82,560	$83,340	$333,252

*split 100% o&m

Allocation:
2022: 100% o&m
2023: 18% capital and 82% o&m

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 Alicia Gibbs

Director Signature DocuSigned by: Alicia Gibbs 49C42855345E483

Date Dec-09-2021 | 1:39 PM PST

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: ER 3009 – Gas Above Grade Pipe Remediation Program

2. Business Case Owner: Jeff Webb / Mike Yang

3. Director Responsible: Jody Morehouse

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):

Limited O&M cost savings will come from the elimination of recurring patrolling and atmospheric corrosion (AC) inspections, which are federally mandated inspection requirements per 49 CFR Part 192.721 and 192.481. When an aboveground pipeline is remediated by installing the replacement pipeline underground, then these periodic inspections are no longer required, and the result is a direct cost savings. It is anticipated that about half of the remediation projects (i.e. about 0.5 of the locations per year) will replace aboveground pipe with belowground pipe. This remediation program is not projected to begin in Washington until the year 2023, so there are no cost savings in 2022. Field surveys and a risk analysis will be performed in 2022 to identify high risk sites and verify remediation methods. All cost savings are in today's dollars. See attachment for assumptions and calculation details.

Quantified direct savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	-	$400	$8,040
Total:	-	$400	$8,040

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, if may cost more in the future (cost avoidance).

Indirect cost savings were calculated based on the cost avoidance of having to perform future O&M maintenance projects to repair pipe wrap, paint, and hangers. A single project under this program is expected to eliminate at least one, and possibly two of these O&M maintenance projects throughout the life of the pipeline. A new belowground replacements is expected to eliminate two O&M projects, one in the present and one at the end of life since it's no longer aboveground. A new aboveground replacement is expected to eliminate one O&M project in the present, but there's still expected to be a

future O&M project before the end of its life since it's still aboveground and will eventually will be in need of repair. All cost savings are in today's dollars. See attachment for more assumptions and calculation details.

Quantified indirect savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	-	$3,200	$64,800
Total:	-	$3,200	$64,800

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.

The primary mission of of ER-3009 Gas Above Grade Pipe Remediation Program is to replace aboveground gas pipelines that are either not in compliance with state or federal pipeline safety codes, or have been deemed to have a high risk with respect to safety, reliability, etc. The primary benefits of this program are to avoid the risks associated with an non-compliant, unsafe, and unreliable gas pipeline system. The risk of not doing the work includes, but is not limited to, regulatory fines, pipeline leaks, pipeline failures & outages, negative company reputation, and elevated safety concerns. See below for a list of the relevant pipeline safety regulations pertaining to the maintenance of aboveground gas pipelines, as well as a breakdown of each risk over time assuming nothing is done to remediate these sites.

<u>Pipeline Safety Regulations:</u>

- 49 CFR Part 192.161 – Supports and Anchors
- 49 CFR Part 192.479 – Atmospheric corrosion control: General
- 49 CFR Part 192.481 – Atmospheric corrosion control: Monitoring
- 49 CFR Part 192.613 – Continuing surveillance
- 49 CFR Part 192.703 – General Maintenance
- 49 CFR Part 192.721 – Patrolling

(See next page for Risk breakdown)

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

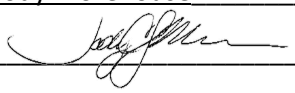
Risk Avoidance Over Time and the Cost of Doing Nothing:

#	Risk	Risk Over Time (years)					Cost Estimate
		1	2	5	10	15+	
1	Regulatory Fines*	VL	L	P	H	VH	$225,134 per day per violation (Max) $2,251,334 Total (Max)
2	Pipeline Leak	VL	VL	L	P	H	$5,000 to $150,000 per site (site dependent)
3	Pipeline Failure & Outage	VL	VL	L	P	H	$150,000 to $3,000,000 per site (site dependent)
4	Negative Reputation	VL	L	P	VH	VH	Erosion of PUC and Public trust
5	Employee & Public Safety	VL	VL	L	L	P	Lost time, healthcare, lawsuits, 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 at the discretion of the enforcement agency and is likely to be much lower due to Avista's 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.

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 Jody Morehouse

Director Signature 

Date 10/28/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: ER 3312 Gas Airway Heights High Pressure Reinforcement

2. Business Case Owner: Jeff Webb / Rachael Anderson

3. Director Responsible: Jody Morehouse

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):

Direct savings will result from the elimination of the Cold Weather Action Plan (CWAP) if this project is completed as scoped. Currently, Avista's approach to managing the risk of this known pressure deficiency is handled through the CWAP, which is operated through the Gas Planning Engineer. When average daily temperatures fall within 15 to 20 degrees F of where we expect outages to occur, several individuals are "on watch" actively monitoring this area of the system and establishing a plan should an outage occur. The individuals involved include: Gas Planning Engineer, Gas Servicemen, Gas Controllers, and the Spokane Gas Construction Manager. It is estimated that this "on watch" phase occurs three times per year. Should the average daily temperatures fall to 5 degrees F, the CWAP is triggered and action is required from the above individuals to interrupt, communicate with customers, adjust the gas system, etc. Based on historical weather data, we expect an active CWAP to occur once every 5 years. Taking into consideration the predicted 50-year lifetime, this equates to 0.2 yearly events. This CWAP will be eliminated with the completion of this Business Case, resulting in the following direct savings:

Quantified direct savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	$2,312	$2,312	$115,600
Total:	$2,312	$2,312	$115,600

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, if may cost more in the future (cost avoidance).

Indirect savings will result from the completion of this High Pressure Reinforcement. Load studies performed by the Gas Planning Department and pressure monitoring during cold weather events confirm that there is insufficient pressure at the West end of the Fairchild-Spokane High Pressure (HP) Main. This deficiency has been present since the winter of 2019-2020. If this reinforcement is not completed, Avista's customers face a high risk of gas outages once the average daily temperature falls to 5 deg F, or lower. Based on Gas Planning Load Studies, it is estimated that 4,000 customers would face gas outages as long as the temperature remains at or below 5 deg F. Gas outages pose additional O&M expenses due to Avista's outage response. Therefore, indirect savings would result from this HP Reinforcement by eliminating the likely outage response that would occur from a cold weather outage in this part of the system. These savings were calculated using an estimated cost per customer of an actual outage event. The estimated cost per customer was derived from the total cost of a customer outage that occurred in Avista's system in 2019 divided by the number of customer outages that resulted from that event. Using this average cost per customer of an outage event, the predicated number of customers that would face a gas outage if the Airway Heights HP Reinforcement is not completed, and the predicted 0.2 outage events that will occur yearly, results in a yearly cost of $122,900. Taking into consideration the typical 50-year lifetime age of a pipeline, lifetime savings due to avoided outages total $6,145,000. This is just the monetary impact of an outage of this scale based on Avista's outage response. There are other associated risks related to an outage that will be discussed further in the next section.

Quantified indirect savings:

	2022	**2023**	**Lifetime**
Capital:	-	-	-
Expense:	$122,900	$122,900	$6,145,000
Total:	$122,900	$122,900	$6,145,000

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.

ER 3312 Gas Airway Heights High Pressure Reinforcement was established to address a known pressure deficiency in Avista's gas system. Load studies performed by the Gas Planning department and pressure monitoring during cold weather events has shown there is insufficient pressure at the west end of the Fairchild-Spokane High Pressure (HP) main to serve firm gas customers. This deficiency began during the winter of 2019-2020. This HP main supplies gas to Airway Heights, the Spokane Airport, and the SW area of Spokane. Without this HP reinforcement, Avista's customers face the significant risk of gas outages during cold weather conditions. Space heating is the most prominent use of gas for Avista's firm

customers. An outage event during cold weather conditions presents significant risks to customers' health and safety. There is also potential property damage due to the possibility of freezing pipes. Overall, the major risks associated with not completing this HP Reinforcement are associated with customer outages, Avista's reputation, and employee & public safety. These risks are summarized in the following table:

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) 1	2	5	10	15+	Cost Estimate
1	Regulatory Fines*						$225,134 per day per violation (Max) $2,251,334 Total (Max)
2	Pipeline Leak						$5,000 to $150,000 per site (site dependent)
3	Pipeline Failure & Outage	VL	P	H	VH	VH	$150,000 to $3,000,000 per site (site dependent)
4	Negative Reputation	L	VH	VH	VH	VH	Erosion of PUC and Public trust
5	Employee & Public Safety	L	H	VH	VH	VH	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).

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 Jody Morehouse

Director Signature 

Date 10/27/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: ER 3004 – Gas Cathodic Protection Program

2. Business Case Owner: Jeff Webb / Tim Harding

3. Director Responsible: Jody Morehouse

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
Capital:	-	-	-
Expense:	-	-	-
Total:	-	-	-

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, if may cost more in the future (cost avoidance).

When installing new anode beds, Avista's cathodic protection technicians charge time to this capital budget that would otherwise be charged to O&M accounts. The below numbers are based on the installation of five deep wells each year.

Quantified indirect savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	$17,000	$17,500	$808,000
Total:	$17,000	$17,500	$808,000

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.

This corrosion control program is mandated under 49 CFR, Subpart I. This rule requires buried steel piping be coated and have a cathodic protection in place. The vast majority of the budget for this program involves the installation of new anode beds, which are the buried portion of the cathodic protection system that is consumed over time. These installations have a lifespan of approximately 30 years, at which point they need to be replaced. There are 132 anode beds in Washington. In some cased, new anode beds are installed in locations where additional cathodic protection current is required. Over time, more current is required as the steel pipe coatings degrade and lose their effectiveness.

Cathodic protection systems are required by State and Federal code, but even without these requirements, are very cost effective. Buried steel piping systems without cathodic protection, or with systems not functioning properly are prone to corrosion damage and leaks. The risk of not having adequate cathodic protection systems includes, but is not limited to, regulatory fines, pipeline leaks, pipeline failures & outages, and negative company reputation. 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:

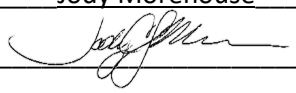
#	Risk	Risk Over Time (years)					Cost Estimate
		1	2	5	10	15+	
1	Regulatory Fines*	H	VH	VH	VH	VH	$225,134 per day per violation (Max) $2,251,334 Total (Max)
2	Pipeline Leak	L	L	P	H	VH	$5,000 to $150,000 per site (site dependent)
3	Pipeline Failure & Outage	L	L	P	H	VH	$150,000 to $3,000,000 per site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

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 Jody Morehouse

Director Signature 

Date 10/27/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Gas Facility Replacement Program (GFRP) Aldyl A Pipe Replacement

2. Business Case Owner: Karen Cash

3. Director Responsible: Jody Morehouse

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):

<Answer and Please Show $$>

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, if may cost more in the future (cost avoidance).

<Answer and Please Show $$>

Quantified indirect savings:

2022	2023	Lifetime

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.

Avista has a regulatory mandate to complete the Gas Facilities Replacement Program (GFRP) and has a goal of investing in its infrastructure to achieve optimum life-cycle performance.

As of August 2011, the US Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) mandates gas distribution pipeline operators to implement Integrity Management Plans, or in Avista's case, a Distribution Integrity Management Plan (DIMP) in which pipeline operators are required to identify and mitigate the highest risks within their system. For Avista, aside from third party excavation damage, the highest risks within our natural gas distribution system is Aldyl-A Main Pipe (Manuf. 1964-1984), and the bending stress that occurs on Aldyl-A service pipe where it is connected to steel main pipe.

More specifically, and as related to the risks identified above, in February 2012 Avista's Asset Management Group released findings in the "*Avista's Proposed Protocol for Managing Select Aldyl-A Pipe in Avista Utility's Natural Gas System*" report. The report documents specific Aldyl-A pipe in Avista's natural gas pipe system, describes the analysis of the types of failures observed, and the evaluation of its expected long-term integrity. The report proposed the undertaking of a 20-year program to systematically replace select portions of Aldyl-A medium density pipe within its natural gas distribution system in the states of Idaho, Oregon, and Washington.

Subsequently, the Gas Facility Replacement Program's (GFRP) was formed as the operational entity committed to structuring and implementing a systematic approach to mitigating the Aldyl-A pipe risks as identified in aforementioned report.

On December 31, 2012 the Washington Utilities and Transportation Commission (WUTC) issued its policy statement on Accelerated Replacement of Pipeline Facilities with Elevated Risks which requires gas utility companies to file a plan every two year for replacing pipe that represents an elevated risk of failure. The requirement to file a Pipe Replacement Plan (PRP) commenced on June 1, 2013.

GFRP has been deemed to be prudent, cost effective, and in the best interest of the customers and public. Potential risks and/or penalties include:

- The primary benefits of this program are to avoid the risks associated with an unsafe, non-compliant, and unreliable gas pipeline system. The risk of not doing the work includes, but is not limited to, regulatory fines, pipeline leaks, pipeline failures and outages, negative company reputation, and elevated safety concerns. See below for a list of the relevant pipeline safety regulations pertaining to the GFRP, as well as a breakdown of each risk over time assuming nothing is done to remediate the Aldyl-A pipe.

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 Potential Cost of the "Do Nothing" Option:

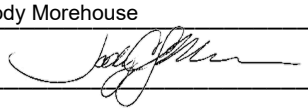
Potential Risk	Potential Risk Over Time					Cost Estimate
	1 Year	2 Years	5 Years	10 Years	15+ Years	
Regulatory Fines	L	P	H	VH	VH	$225,134 per day per violation (Max)* $2,252,334 Total (Max)*
Pipeline Leak	H	H	VH	VH	VH	$5,000 to $150,000 per site (site dependent)
Pipeline Failure & Outage	L	L	P	P	VH	$150,000 to $3,000,000 per site (site dependent)
Negative Reputation	L	P	H	VH	VH	Erosion of WUTC and Public Trust
Employee & Public Safety	VL	L	P	H	VH	Lost time, healthcare, lawsuits, 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 at the discretion of the enforcement agency and is likely to be much lower due to Avista's 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.

- It has been determined that this type of pipe is at risk and is approaching unacceptable levels or reliability without prompt attention. The "Do Nothing" option exposes Avista to increased operational risks, decreased system reliability, and worse, is a potential harm to customers and the public through damage to life, property, and the environment. There would be a high likelihood of legal action against Avista, regulatory fines, and negative reputation. The Aldyl-A pipe will eventually reach a level of unreliability that is not acceptable due to the tendency for this material to suffer brittle-like cracking leak failures. There is a potential harm to the public through damage to life and property and there is a high likelihood of increasing regulatory scrutiny from increasing failures. Not approving or deferring this body of work would further exacerbate the risks as identified above. GFRP would not be able to address some of the highest risk/threats in the natural gas distribution system by reducing the incident and leak rates. Per the *"Avista Study of Aldyl-A Mainline Pipe Leaks 2018 Update"*, which covered the entire program in Idaho, Oregon, and Washington, based upon the proactive replacements that have occurred, the number of leaks predicted from 2018 through 2088 has reduced to 12,335 with 246 catastrophic events if the system-wide proactive replacement were to not continue. With the current replacement of all Aldyl-A pipe by 2035, the number of predicted leaks from 2018 to program completion reduces slightly, moving from 255 to 246 leaks of which 4 have the potential to be catastrophic events. Unplanned replacements of leaks are assumed to cost $5,071 per three feet.

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 Jody Morehouse

Director Signature 

Date 10/25/2021

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: ER 3005 – Gas Non-Revenue Program

2. Business Case Owner: Jeff Webb

3. Director Responsible: Jody Morehouse

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):

No direct savings.

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, if may cost more in the future (cost avoidance).

Indirect cost savings were calculated based on two presumptions:

1) that the Avista labor spent on this budget item would likely be charged to expense type work instead of this capital work if this work item was not available.

2) if this capital program is not funded, leaks will be repaired in a temporary manner as opposed to a permanent repair. When leaks are repaired temporarily, the permanent fix still needs to happen at some point in the future. So a leak repair will actually costs more to fix in the long run if it is not permanently fixed the first time.

All cost savings are in today's dollars. See attachment for more assumptions and calculation details.

Quantified indirect savings:

	2022	2023	Lifetime
Capital:	-	-	*
Expense:	$1,999,800	$1,999,800	*
Total:	$1,999,800	$1,999,800	*

* The program is in perpetuity, as such it is not possible to calculate a lifetime benefit.

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.

CFR 192.465 & CFR192.720 determine how a gas utility manages leaks. The other portions of work associated with this Business Case are not mandated work. They consist of customer requested work, mitigating shallow gas facilities, and strategically replacing farm tap style regulators with IP main.

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

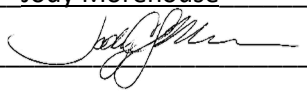
Risk Avoidance Over Time and the Cost of Doing Nothing:

#	Risk	Risk Over Time (years)					Cost Estimate
		1	2	5	10	15+	
1	Regulatory Fines*	VL	VL	VL	L	L	$225,134 per day per violation (Max) $2,251,334 Total (Max)
2	Pipeline Leak	VL	L	L	P	P	$5,000 to $150,000 per site (site dependent)
3	Pipeline Failure & Outage	VL	VL	VL	L	L	$150,000 to $3,000,000 per site (site dependent)
4	Negative Reputation	VL	VL	VL	L	L	Erosion of PUC and Public trust
5	Employee & Public Safety	VL	L	L	P	P	Lost time, healthcare, lawsuits, 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 at the discretion of the enforcement agency and is likely to be much lower due to Avista's 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.

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 Jody Morehouse

Director Signature 

Date 11/12/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Gas PMC Program, ER 3055

2. Business Case Owner: Jeff Webb / David Smith

3. Director Responsible: Jody Morehouse

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):

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.

[1]The direct savings for 2023 cannot be calculated until the 2022 PMC Program finishes and the meter accuracy data is complied.

Quantified direct savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	$38,000	[1]See Above	$153,000
Total:	$38,000	[1]See Above	$153,000

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, if may cost more in the future (cost avoidance).

Completing the annual PMC 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. This approach has allowed Avista to adjust leave 67,547 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.
2. Per the failed family replacement timeframe defined in the PMC Program Standard Operating Procedure, 25% of the total 67,547 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
Total:	$3,995,000	$4,114,000	$15,984,000

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.

Avista is required by state commission rules and tariffs 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 gas measurement for our customers and compliance with the applicable state tariffs. The risk of not doing the work includes regulatory fines and negative company reputation. 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 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).

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.

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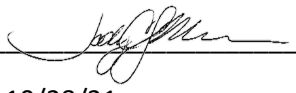
Director Signature 

Date 10/28/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Regulator Station Replacement Program, ER 3002

2. Business Case Owner: Jeff Webb / David Smith

3. Director Responsible: Jody Morehouse

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):

This annual program will replace or upgrade existing at-risk Gate Stations, Regulator Stations and Industrial Meter Sets ("stations") located throughout Avista's gas territory that are at the end of their service life and/or not up to current Avista standards. These stations require annual maintenance per 49 CFR 192.739. Stations that are at the end of the end of their service life and/or are not up to Avista's current standards typically take longer to maintain which results in increased O&M cost. Refer to spreadsheet titled *ER 3002 Cost Offset Calculations 2022-2023.xlsx* showing the calculations for the direct savings shown below.

The estimated direct savings were calculated with the following assumptions:

1. The 2021 average hourly maintenance rate is $53.82.
2. The Washington State Cost of Living Adjustment rate is 3% per year.
3. Ten stations are replaced each year in 2022 and 2023.
4. Rebuilding the station up to current standards saves an average of 1 hour of maintenance time per year.
5. The expected service life of a station is 40 years.
6. Avista's average labor overhead rate between 2014 to present is 94%.

Quantified direct savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	$1,700	$3,500	$265,500
Total:	$1,700	$3,500	$265,500

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, if may cost more in the future (cost avoidance).

No indirect savings identified.

Quantified indirect savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	-	-	-
Total:	-	-	-

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.

This annual program will replace or upgrade existing at-risk Gate Stations, Regulator Stations and Industrial Meter Sets ("stations") located throughout Avista's gas territory that are at the end of their service life and/or not up to current Avista standards. Additionally, it will address enhancements that will improve system operating performance, enhance safety, replace inadequate or antiquated equipment that is no longer supported, and ensure the reliable operation of metering and regulating equipment. Avista's gas customers will benefit from these types of projects by having a safer, more reliable, well maintained distribution system. The primary benefits of this program are to avoid the risks associated with an unsafe, non-compliant, and unreliable gas distribution system. The risk of not doing the work includes, but is not limited to, regulatory fines, pipeline leaks, pipeline failures and outages, negative company reputation, and employee and public safety. See below for breakdown of these risks:

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

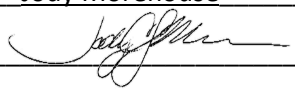
Risk Avoidance Over Time and the Cost of Doing Nothing:

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

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 Jody Morehouse

Director Signature 

Date 10/28/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: ER 3000 – Gas Reinforcement Program

2. Business Case Owner: Jeff Webb / Tim Harding

3. Director Responsible: Jody Morehouse

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):

Direct savings will result from the reduction in use of the Cold Weather Action Plan (CWAP) if this program is funded. Currently, Avista's approach to managing the risk of these known pressure deficiencies are handled through the CWAP, which is operated through the Gas Planning Engineer. When average daily temperatures fall within 15 to 20 degrees F of where Avista expects outages to occur, several individuals are "on watch" actively monitoring this area of the system and establishing a plan should an outage occur. The individuals involved include: Gas Planning Engineer, Gas Servicemen, Gas Controllers, and the Spokane Gas Construction Manager. It is estimated that this "on watch" phase occurs one time per year. Should the average daily temperatures reach the trigger point for the CWAP, action is required from the above individuals to interrupt, communicate with customers, adjust the gas system, etc. Based on historical weather data, we expect an active CWAP to occur once every 2 years. This work is all expense. See attachment for assumptions and calculation details. This CWAP will be mitigated with the completion of this Business Case, resulting in the following direct savings.

Quantified direct savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	$2,400	$2,400	$123,200
Total:	$2,400	$2,400	$123,200

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, if may cost more in the future (cost avoidance).

The purpose of the Gas Reinforcement Program is to address gas distribution systems that will not have sufficient capacity to supply firm customer demand during cold weather 'design day' events. During peak system demand, pipeline pressures can be reduced to a point that customers can lose gas service, creating a gas outage. Gas outages are labor intensive to restore, because they require visiting each impacted customer at least two times before their service can be restored.

On an annual basis, Avista's gas distribution systems are reviewed using computer software to note the systems that are in most need of attention. Projects can include installing larger gas piping, or adding additional gas sources to the system. Projects are prioritized based on risk, so the annual spending in each state fluctuates. On average, projects in Washington account for approximately half of the $1.3M annual program budget.

The distribution system on part of Spokane's South Hill is the highest risk area in Washington. The below cost estimates are based on an outage of 1,400 customers occurring once every ten years. This work is all O&M. See attachment for assumptions and calculation details.

Quantified indirect savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	$21,500	$21,500	$1,078,000
Total:	$21,500	$21,500	$1,078,000

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.

The gas outages addressed by this program are predicated to happen during severe cold weather. Gas is the only heat source for some customers, so losing gas service during extremely cold weather can be a serious risk to the customer's well-being. During gas outages Avista field employees often work around the clock until the issue is resolved. This program is in place to minimize these situations, especially during extreme cold weather, for the health and safety of employees and our customers.

Gas outages are unlikely to result in regulatory fines, but they can negatively impact the image of the company in the eyes of regulators and the general public.

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*						$225,134 per day per violation (Max) $2,251,334 Total (Max)
2	Pipeline Leak						Not Applicable
3	Pipeline Failure & Outage	L	L	P	H	VH	$5,000 to $3,000,000 per site (site dependent)
4	Negative Reputation	L	L	P	VH	VH	Erosion of PUC and Public trust
5	Employee & Public Safety	L	L	P	H	VH	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 at the discretion of the enforcement agency and is likely to be much lower due to Avista's 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.

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 Jody Morehouse

Director Signature 

Date 10/28/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: ER 3003 – Gas Replacement Street and Highway Program

2. Business Case Owner: Jeff Webb

3. Director Responsible: Jody Morehouse

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):

No direct savings noted.

Quantified direct savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	-	-	-
Total:	-	-	-

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, if may cost more in the future (cost avoidance).

No indirect savings noted.

Quantified indirect savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	-	-	-
Total:	-	-	-

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.

The numerous franchise agreements that Avista has with State, County, and City agencies determine the circumstances related to the gas facilities being located in their public right of ways. Should we violate those agreements by not relocating when required to do so, we would be liable for fines related to construction delays as well as tarnish the good working relationships we have with these entities.

Risk Probability Definitions:

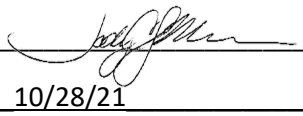
Very High (VH)	Risk event expected to occur
High (H)	Risk event more likely to occur than not
Probable (P)	Risk event may or may not occur
Low (L)	Risk event less likely to occur than not
Very Low (VL)	Risk event not expected to occur

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	Vary depeding on agency and circumstances
2	Pipeline Leak	VL	VL	VL	VL	VL	$5,000 to $150,000 per site (site dependent)
3	Pipeline Failure & Outage	VL	VL	VL	VL	VL	$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	VL	VL	VL	VL	VL	Lost time, healthcare, lawsuits, etc. (varies)

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 Jody Morehouse

Director Signature 

Date 10/28/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: ER3117 – Gas Telemetry

2. Business Case Owner: Jeff Webb / Dave Moeller

3. Director Responsible: Jody Morehouse

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):

There are no direct savings.

Quantified direct savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	-	-	-
Total:	-	-	-

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, if may cost more in the future (cost avoidance).

Indirect savings include:

- Improved safety, timely data, accurate data, and situational awareness of gas pressure and temperature including monitoring and alarming via telemetry to our Gas Control Room for abnormal operating conditions such as over pressure as opposed to waiting for discovery during routine maintenance, or reporting by the public.
- Compliance with DOT and WA State requirements for monitoring pressures.
- Labor avoidance related to eliminating mechanical pressure recorders and the need for frequent site visits to replace their paper charts by utilizing electronic pressure recorders with modems allowing automatic pressure recording and logging via telemetry. This also provides much faster results, greater accuracy, and pressure history in our PI data base.
- Labor avoidance by eliminating manual meter reads for Gas Transportation Customers and at Gate Stations by utilizing electronic volume correctors with modems allowing automation of gas volume used, pressure monitoring, and up to date reads multiple times per day via telemetry.

This also provides for increased accuracy and as a check on the Interstate Pipelines metering of gas they deliver to Avista.

- Added expense labor avoidance by continuing upgrades that modernize the telemetry equipment. If not funded, O&M costs would increase and reliability would decrease trying to keep obsolete and worn out equipment functioning.
- Increased labor cost to O&M as the budgeted amount of capital labor would get charged to O&M.

ER3117 is for capital expenditures only for Gas Telemetry. O &M is not included in ER3117.

Quantified indirect savings:

Expense:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	$63,000	$70,200	*
Total:	$63,000	$70,200	*

* This program is expected to run in perpetuity, and it is not possible to calculate a lifetime benefit

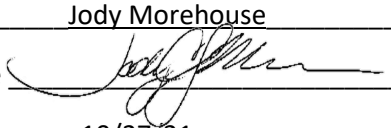
6. No Direct or Indirect Savings – These are projects where there are NO identifiable direct or indirect cost savings for customers, as they are required by law, or simply after thorough review have no offsets. (For these projects, please think through any potential offsets, as having no offsets is a 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.

N/A – see above for indirect savings.

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	-	-	-
Total:	-	-	-

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 Jody Morehouse

Director Signature 

Date 10/27/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: ER 3010 – Gas Transient Voltage Mitigation Program

2. Business Case Owner: Jeff Webb / Tim Harding

3. Director Responsible: Jody Morehouse

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
Capital:	-	-	-
Expense:	-	-	-
Total:	-	-	-

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, if may cost more in the future (cost avoidance).

Quantified indirect savings:

	2022	2023	Lifetime
Capital:	-	-	-
Expense:	-	-	-
Total:	-	-	-

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.

Work under this program in Washington is scheduled to happen in 2022 and 2023. The purpose of this program is to investigate and mitigate AC voltage hazards on steel gas piping systems. These hazardous voltages can exist on gas systems that are adjacent to electric transmission and distribution lines. In some cases, the hazardous voltage levels can be present at all times during 'steady state' conditions. In other cases, the hazardous voltages can be caused by faults on adjacent electric systems. In 2021 and 2022 Avista is working on mitigation projects in Oregon and Idaho. During 2022, testing will be performed in Washington to identify new project locations.

Avista is mitigating these high voltage conditions because they are a safety risk for both company employees, as well as the general public. The areas of concern are locations on these systems where the gas piping comes above ground or where wires connected to piping come above ground. Shock hazards are possible at these locations when hazardous voltages are present. Additionally, arcing can occur that can damage equipment.

CFR 49 192-467(f) states that pipelines in close proximity to electric systems must be protected against damage from fault currents.

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*	L	L	P	P	H	$225,134 per day per violation (Max) $2,251,334 Total (Max)
2	Pipeline Leak	L	P	P	H	H	$5,000 to $150,000 per site (site dependent)
3	Pipeline Failure & Outage	VL	L	L	H	H	$150,000 to $3,000,000 per site (site dependent)
4	Negative Reputation	L	L	P	H	H	Erosion of PUC and Public trust
5	Employee & Public Safety	H	H	H	VH	VH	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).

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 _____Jody Morehouse_____

Director Signature _____

Date _____11/12/21_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Generation DC Supplied System Update

2. Business Case Owner:

Jeremy Winkle

3. Director Responsible:

Andy Vickers

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
$0	$0	$0

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, if may cost more in the future (cost avoidance).

Quantified indirect savings:

2022	2023	Lifetime
$0	$0	$0

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.

The Generation DC Supplied System business case ensure the critical power systems at 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 which ensure the safe and reliable operation.

NERC PRC -005-06 Protection System, Automatic Reclosing and Sudden Pressure Relays requires periodic testing and maintenance of Vented Lead-Acid (VLA) Batteries to determine the health of the critical power systems. Based on testing results and manufacturer specifications, the batteries and auxiliary systems are replaced and upgraded prior to equipment failure.

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 _____Andy Vickers_____

Director Signature _____  _____

Date _____10.26/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Generation Masonry Building Rehabilitation

2. Business Case Owner: Bob Weisbeck, Sr Manager Hydro Operations and Maintenance

3. Director Responsible: Andy Vickers, Director of Generation Production and Substation Support

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):

Response - The projects included in this business case include several buildings located at Avista's generating facilities that are over 100 years old and are considered at or near the end of their useful life. This includes eight buildings in six locations.

The projects in this business case benefit customers because sound structures and the remedy of crumbling masonry is necessary to maintain safety, reliability, and availability of the hydroelectric generating facilities. The grout and brick in many cases has begun to fail which is creating a serious personnel and public hazard when pieces of the masonry fall from significant heights. In many cases the structural integrity of the wall and parapets have been compromised which presents hazards to equipment and operations.

These projects don't carry any direct savings as they are focused on restoring the structural integrity of the buildings and not on incremental improvements in reduced maintenance or reduction of labor. While these projects are not intended to directly lead to savings, they are critical to the maintaining the ongoing personnel and public safety and unit reliability and plant availability.

Quantified direct savings:

2022	2023	Lifetime
0	0	

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, if may cost more in the future (cost avoidance).

Response - The projects included in this business case include several buildings located at Avista's generating facilities that are over 100 years old and are considered at or near the end of their useful life. This includes eight buildings in six locations.

There will be indirect costs of performing the projects in this business case by offsetting emergency repairs of the building which have taken place, due to the freeze/thaw cycle in the spring and fall and the continued deterioration of the grout and masonry. Historically this has been considered emergency maintenance since the repairs focused on the immediate areas of concern and did not address the entire wall or structure. These emergency repairs were not included in the Operations and Maintenance Budget.

There is also a safety benefit that will be realized by completing the work in this business case. Reduction in the probability of falling brick and masonry components is an import aspect of this work.

The amount of money spent on masonry repairs is included below. The calculations for quantified indirect savings included an average annual cost based on this historical spend.

Cost of masonry repairs:

2019 – Long lake $122,000

2020 – Post Street Station $297,000

Total cost $419,000

Average annual cost $209,500

Quantified indirect savings:

2022	2023	Lifetime
209,500	209,500	1,257,000 *

*based on the lifetime of six years for this project.

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 Andy Vickers

Director Signature Andrew Vickers

Date 10/22/2021

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Generation, Substation & Gas Location Security

2. Business Case Owner: Andy Leija

3. Director Responsible: Clay Storey

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):

N/A

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, if may cost more in the future (cost avoidance).

This business case is refreshing legacy access control systems that provide security and safety to Avista staff and customers by reducing the use of physical brass keys. Managing physical brass keys is extremely inefficient and insecure because they can be lost, stolen, or not returned upon employee departure. The cost to regularly replace keys or re-key each entry for all employees due to key loss, theft, or unreturned keys across multi-state facilities whereby employees come and go to and from various sites would be more costly over time than refreshing the existing badged access control system at generation plants and smart key locks at substations.

In addition, this business case funds additional physical security hardening, such as gates, fencing, and video surveillance projects that provide theft and vandalism deterrence if a security event was to occur. Investments in access control systems and the physical hardening of our power generation plants, substations, and gas locations help protect our facilities, employees, and customers. Depending on the type of crime committed against any of these operational facilities or people, the cost can range from

mere vandalism or tampering, which could result in affecting overall system reliability, to endangering the lives of our employees and customers. Examples of such criminal activity include copper theft from existing substations, whereby the copper cable acts as the ground cable. Once the ground cable is removed, the facility poses a danger to our field staff working in that plant or substation.

Therefore, indirect savings associated with these investments in access control systems and video surveillance are prudent versus returning to a manual physical brass key management program, that would need to track incidents of lost, stolen, or unreturned keys, and the needed replacement of keys or re-keying locks, as well as the cost for any break-ins or theft incidents resulting from lost, stolen, or unreturned keys. In addition, should a break-in result in loss of life, the indirect savings are unquantifiable. Thus, continuous investment in the security of our generation plants, substations, and gas facilities protects our employees, and allows Avista the ability to provide safe, secure, and reliable energy to our customers.

Quantified indirect savings:

2022	2023	Lifetime

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.

N/A

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 _____Clay Storey_____

Director Signature _____DocuSigned by: Clay Storey B70F95F7961D4B6...

Date _11/2/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: High Voltage Protection

2. Business Case Owner: Shawna Kiesbuy

3. Director Responsible: Jim Corder

4. **No Direct or Indirect Savings** – This business case has NO identifiable direct or indirect cost savings for customers. Under CenturyLink (formerly known as Qwest Communications), Tariff FCC Number 1, Section 13.7, Avista is required to provide high voltage protection for leased communication circuits in high voltage areas newer than September 12, 1994. If Avista does not meet tariff requirements, telecommunication companies can turn off communication circuits to substations until Avista electrically isolates the copper wire coming into a substation, thereby affecting phone, modem, SCADA and other metering & monitoring systems at substations. If we lose communications to substations, SCADA has zero visibility to the devices at this location, and cannot perform system monitoring & performance analysis on the devices at said location.

Additionally, any personnel working at a substation that does not have high voltage protection runs the risk of being in harm's way during a high voltage event that produces an electrical surge or an arc flash.

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 James B Corder

Director Signature DocuSigned by: James B Corder 7002E4872104449...

Date Oct-26-2021 | 2:48 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

HMI Control Software

2. Business Case Owner:

Jeremy Winkle

3. Director Responsible:

Andy Vickers

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):

None

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

None

Quantified indirect savings:

2022	2023	Lifetime
$0	$0	$0

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.

Avista's Human Machine Interface (HMI) system is used to safely, reliably, and securely operate generating systems in accordance with NERC Critical Infrastructure Protection (CIP) Standards. The system includes cyber assets that allows operator to control generation systems from various physical locations within Avista's secured generation control network.

The existing HMI software, Wonderware InTouch 2012, has reached end of life as support ended in 2017 and there is no longer software patching and updates available. Additionally, the software requires Windows 7 as an operating system. Microsoft had discontinued product support for Windows 7 and the operating system no longer receives security updates. Therefore, Avista's generation control network is more vulnerable to cyber security risks and viruses.

This business case upgrades the HMI software and operating system to products with lifecycles that supports long term security updates. Therefore, Avista's risk to cyber assets required to deliver generate reliable power to customers will be significantly reduced.

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 _____Andy Vickers_____

Director Signature _____  _____

Date _____10/26/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: **Human Resources Technology**

2. Business Case Owner: Brian Hoerner

3. Director Responsible: **Diane Quincy, Mary Prince, Jeremy Gall, and Laura Vickers**

Business Case Overview:

Avista's Human Resources technology systems are a necessity, as they provide essential functions to all our employees and customers throughout all service territories, such as hiring, payroll, benefits, safety, personnel development and labor compliance. These vital systems require systematic upgrades and enhancements in order to maintain reliability, compatibility, and to reduce security vulnerabilities. This business case is intended to run as an annual program that maintains and augments these applications necessary to meet internal and external business processes and objectives.

Growing needs and expectations in the areas of mobility access, scalability and providing an effective and attractive employee digital experience require expansion of conventional business practices and processes. These needs are growing, given the accelerated migration to a hybrid/virtual/digital work environment.

The off-sets from this business case come primarily in the form of:

Direct savings-

- reducing costs of printing, copier maintenance and filing of paper documents

Indirect savings-

- Increasing efficiency, improving productivity and providing more streamlined accessibility of processes so that employees and HR staff can re-direct their efforts to more core business savings.
- Avoided costs by reducing the frequency and impact of avoided injuries

The HR technology systems that have a major presence in the Human Resources Technology Business Case and that are primary focus of this GRC Off-Sets form include:

- **UKG**- the HRIS, Payroll, HR management core system
- **Sum-Total**- the Learning Management system for deploying and recording training
- **Intelex**- our safety management system

Note: There are numerous other smaller technology systems needed to operate HR in this complex environment that contribute to the goals of the HR Technology Business case.

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):

Paper, Printing and copier maintenance savings:

- **UKG**- $15,000 annually resulting from implementing a file and content management module in 2022. Reduced costs by eliminating printing of paper
- **Sum Total-** $1,300 annually resulting from implementing a mobile solution, so that workers do not have to print out their weekly report of qualifications; and so that worker skill evaluations can be moved from paper to electronic and completed in the field.

Quantified Total Direct Savings: *Based on high level estimate—without ability to track if realized*

2022	2023	Lifetime
$16, 300	$16,300	Undetermined

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, if may cost more in the future (cost avoidance).

Increased efficiency, productivity and accessibility, so that employees can re-direct their efforts toward more core and value-added work and reduce their administrative burden:

- **UKG**- $67,000 annually resulting from implementing a file and content management module in 2022 via electronic accessibility of needed records. Will also provide enhanced security and more efficient retrieval of information for internal and external stakeholders, auditors and regulators
- **UKG**- $45,000 annually resulting from improving manual processes by implementing electronic data transfer interfaces with other key systems that rely on HRIS data
- **Sum Total-** $125,000 annually resulting from implementing a mobile solution so that employees can access training and required certifications via any electronic device from any location. And so that we can improve the employee digital experience with improved ease of access. External learning systems industry and vendor benchmarks provide conservative estimates of a 3% productivity gain upon implementation of a mobile solution for employee learning and training. We used the three year average time in system of 19 hours per year per user to calculate a 3% productivity gain to determine $125,000 productivity gain estimate
- **Sum Total-** $103,000 annually from implementing a mobile skill evaluation process, eliminating a manual paper process and duplicate data entry. The ability for Avista Skill Evaluators to evaluate our gas workers in the field and certify or de-certify a user in a skill via the ALN mobile app, will provide real-time updates to the workforce and eliminate redundant data entry. Estimate 5 minute savings per task along with annual task volume to determine $103,000 per year productivity gain estimate.

Avoided hearing lost/ injury for safety

- **Intelex**- $60,000 annually. From avoided from hearing loss and soft tissue injuries by implementing an Industrial Hygiene module. This module will better enable us to target where hearing protection is needed, better identify and reduce potential injuries related to ergonomic factors and also enable us to better zero in on areas and trends where we can mitigate hazard risks.

Quantified Total Indirect Savings: *Based on high level estimate—without ability to track if realized*

2022	2023	Lifetime
$400,000	$400,000	Undetermined

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.

Other smaller projects included in this business case include enhancements, upgrades, and ongoing licensing costs for various human resource related systems. These fundamental systems require systematic upgrades and enhancements to maintain reliability, compatibility, interoperability, compliance, and reduce security vulnerabilities. This funding is necessary to mitigate the risk of unsupported applications, security liability, and significantly higher costs because of the deferment of upgrades and enhancements.

This business case is also needed to fund changes in technology based on new regulatory and legal, compliance requirements in the dynamic human resources regulatory space. Human Resources compliance requirements are too numerous to list here, and ever-increasing. Avista is governed by personnel- related requirements in many arenas. For instance: as a Federal contractor, by NERC and FERC (National and Federal Energy Regulatory bodies), DOT pipeline regulations for our gas workers, federal and multi-state safety requirements, multi-state payroll, income tax and state-mandated leave regulations, ERISA and other benefits-related requirements, the OFCCP/EEOC regulations, medical clinic requirements, to name but a few.

And in order to attract and retain talented staff needed to serve our customers and operate our utility in a very tight labor market, these funds also help enhance the digital employee experience and reduce ever-growing digital friction related to outdated and inefficient systems, tools and interfaces.

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 Names: **Jeremy Gall, Mary Prince, Diane Quincy, and Laura Vickers**

Director Signature DocuSigned by: Diane Quincy 09308358C34545A... DocuSigned by: Jeremy Gall EED7C383A4EC498... DocuSigned by: Laura Vickers 0DF7BC446D38413... DocuSigned by: Mary Prince 9549114784A54FC...

Date Nov-04-2021 | 3:03 PM PDT Nov-04-2021 | 3:29 PM PDT Nov-04-2021 | 3:31 PM PDT Nov-04-2021 | 3:08 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Identity and Access Governance

2. Business Case Owner: Andy Leija

3. Director Responsible: Clay Storey

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):

N/A

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

This business case provides assurance that Avista staff are provided with the appropriate access to systems and revoked when no longer needed in a timely manner. In addition, this system will ensure that Avista staff only have access to the systems they need to do their job. It also ensures we meet compliance and investor expectations to be compliant. Investment in 2022 and 2023 will include a Commercial Off The Shelf (COTS) solution to deploy role-based access control for employees and contractors of Avista. This will improve efficiency when granting user privileges to employees and contractors, narrowing access only to the systems associated with their current job role or function, and removing access to any system no longer needed in a timely manner.

Our current process for granting user privileges is all manual, whereby building a user profile for a new employee or contractor can take 15 minutes to create and 10-40 hours of waiting time for approvals from system or business unit managers. The new solution will enable pre-approved profile creations for roles across Avista. Pre-approved profiles will allow automation for system permissions, which will reduce the wait time for these requests. Although it may appear that 15 minutes is not much time, when you multiply it times the number of daily requests for system privileges, change of status, and removal of access, the

number grows to 12-16k requests per year or approximately 4k hours/year. This is approximately 60% of our current 3-member team's workload, not allowing them to get to routine maintenance and process improvements in other areas of Identity Access Management. The team focuses primarily on new permission requests and removal of access, followed by change of status when a user's role changes. Based on this prioritization, users can find themselves with extended permissions when they change roles. The current process does not allow for periodic audits to catch overly permissive permissions and challenges our ability to consistently meet compliance requirements.

A significant efficiency that will be gained from this investment is in the wait time for each request, resulting from approval delays by system or business unit managers. The shortened or eliminated lifecycle of each request will be due to automation of pre-approved role-based access. This efficiency will allow requesters to receive system privileges more quickly. This may not have indirect savings, as requesters are likely not just sitting waiting and rather working on other assignments. Therefore, as it stands, we are not able to quantify the indirect savings from this investment.

Quantified indirect savings:

2022	2023	Lifetime

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.

N/A

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 Clay Storey

Director Signature DocuSigned by: Clay Storey B70F95F7961D4B6...

Date 11/2/2021

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Jackson Prairie Joint Project

2. Business Case Owner: Scott Kinney

3. Director Responsible: Scott Kinney

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, if may cost more in the future (cost avoidance).

Jackson Prairie provides gas storage capability that reduces future gas price risk and volatility to the benefit of customers. Avista optimizes the storage capability by injecting and removing gas from the storage facility when beneficial to customers. Exact savings are not known because they are dependent on future market prices and gas demand. All optimization benefits are captured in the purchase cost adjustment filing which is reviewed and approved by the commission annually. These offsets should not be considered additive since they are accounted for in future rates through the annual PGA filing.

Quantified indirect savings:

2022	2023	Lifetime
PGA filing	PGA filing	

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 _Scott Kinney_____

Director Signature _/s/ Scott Kinney_____

Date _October 22, 2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Joint Use Make Ready

2. Business Case Owner: Stephen Schulte

3. Director Responsible: David Howell

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):

Joint Use make ready activity has a direct benefit to Avista rate payers from the installation of new infrastructure (at the sole cost of the licensee) and replacement of aging infrastructure, that is close to reaching the end of useful life, at a significantly reduced cost to Avista. In general, joint use licensees pay for up to half of the cost pole replacements and infrastructure upgrades (Avista is allowed to recover approximately half of the annual budget spend). This replacement of aging infrastructure and addition of new infrastructure acts to enhance and further harden Avista's network against adverse weather and other damage that would directly impact Avista ratepayers. Cost savings are also realized from increased efficiency and fewer calls for service due to newer equipment being deployed.

Quantified direct savings:

2022	2023	Lifetime
$1,375,000	$1,475,000	

Note: Annual savings will vary and are based on average reimbursement amounts collected from joint use licensees. Avista recovers roughly $.50 of every $1 spent on joint use make ready capital activity. Lifetime saving amounts were left blank due to the ongoing, mandatory, and regulated nature of this type of work.

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, if may cost more in the future (cost avoidance).

By performing joint use make ready work when required Avista rate payers enjoy the benefits of a well maintained, robust and resilient network. Postponing or delaying this work would result in costlier solutions in the future and extended outage times to potentially replace additional structures that are adversely affected by adjacent failures.

Quantified indirect savings:

2022	2023	Lifetime
$1,375,000	$1,475,000	

Note: Annual savings will vary and are based on average reimbursement amounts collected from joint use licensees. Avista recovers roughly $.50 of every $1 spent on joint use make ready capital activity. Lifetime saving amounts were left blank due to the ongoing, mandatory, and regulated nature of this type of work.

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:

Utilities, like Avista, are required to perform joint use make ready work regardless of want or need when properly requested by joint use licensees. This is clearly defined and regulated by the Federal Communication Commission and the Public Utility Commissions in both Idaho and Washington. As mentioned above Avista is allowed and required to recover all costs that are directly incurred because of that activity. Avista rate payers and joint use licensees mutually enjoy the benefit of a strong and resilient electric network.

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 David Howell

Director Signature David Howell

Date 10/28/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Kettle Falls Fuel Yard Equipment Replacement

2. Business Case Owner:

Thomas Dempsey

3. Director Responsible:

Andy Vickers

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):

Response:

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, if may cost more in the future (cost avoidance).

Response:

The Kettle Falls Fuel Yard Equipment Replacement project was approved through the CPG for funding and began engineering and design in 2019. The project focused on three key drivers being safety, environmental and asset condition. The fuel delivery equipment has been operating nearly 40 years and has been undersized almost since commercial. In the early 1980's State Law change the legal hauling weights for commercial hauling. This change created higher payloads and deliveries to the facility. The increased capacity in the haul trailers pushed offloading equipment beyond design. Over the years the plant has created work arounds to manage the longer truck trailers. The plant delivery contractors have had serious safety incidents including a fatality due to the inadequate equipment capabilities. This project

will provide the plant employees and contractors a safe offloading system with environmental equipment to ensure a reliability to the plant. At this time all major equipment has been purchased and construction in progress.

Asset analysis of some of the projects nested in the Base Load Thermal Program results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this time frame. This 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.

Quantified indirect savings:

2022	2023	Lifetime
$130,325	$144,953	$1,426,884

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.

Response:

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 _____Andy Vickers_____

Director Signature _____  _____

Date _____10/27/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Land Mobile Radio

2. Business Case Owner:

Walter Roys

3. Director Responsible:

Jim Corder

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):

There are no direct savings related to this business case.

Quantified direct savings:

2022	2023	Lifetime
$0.00	$0.00	$0.00

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, if may cost more in the future (cost avoidance).

The Land Mobile Radio business case is a program of investments in technology required to support reliable gas and electric crew communications. Land mobile radio communications are a key tool for crew communications. Examples of the types of communication include service dispatch, trouble reports, and outage information. Crew safety

An Example of technology assets included in this business case:

- Vehicle radio systems
- Radio consoles
- Servers for call setup and control
- Radio base stations

- Towers and antenna

For example, 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 a productivity reduction across all areas of the business. Savings related to avoiding these down time issues could range from $100k - $10M a year representing at least 1 full time employee up to 100 full time employees needed to implement manual processes.

Systems in this business case are connected to corporate networks and the internet, and are present on most endpoint devices, therefore patching and upgrades are needed to keep these systems current and supportable while maintaining safety, security, and reliability. Keeping systems updated insures maximum protection against security breaches.

Quantified indirect savings:

2022	2023	Lifetime
$100k - $10M	$100k - $10M	$100k - $10M

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 James B Corder

Director Signature DocuSigned by: James B Corder 7002E4872104449...

Date Oct-29-2021 | 10:38 AM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

LED Street Lights

2. Business Case Owner:

Amy Jones

3. Director Responsible:

David Howell

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, if may cost more in the future (cost avoidance).

The indirect savings for this Business Case are due to the energy savings obtained from replacing older HPS bulbs for LED bulbs. An average of 96.5-watt savings occurs when each 100 or 200-watt HPS bulb is replaced. Since 2018, over 5000 LED bulbs have been installed. Utilizing the off-peak price from 2021 of $40/MWH results in an estimated energy savings cost of $192,720. Currently the program only replaces HPS bulbs when they burn out so the energy savings for 2022 and 2023 is not expected to change.

	2018	2019	2020	2021	Grand Total			
Average Watts Saved/year (based on # of bulbs installed)	**388,316**	**500,353**	**537,795**	**544,936**	**544,936**		**Watts Savings**	
MWH	0.39	0.5	0.54	0.55	0.55		65	100 Watts
Hours per year	8760	8760	8760	8760	8760		128	200 Watts
Estimated Energy Savings/Year (MWH)	**3416.4**	**4380**	**4730.4**	**4818**	**4818**		96.5	Ave
Off-peak price in 2021				$ 40.00	$ 40.00			
Annual Savings (Average)					**$ 192,720**			

Quantified indirect savings:

2022	2023	Lifetime
$192,720	$192,720	

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.

This business case is also to maintain compliance with WA State Initiative 937 (Clean Energy Initiative).

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 ____David Howell_____

Director Signature _David Howell_____

Date 10/27/21

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Legal and Compliance Technology

2. Business Case Owner: Graham Smith

3. Director Responsible: Hossein Nikdel and Greg Hesler

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):

No direct savings

Quantified direct savings:

2022	2023	Lifetime
N/A	N/A	N/A

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, if may cost more in the future (cost avoidance).

In order to ensure that Avista maximizes the benefits for the investments made in our enterprise applications we use an 'Enhancement Program" to provide incremental enhancements to the enterprise systems to maintain alignment between the business processes and system processes. The work under this business case enables improvements in the processes thus saving people time. Additionally, enhancement work in this business case aids Avista in being compliant with and avoiding potential fines from the regulatory agencies that govern our business, for example FERC. These fines range from $1,000/day to $1,000,000/day.

Calculations:

2022 Annual Indirect Offset Potential			
	Estimated Number of Users		40
	Estimated Efficiency per User		5
	Estimated Usage Days per year		200
	Standard Hourly Labor Rate		$ 85.00
	Estimate Percent of Users in WA		80%
	Estimate Annual Indirect Labor Offset		$ 45,333
2023 Annual Indirect Offset Potential			
	Estimated Number of Users		40
	Estimated Efficiency per User		5
	Estimated Usage Days per year		200
	Standard Hourly Labor Rate		$ 85.00
	Estimate Percent of Users in WA		80%
	Estimate Annual Indirect Labor Offset		$ 45,333

Quantified indirect savings:

2022	2023	Lifetime
$45,333	$45,333	

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.

N/A

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 Hossein Nikdel Greg Hesler

Director Signature DocuSigned by: Hossein Nikdel E4E2D9C7EE4747F... DocuSigned by: Greg Hesler 725BDE91A5F5442...

Date Nov-03-2021 | 7:01 AM PDT Nov-03-2021 | 6:53 AM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Monroe St Abandoned Penstock Stabilization

2. Business Case Owner: Ryan Bean

3. Director Responsible: Andy Vickers

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):

There will be no Direct Savings resulting from this Business Case. This equipment has reached the end of its useful life and needs replaced to ensure that Monroe Street Dam continues to provide safe, reliable, and affordable energy to Avista's customers.

Quantified direct savings:

2022	2023	Lifetime
0	0	0

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, if may cost more in the future (cost avoidance).

Asset analysis of this project results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this time frame. This 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.

Quantified indirect savings:

2022	2023	Lifetime
$308,766	$320,380	$923,827

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.

Though there are no Direct Savings, there are Indirect Savings for this Business Case. By completing this work, we will ensure Monroe Street Dam continues to provide safe, reliable, and affordable energy to Avista's customers.

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 _____Andy Vickers_____

Director Signature _____  _____

Date _____10/26/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. **Business Case Name**: N Lewiston Autotransformer – Failed Plant

2. **Business Case Owner**: Glenn Madden / Substation Engineering

3. **Director Responsible**: Josh DiLuciano

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):

<Answer and Please Show $$>
Due to the design of the station service supply coming from the failed autotransformer, a diesel generator has been in use since the auto failed. This is required to provide station service to the panelhouse and the battery room.

Cost for generator rental ($3,000 per month * 12 months) + Cost of diesel (150 gal/day * $3.50 /gal = $525/day * 365 days) + Cost of Serviceman labor to check generator ($85/hr * 1 hour each day * 365 days) = $266,000/year

Quantified direct savings:

2022	2023	Lifetime
$266,000	$266,000	$266,000 Annually

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, if may cost more in the future (cost avoidance).

<Answer and Please Show $$>
Since the new autotransformer will be 40 years newer than the old autotransformer, some technology is also being installed. These relays and SCADA options will provide more real time information about this autotransformer. This additional information will be useful in analyzing the health and operational capabilities of the autotransformer and possibly the substation as a whole but will require additional human action to analyze this data. The benefit of the data offsets the need for more personnel.

<u>Risk of Outages increases</u>
Risk Cost = Prob of Failure * Prob (consequence) * Cost (consequence)

Outage that impacts one third of Lewiston / Clarkston service area.
Risk Cost = 100% of Failure of NLW Auto (currently out of service) * 5% probability of outage * (1/3 of Lewiston Clarkston area (8 feeders, 8,000 customers) * at least 8 hour outage * $116.15/hr) = $371,680 per outage

Quantified indirect savings:

2022	2023	Lifetime
$371,680	$0	$0

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 $$>
This autotransformer is required to meet performance requirements for our customers. The transmission system in the Lewiston-Clarkston area would be hindered if this 230/115kV Autotransformer is not replaced quickly. Outages at Dry Creek and Lolo substation are possible without this autotransformer.

Lost goodwill with our customers would be very expensive if a major outage of the Lewiston/Clarkston area occurred.

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 Josh DiLuciano

Director Signature 

Date 10/29/2022

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Network Backbone Infrastructure

2. Business Case Owner: Shawna Kiesbuy

3. Director Responsible: Jim Corder

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):

There are no direct savings related to this business case.

Quantified direct savings:

2022	2023	Lifetime
$0.00	$0.00	$0.00

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 do not do this project now, it may cost more in the future (cost avoidance).

The network infrastructure investments in this business case are necessary to sustain our business by using technology to automate business processes. This business case specifically addresses network infrastructure requirements for all company business requirements. The business case considers business impact vs. likelihood/probability when sequencing and prioritizing resource allocations and responds to vendor-manufactured product obsolescence risks as well as cyber security risks.

This business case provides a network backbone infrastructure for the geographical transmission of business use cases. The key performance indicator for the network availability and reliability is 99.9%, 24x7. The investment sequencing is based on three drivers, 1) Compliance, 2) Initiatives, 3) Reliability. The Compliance driver should be regulation, Initiatives are generally executive sponsored (current example is a cybersecurity vulnerability risk on out-of-support assets), and the Reliability driver is often the highest volume of work.

The sequencing of the Reliability projects is driven first by the network asset end-of-support date for cybersecurity patching, then the performance and capacity to meet the business requirement, and lastly product obsolescence date.

Investment percentage for the cybersecurity Initiative is 50% in 2022, Reliability projects are 50%. In 2023, the cybersecurity Initiative is 60% and Reliability projects are 40% of the investment.

Quantified indirect savings:

2022	2023	Lifetime *
$0.00	$0.00	$10mm-$20mm

**According to the Company Enterprise Risk Register, under the "Loss of Communication or Network Technologies" and the "Cyber Intrusion" risks the probability of this failure has an income statement score of 3, which equates to a $10-$20 million avoided cost over a period of 2-3 years.*

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 James B Corder

Director Signature DocuSigned by: James B Corder 7002E4872104449...

Date Nov-04-2021 | 3:38 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: **Growth**

2. Business Case Owner: **David Howell**

3. Director Responsible: **David Howell**

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):

There are no identified direct savings associated with this business case. This business case supports the installation of equipment to support new customers.

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, if may cost more in the future (cost avoidance).

There are no identified indirect savings associated with this business case. This business case supports the installation of equipment to support new customers.

Quantified indirect savings:

2022	2023	Lifetime

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.

There is no direct or indirect savings represented in the Growth business case. The Growth Business Case is driven by tariff requirements that mandate obligation to serve new customer load when requested within our franchised area. The business case also includes initial purchase of transformers, as well as electric and gas meters and devices which are on hand for immediate response for reliability and customer response reasons. The work utilizing this equipment is represented in various business cases.

[Offsetting revenues related to customer growth in 2022-2024 will be separately identified and adjusted in this case. LMA]

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 _____David Howell_____

Director Signature _____David Howell_____

Date _____11/24/21_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Nine Mile HED Battery Building

2. Business Case Owner:

Jeremy Winkle

3. Director Responsible:

Andy Vickers

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
$0	$0	$0

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, if may cost more in the future (cost avoidance).

Quantified indirect savings:

2022	2023	Lifetime
$0	$0	$0

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.

Avista's battery storage systems are the backbone for supplying power to the protective relays, breakers, controls and communication systems which ensure the safe and reliable operation. The Nine Mile HED Battery Building business case will provide a safe and reliable storage area for the facility's battery banks.

Avista's battery maintenance program has been developed to meet the *NERC PRC -005-06 Protection System, Automatic Reclosing and Sudden Pressure Relays* standard. This standard requires periodic testing and maintenance of Vented Lead-Acid (VLA) Batteries to determine the health of the critical power systems. Based on testing results, battery banks have been replaced prior to the manufacturer's expected lifetime. The root cause of the degraded battery life has been determined to the location batteries on the switchgear floor is susceptible to extreme temperatures that greatly reduce the reliability and performance of the system. Constructing a climate-controlled environment for battery bank storage and operation will optimize the effective life of battery banks at the facility.

The current location of the batteries does not meet the NESC standards. The National Electric Safety Code (NESC) Section 14.141 states:

Storage batteries shall be located within a protective enclosure or area accessible only to qualified persons. A protective enclosure can be a battery room, control building, or a case, cage, or fence that will protect the contained equipment and likelihood of inadvertent contact with energized parts.

The new battery building will meet the NESC standard and eliminate personal safety risks associated with current battery storage location.

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 _____Andy Vickers_____

Director Signature _____  _____

Date _____10/26/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Nine Mile Powerhouse Crane Rehab

2. Business Case Owner: Ryan Bean

3. Director Responsible: Andy Vickers

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):

There will be no Direct Savings resulting from this Business Case. This equipment has reached the end of its useful life and needs replaced to ensure that Nine Mile Dam continues to provide safe, reliable, and affordable energy to Avista's customers.

Quantified direct savings:

2022	2023	Lifetime
0	0	0

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, if may cost more in the future (cost avoidance).

Asset analysis of this project results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this time frame. This 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.

Quantified indirect savings:

2022	2023	Lifetime
$35,170	$36,927	$160,293

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.

Though there are no Direct Savings, there are Indirect Savings for this Business Case. By completing this work, we will ensure Nine Mile Dam continues to provide safe, reliable, and affordable energy to Avista's customers.

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 _____Andy Vickers_____

Director Signature _____  _____

Date _____10/26/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Nine Mile HED Units 3 & 4 Controls Upgrade

2. Business Case Owner:

Jeremy Winkle

3. Director Responsible:

Andy Vickers

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
$0	$0	$0

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, if may cost more in the future (cost avoidance).

The control system operating Nine Mile HED's Units 3 and 4 hydroelectric generators is obsolete and spare parts are no longer available for purchase. The units are currently operating with a significant risk of an unplanned failure that would require an extend outage to replace the control system.

Operating Avista's generation facilities on obsolete automation control equipment creates a cyber security risk. The software required to maintain and troubleshoot obsolete the control systems is no longer support and must operate on a Windows 7 or older operating system. Since the software systems no longer receive security updates, Avista's generation control network is more vulnerable to cyber security risks and viruses. Replacing obsolete control system with modern systems reduces Avista's risk to cyber assets required to deliver generate reliable power to customers.

Asset analysis of this project results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this time frame. This 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.

Quantified indirect savings:

2022	2023	Lifetime
$20,398	$21,740	$274,500

6. No Direct or Indirect Savings – These are projects where there are N 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 _____Andy Vickers_____

Director Signature _____  _____

Date _____10/26/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Oil Storage Improvements

2. Business Case Owner:

Eric Bowles

3. Director Responsible:

Alicia Gibbs

4. **Direct Savings**

Not applicable.

5. **Indirect Savings**

Employee Productivity: From Section 2.1 of the Business Case Justification Narrative:

Avista Facilities employee time to contend with the other issues in Section 1.1 of the BCJN can range from a few hours to several days. A conservative estimation of an average Avista Facilities maintenance employee labor rates, which includes hour rates, overhead, and benefits, is at least $60 an hour. If an average estimate of each event requires 2 employees for 4 hours, 1 time a month, then yearly O&M savings could be assumed to be $5,760.

In addition, the Avista senior hazardous waste technician ($75 per hour) spends at least two and a half hours per event (with 5-10 events every year) to dewater the vault as described in Section 1.1 (C) of the BCJN. The 10 event estimate would calculate to a yearly O&M savings of approximately $1,875, plus disposal costs of approximately $1000. Should cross contamination of water occur, costs would increase by orders of magnitude.

Note: the figures shown below mean that the Avista employees will be able to re-allocate their time to other work (and not that the employees will not work those hours at all).

Employee Productivity Quantified direct savings:

2022	2023	Lifetime
$8,635	$8,635	$8,635 yearly

Environmental Risk: As per Section 1.3 of the BCJN:

With the past failures as outlined (in Section 1.1 of the BCJN), it is Avista's belief that a major environmental event with the underground vault is a matter of when, not if. Avista cannot predict when that event would

occur, be it months or years. However, in general, the longer this Business Case is not implemented, the greater the chance the risk could occur without the problem being fixed.

And as per Section 2.1 of the BCJN:

If (and when) a major environmental risk were to occur with the underground vault, such as a burst oil tank and vault containment failure, a remediation cost of the soil below the vault would probably start at $200,000, and would potentially reach multiples of that amount if the contamination reached groundwater. Avista would be subject to environmental enforcement, penalties, and significant reputational harm.

For this calculation, working with Avista's Environmental Department, the cost impact was assumed to be anywhere from $200,000 to $1,000,000. These values were based on past incident expenses and serve as a baseline for future events if they occur. Avista has then taken the average of these ranges ($600,000) and divided it over the 30 year accounting depreciation rate of this investment ($20,000 per year). Lastly, a conservative estimate of likely occurrence of this risk over 30 years would be approximately 50%, so it reduces the $20,000 yearly figure to $10,000.

Environmental Risk Quantified indirect savings:

2022	2023	Lifetime
$10,000	$10,000	$10,000 yearly for 30 years

6. No Direct or Indirect Savings

There are limited inherent safety improvements to a new oil storage facility, such as easier and more ergonomic access to equipment, but it is not a main source of offsets in this Business Case.

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: Alicia Gibbs

Director Signature DocuSigned by: Alicia Gibbs 49C42855345E483...

Date Oct-27-2021 | 8:33 AM PDT

Business Case Owner Name: Eric Bowles

Business Case Owner Signature DocuSigned by: Eric Bowles 4ACC724D18764C2...

Date Oct-27-2021 | 7:31 AM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. **Business Case Name:** OMS/ADMS

2. **Business Case Owner:** Mike Littrel

3. **Director Responsible:** Mike Magruder/Hossein Nikdel

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):

No direct savings identified for this business case.

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, if may cost more in the future (cost avoidance).

The OMS/ADMS project is focused on replacing Avista's Outage Management Tool (OMT) and Distribution Management System (DMS) with a commercial Outage management System (OMS) and Advanced Distribution Management System (ADMS) which is expected to improve field and office worker productivity, provide more accurate outage data, and provide the ability to reengineer work processes and methods to support the continuous improvement of Avista's Distribution System Operator program. An OMS/ADMS solution also provides Avista with the ability to respond to more stringent and detailed regulatory compliance reporting requirements, enables effective operation of an increasingly complex and dynamic distribution grid, and deliver more geographically specific Estimated Restoration Time (ERT) information to electric customers during outages. The improved ERT accuracy and restoration status for customers will improve customer confidence in the information which will reduce the number of calls received by our customer service representatives, as well as call durations

While improved customer experience is difficult to quantify, it is perhaps the most important business reason for justifying a new OMS/ADMS. During major outage event situations, the ability to communicate timely, accurate and consistent status of outages and estimated restoration is of paramount importance. Whether the customer hears directly from the utility, the media or a public agency, the information about the outage needs to be consistent. An OMS/ADMS is that vehicle to provide this timely, accurate and consistent information to customers.

Modernizing Avista's outage management software business processes is anticipated to provide the following indirect labor savings. These high-level estimated savings are based on a review a of current and previous projects completed at Avista with a uniform efficiency value applied based on the types of applications deployed. This method was used to forecast anticipated savings for future projects (indirect, avoided costs associated with future reduced labor needs)The following are high-level estimates. The Company does not have a way to track if these benefits will be realized.

OMS/ADMS Indirect Savings Estimates

Field Personnel Annual Indirect Offset Potential		
Estimated Number of Users	85	
Estimated Efficiency per User	15	minutes per incident
Estimated Usage Incidents per year	60	
Standard Hourly Labor Rate	$85.00	
Estimated Percent of Users in WA	75%	
Estimated Annual Indirect Labor Offset	**$81,281**	

Distribution Operations Annual Indirect Offset Potential		
Estimated Number of Users	10	
Estimated Efficiency per User	10	minutes per day
Estimated Usage Days per year	365	
Standard Hourly Labor Rate	$85.00	
Estimated Percent of Users in WA	75%	
Estimated Annual Indirect Labor Offset	$38,781	
Total Annual Indirect Labor Offset	**$120,063**	
5-Year life of Asset	**$1,006,719**	

Quantified indirect savings:

2022	2023	Lifetime
$0	$48,025	$1,006,719

($120,063 * $10M (2023 adds)/$25M total project = $48,025 for 2023.)

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.

Not applicable for this business case.

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 Josh DiLuciano

Director Signature DocuSigned by: Josh DiLuciano A3C71874F6564DB...

Date Dec-01-2021 | 7:53 AM PST

Director Name Hossein Nikdel

Director Signature DocuSigned by: Hossein Nikdel E4E2D9C7EE4747F...

Date Dec-01-2021 | 7:57 AM PST

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

GPSS Peaking Generation Program

2. Business Case Owner:

Thomas Dempsey

3. Director Responsible:

Andy Vickers

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):

Response:

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, if may cost more in the future (cost avoidance).

Response:

The Peaking Generation Program provides funding to Boulder Park GS, Northeast CT and Rathdrum CT for small to medium size projects. This Program consists of multiple projects between the three generating facilities focusing primarily on a mix of planned equipment replacement projects and failed plant projects. These projects replace failed, damaged, and underperforming equipment to ensure plant reliability and availability are maintained at a high level. One project has been identified for Boulder Park Generating Station in 2022 is rewinding a failed generator and using it as a Capital Spare in case of another generator failure.

Asset analysis of some of the projects nested in the Peaking Generation Program results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this time frame. This 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.

Quantified indirect savings:

2022	2023	Lifetime
$9,845	$11,021	$306,284

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.

Response:

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 _____Andy Vickers_____

Director Signature _____ _____

Date _____10/27/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. **Business Case Name**: Protection System Upgrade for PRC-002

2. **Business Case Owner**: Glenn Madden / Substation Engineering

3. **Director Responsible**: Josh DiLuciano

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):

<Answer and Please Show $$>
There is $0 in Direct Savings for this Business Case.

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

<Answer and Please Show $$>
There is $0 in Indirect Savings for this Business Case.

Quantified indirect savings:

2022	2023	Lifetime
$0	$0	$0

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 $$>

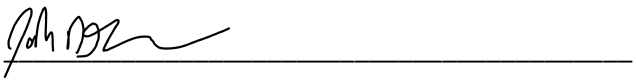
NERC reliability standard PRC-002-2 defines the disturbance monitoring and reporting requirements to have adequate data available to facilitate analysis of Bulk Electric System (BES) Disturbances. The methodology of Attachment A of the NERC standard was performed to identify the affected buses within

the Avista BES. The Protection Systems must be capable of recording electrical quantities for each BES Elements it owns connected to the BES buses identified.

Non-compliance can carry a fine of up to a million dollars per day based on severity. This business case is important to customers because it allows analysis of system faults for the BES that can lead to continued stability and reliability of the electric system.

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 Josh DiLuciano

Director Signature 

Date 10/29/2022

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Regulating Hydro

2. Business Case Owner: Bob Weisbeck, Sr Manager Hydro Operations and Maintenance

3. Director Responsible: Andy Vickers, Director of Generation Production and Substation Support

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):

Response - The projects included in the Regulating Hydro Program consist of a number of individual projects related to the ongoing operations of Avista's four largest hydroelectric generating plants, Noxon Rapids, Cabinet Gorge, Long Lake and Little Falls.

The projects in this program benefit customers because the are necessary to maintain reliability and availability of these generating facilities. The projects replace failed or damaged equipment and equipment that has reached or is near the end of its useful life (asset condition). It can also include projects related to safety and compliance. This work restores critical assets and systems to normal reliability levels. In addition, these projects may add a redundant system or control to improve the resiliency of the generating units and support continued operation in the event of a failure of a system, control, instrument, system disturbance, etc. In addition, projects may be executed to enable units to be returned to service quickly as possible if such an event will cause an outage.

As a result, these projects generally to do not carry any direct savings as they are focused on restoring a status quo and not on incremental improvements in reduced maintenance or reduction of labor. While these projects are not intended to directly lead to savings, they are critical to the maintaining the ongoing unit reliability and plant resiliency.

Quantified direct savings:

2022	2023	Lifetime
0	0	

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, if may cost more in the future (cost avoidance).

Response - The dynamics of operating equipment are such that there are always items that need to be addressed to maintain them at the highest reliability and availability as possible. As work is accomplished as described above, indirect savings are realized in some instances by creating opportunities to re-direct existing labor and expense away from damaged or sub-optimal performing equipment. As these systems and equipment are replaced or improved, maintenance efforts can be directed to other items that need to be addressed.

Historical these projects are described by in three categories: Asset Condition, Equipment Failure, and Safety/Compliance. These projects benefits customers by allowing effective and efficient use of maintenance resources to continue to address necessary improvements with damaged equipment or equipment that is near or has reached the end of its useful life. Specific projects are difficult to forecast since the purpose of the program is to address equipment failures and asset condition and compliance issues as they arise. While it does create a benefit, it does not result in quantifiable offsets that can be reasonably captured.

Quantified indirect savings:

2022	2023	Lifetime

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.

Response - In addition to the reliability and availability that provide some direct and indirect but unquantifiable benefits, there are projects that are driven by regulatory compliance and safety related actions. These may or may not be related to the continued operation of the units but are performed to insure employee and public safety or in some instances, avoid fines or penalties for non-compliance. As with other projects, these are not performed to reduce maintenance or reduce labor. Often these add burden to labor and non-labor costs which may result in the increased cost of operating the units.

These projects are part of a program and consist of multiple projects over multiple years, perhaps over one thousand individual projects over nearly 40 years so lifetime impacts are not practical to attain. As presented in the response, the benefits of this work may not result in a direct measured benefit other than the ongoing reliability and availability of these low cost, renewable generating resources

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 Andy Vickers

Director Signature Andrew Vickers

Date 10/26/2021

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. **Business Case Name**: Saddle Mountain Integration Project Phase 2

2. **Business Case Owner**: Glenn Madden / Substation Engineering

3. **Director Responsible**: Josh DiLuciano

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):
<Answer and Please Show $$>

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, if may cost more in the future (cost avoidance).
<Answer and Please Show $$>

Risk of Customer Outages if this project is not completed:
Risk Cost = Prob of Failure * Prob (consequence) * Cost (consequence)

Risk Cost = 1 outage per year for 8 hours
Risk Cost = 1% Prob of Failure * both Othello and Lee & Reynolds stations out of service ($100,000 per hour due to major industrial customers feed from these stations) * 8 hours outage = $8,000 per outage

Assuming 1 outage per year.

Quantified indirect savings:

2022	2023	Lifetime
$8,000	$8,000	$8,000 Annually

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 $$>

The new Othello substation will provide large reliability gains for our industrial customers served by this substation. Currently, the old substation cannot be maintained without an outage to an industrial customer. Equipment failures have caused sudden outages at these locations in the past. The design of the new substation keeps our large customers in mind and allows for maintenance to be performed at the substation without a major outage. The benefits of this new substation are canceled by the increased cost of a larger substation to inspect, test and maintain. Plus with the added technology (relays and SCADA data) more data will be collected and more personnel will be needed to analyze and maintain the information collected.

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 Josh DiLuciano

Director Signature 

Date 10/29/2022

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: SCADA - SOO and BuCC

2. Business Case Owner: Craig N Figart

3. Director Responsible: Michael Magruder

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):

There will be no quantifiable direct savings as a result of SCADA – SOO and BuCC Business Case expenditures.

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

There will be no quantifiable indirect savings as a result of SCADA – SOO and BuCC Business Case expenditures.

Quantified indirect savings:

2022	2023	Lifetime
$0	$0	$0

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.

List of Projects

- **NERC CIP-007 requires Avista to address security vulnerabilities within Electronic Security Perimeters which ultimately results in the need to replace equipment to mitigate end-of-support and inability to address security vulnerabilities. Projects examples include:**
    - **Internal Firewall Refresh**
    - **External Firewall Refresh**
    - **NetApp Refresh**
    - **Active Directory Refresh**
    - **SCADA Technology Refresh**
    - **DMS upgrade**
    - **RTU/IO Refresh**
    - **RDB Upgrade**
- **TOP-001-5 Real-time Assessment requirements**
    - **SCADA Expansion Project – this project covers such items as adding new SCADA consoles, monitors, minor miscellaneous additions such as environmental monitoring, etc.**
- **CIP-012**
    - **CIP-012 Protections project secures communications between control centers.**

Risk/Penalty due to non-compliance

- **There will be fines that Avista will be subject to for violating any of the above NERC compliance obligations.**

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 Mike Magruder

Director Signature Michael A Magruder

Date 11/3/2021

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Security Compliance

2. Business Case Owner: Andy Leija

3. Director Responsible: Clay Storey

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):

N/A

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

N/A

Quantified indirect savings:

2022	2023	Lifetime

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.

Maintaining compliance helps Avista reduce the likelihood of security breaches while also avoiding financial penalties from regulatory bodies. Regulatory bodies requiring increased security posture include

the U.S. Department of Energy (FERC/NERC CIP Requirements), U.S. Department of Homeland Security (TSA SD1 and SD2), and potentially the U.S. Department of Defense (Cybersecurity Maturity Model Certification and Compliance). This business case responds to new regulatory requirements to increase Avista's security posture and meet new compliance requirements.

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 _____Clay Storey_____

Director Signature _____DocuSigned by: Clay Storey B70F95F7961D4B6...

Date _11/2/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Spokane River License Implementation

2. Business Case Owner: Meghan Lunney

3. Director Responsible: Bruce Howard

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):

Answer: There are no quantifiable direct savings calculable, as this Business Case funds implementation of the Spokane River Federal Energy Regulatory Agency (FERC) License, for Project #2545. A license from FERC is required to operate non-federal hydroelectric projects. Avista underwent a 7-year relicensing effort from 2002-2009 involving two states, several Tribes, multiple federal, state and local agencies, multiple non-governmental environmental organizations, land owners and other stakeholders. This resulted in a new 50-year license through which Avista avoided the potential of extensive litigation and license delays, as well as potentially costly applications of mandatory conditions. See below for additional information.

Quantified direct savings:

2022	2023	Lifetime
NA	NA	NA

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, if may cost more in the future (cost avoidance).

Answer: The FERC License achieved as a result of the relicensing process maintained operational flexibility with a minimum of restraints. Maintaining this operational flexibility was one goal of the relicensing process to ensure reliable energy to follow customer loads. Replacing lost generation capacity would require the development of new and more expensive resources with the capability of reliably meeting load. See below for additional information.

Quantified indirect savings:

2022	2023	Lifetime
NA	NA	NA

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: A FERC license is required under the Federal Power Act. That Act, in turn, triggers other federal and state regulatory oversight. These include the Clean Water Act, National Historic Preservation Act, National Environmental Policy Act, and Endangered Species Act. In some instances, federal or state agencies have mandatory conditioning authority. For example, states that have delegated CWA authority issue CWA Section 401 Certification for hydro projects, within which they place conditions. When 401 Certifications are final, FERC has no discretion, but must include such Certifications as license conditions, and licensees such as Avista must comply with these conditions. Another example are conditions referenced under the Federal Power Act in section 4(e), wherein federal land agencies with lands within a FERC project boundary may prescribe mandatory conditions. Other Sections of the Federal Power Act require FERC to consider recommendations from a wide array of state, tribal and federal entities [10(a)], to assign annual charges for occupancy of federal lands [10(e)] and allow the U.S. Fish & Wildlife Service to either prescribe fish passage or reserve the authority to later require it [18(e)]. All these authorities, and more, came in to play in the Spokane River License. Additionally, FERC included numerous license articles.

Avista is required to comply with all terms of the License. Non-compliance would expose Avista to potential enforcement by FERC under its FPA authority, as well as to enforcement by agencies which claim direct enforcement authority under specific statutes, as well as citizen enforcement allowed under statutes such as the CWA. Each authority contains its own provisions on allowed penalties. Additionally, parties to the settlement could petition FERC for enforcement and/or dispute resolution, creating legal costs in addition to penalty amounts. Avista would risk challenges to its operational flexibility as the lack of flexibility to comply with orders issued by FERC. Ultimately, non-compliance could allow FERC to open a License for a third party to take over. Finally, 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.

Director Name Bruce Howard

Director Signature DocuSigned by: Bruce Howard CDB9B5DDD0114A5...

Date Oct-28-2021 | 2:53 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. **Business Case Name**: Spokane Valley Transmission Reinforcement Project

2. **Business Case Owner**: Glenn Madden / Substation Engineering

3. **Director Responsible**: Josh DiLuciano

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):

<Answer and Please Show $$>
There is $0 in Direct Savings for this Business Case.

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

<Answer and Please Show $$>
There is $0 in Indirect Savings for this Business Case.

Quantified indirect savings:

2022	2023	Lifetime
$0	$0	$0

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 $$>
Completion of this project is required to mitigate a NERC TPL-001-4 system deficiency. The transmission system in the Spokane Valley currently fails TPL-001-4(P2.4), which is an internal Breaker Fault (Bus-tie Breaker) on A717 at the Boulder Station. In addition the system fails the NERC TPL-001-4 P2 Contingency for the 2017 Heavy Summer Scenario. Completion of this project is required to ensure Avista maintains

compliance with NERC regulations and Avista's planning documents. O&M will be reduced by replacing the transmission line which will help offset the cost of O&M of inspection, testing and maintenance requirements of the substation and its equipment.

Non-compliance can carry a fine of up to a million dollars per day based on severity. This business case is important to customers because it allows analysis of system faults for the BES that can lead to continued stability and reliability of the electric system.

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 Josh DiLuciano

Director Signature 

Date 10/29/2022

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: CEF3 Eco-District Grid 2 Green

2. Business Case Owner: John Gibson

3. Director Responsible: John Gibson

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)

The eco-district consists of two buildings the Catalyst building which is net zero carbon free building and the Morris Center which is the central energy plant which serves the Morris and Catalyst buildings. The CEF3 project objective is to evaluate the capacity grid offsets resulting from the active deployment of thermal and electric storage at the central energy plant. This project is partially funded by the Washington Department of Commerce Clean Energy Fund grant of $2,497,600 dollars.

2022	2023	Lifetime
$799,260	$1,698,341	$2,497,600

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, if may cost more in the future (cost avoidance).

The energy plants thermal and electric storage will be scheduled by Avista Power Supply to offset system demand. The thermal and electric storage is estimated at approximately 500 kW. The demand response value is estimated at a present value of approximately $500,000 dollars.

2022
$500,000

The central plant thermal and electric storage of approximately 500 kW combined with energy efficiency measures in the Catalyst building is assumed to offset the replacement of the Third & Hatch substation for 5 years. The capital deferral for a 12 million substation for 5 years is determined to have a present value of approximately $2,600,000 dollars.

2022
$2,600,000

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.

The CEF3 Eco-District project will review a variety of business cases around how utilities can leverage flexible load in buildings to improve delivery system utilization and power supply offsets. In addition, the CEF3 project will develop an analysis framework to evaluate how buildings can participate in "non-wire" solutions. An economic analysis around rate design will be evaluated to determine the rate incentive required to obtain participation by building owners.

Other financial considerations around reduction in system losses and improved resiliency was not considered in this financial analysis.

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 ___John Gibson _____

Director Signature _____

Date _____November 3, 2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Upriver Park

2. Business Case Owner: Meghan Lunney

3. Director Responsible: Bruce Howard

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):

Answer: There are no quantifiable direct savings for this business case, as the project relates to compliance with the Spokane River FERC License, #2545. See below for additional information.

Quantified direct savings:

2022	2023	Lifetime
NA	NA	NA

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, if may cost more in the future (cost avoidance).

Answer: There are no quantifiable direct savings for this business case, as the project relates to compliance with the Spokane River FERC License, #2545. See below for additional information.

Quantified indirect savings:

2022	2023	Lifetime
NA	NA	NA

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: Upriver Park is a project being completed under the requirements of Avista's Spokane River License, FERC #2545, and the recreation and land use management plan associated with the License. Upriver Park adjoins the Upper Falls reservoir, part of the FERC Project boundary. Avista has an obligation to provide access to Project waters, regularly assess recreation demands, and enhance public access opportunities. The development of this park also addresses a lack of community access to the River by people who live in neighborhoods that historically have been disadvantaged in park access. These neighborhoods are among the lowest income neighborhoods in the State. The park development will also improve public safety by separating the Centennial Trail from a busy road, and reduce environmental risks by eliminating several points of previous discharge to the Spokane River. Were Avista not to follow through on the Park, we would be subject to additional directives from FERC to address Project-related access and recreation demands.

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 Bruce Howard

Director Signature DocuSigned by: Bruce Howard CDB9B5DDD0114A5...

Date Oct-29-2021 | 11:42 AM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name:

Structures and Improvements

2. Business Case Owner:

Eric Bowles

3. Director Responsible:

Alicia Gibbs

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):

Assumptions and calculations are shown below (highlighted green).

Quantified direct savings:

Budget	2022	2023	Lifetime
O&M	**$11,000**	**$11,000**	
Capital	**$20,000**	**$20,000**	

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, if may cost more in the future (cost avoidance).

Assumptions and calculations are shown below (highlighted blue).

Quantified indirect savings:

Budget	2022	2023	Lifetime
O&M	**$292,958**	**$292,958**	
Capital	**-**	**-**	

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.

Assumptions and Calculations

This program is be responsible for the capital maintenance, site improvement, and furniture budgets at over 40 Avista offices, storage buildings, and service centers (over 1,000,000 total square feet) Companywide.

This program would encompass capital projects in all construction disciplines (roofing, asphalt, electrical, plumbing, HVAC, landscaping, expansions, remodels, energy efficiency projects). Facilities apportions approximately 50% to Asset Condition work that is identified using Paragon Asset Condition software (Terracon), 30% is set aside for Manager Requested projects, and 20% is kept aside for unexpected capital needs and furniture replacements.

This program is intended to systematically address the following needs:

- Lifecycle asset replacements (examples: roofing, asphalt, electrical, plumbing)
    - Examples of saving by performing planned replacements vs delayed:
        - Estimated 3-5 projects a year: HVAC, Plumbing and Electrical systems: Possibility of a failure resulting in emergent site visits of crew members and non- scheduled replacements resulting in office downtime and broader employee impacts.
            - Examples of these failures can include: unplanned electrical fire damaging electrical infrastructure often times resulting in an extended outage; central plant HVAC failures, with widespread building or campus HVAC losses; unplanned roof leaks affecting workspace.
            - For the electrical risk calculation, Avista is assuming that this possible electrical or HVAC risk could be conservatively assumed to be anywhere from $100,000 to $1,000,000 per incident. Examples of this risk would be: excessive arc flash risk, breakers not operating as expected due to age, connection resistance between buses and various connections causing excessive temperature. Loss of main circulating pump motor, large compressor failures.
            - Avista has taken the average of these ranges presented above ($550,000) and divided it over the 30 year accounting depreciation rate of this investment. Lastly, a conservative estimate of likely occurrence of this risk would be approximately 10%, so that is multiplied by the yearly figure.
                - $550,000 / 30 years x 10% = **$1,833.33 yearly**
            - Reduction in energy usage due to more efficient equipment, estimated at 1% year over year.
                - $1.1M yearly energy costs x 1% = **$11,000 yearly**
            - Reduction of risk to employee productivity from an unplanned failure (average number across all sites):
                - 25 emp x 4 hr per failure x $85/hr avg loaded rate= $8,500

- $8,500 per project x 5 projects = **$42,500**

- Estimated 1-2 projects a year: Roofing: Possibility of a failure resulting in emergent site visits of crew members and non- scheduled replacements resulting on office downtime.
  - Reduction of unplanned leaks resulting in additional sub roof damage requiring an increased scope of work. A proactive asset-based replacement vs. run to failure ensures a minimal scope of work.
    - Additional scope average project cost increase of = $10,000
    - $10,000 per project x 2 projects = **$20,000**
- Estimated 1-2 projects a year: Asphalt and sidewalks: Possibility of a failure resulting is emergent site visits of crew members and non- scheduled replacements resulting on office downtime.
  - Reduction in safety issues related to cracking, heaving and slips, trips and falls. This data under investigation and will be included in future reporting.
- All projects:
  - Planned replacements can result in savings due to competitive bidding. Unplanned failures are often unbid, time sensitive contracts
  - Reduction of risk related to damage to equipment and buildings

- Business additions or site improvements (examples: adding a welding bay, vehicle storage canopy, expanding an asphalt yard. Can sometimes include property purchases to support site expansions.)
  - Examples of savings:
    - Estimated 2-3 projects a year: Extended/ improved storage yards or storage facilities: Improved business operations and time efficiencies for crews. An example of this would be added storage racking resulting in easier material access, yard consolidation.
      - 5 emp x 0.25 hr/day x 260 work days x $85/hr avg loaded rate= $27,625
      - $27,625 per project x 3 projects = **$82,875**
    - Estimated 1-2 projects a year: General improvements: Efficiencies created through improved storage, more efficient workspaces and expanded workspaces as required for growth.
      - 25 emp x 0.15 hr/day x 260 work days x $85/hr avg loaded rate= $82,875
      - $82,875 per project x 2 projects = **$165,750**

- Lifecycle furniture replacements and new furniture additions (to support growth)
  - No savings to report

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 Alicia Gibbs

Director Signature DocuSigned by: Alicia Gibbs 49C42855345E483...

Date Nov-03-2021 | 1:01 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. **Business Case Name**: Substation – New Distribution Station Capacity Program

2. **Business Case Owner**: Glenn Madden / Substation Engineering

3. **Director Responsible**: Josh DiLuciano

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):

<Answer and Please Show $$>
Direct savings would be offset by increased costs due to more stations to inspect, test and maintain. Some savings will be seen with SCADA being extended to about 40 substations over the next several years – this will benefit our wildfire prevention efforts, quicker outage remediation and general maintenance needs. These savings are countered by the higher O&M costs due to additional Substations that are built (ie Flint Rd Sub in 2023) which results in new equipment to inspect, test and maintain.

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

<Answer and Please Show $$>
Indirect savings are negative for this program. Adding SCADA to substations means more data collected about the substation which will require more personnel to analyze and manage the data. Adding new substations to the electric system will require additional GPSS personnel (Batterymen, Servicemen, and general staff) to inspect, test and maintain the new substations plus Substation Engineers to manage the compliance and maintenance requirements for these new substations.

Quantified indirect savings:

2022	2023	Lifetime
$0	$0	$0

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 $$>
Capacity on the electric system to be able to take components out of service on a planned basis so that maintenance or replacements can be made has reduced as load demands have increased. Having the right amount of backup capacity in each area is critical for the continued appropriate management of the electric system. This business case is important because through it, customers can likely continue to receive electric service at a level that they have grown accustom to receiving.

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 Josh DiLuciano

Director Signature 

Date 11/19/2021

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. **Business Case Name**: Substation – Station Rebuilds Program (ER2215 Asset Maint

2. **Business Case Owner**: Glenn Madden / Substation Engineering

3. **Director Responsible**: Josh DiLuciano

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):

<Answer and Please Show $$>
There is no direct savings for this Business Case.

Quantified direct savings:

2022	2023	Lifetime
$0	$0	$0

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, if may cost more in the future (cost avoidance).

<Answer and Please Show $$>
<u>Station Rebuild (ER2215 Asset Maintenance)</u>
This expenditure item is focused on projects that are requested and completed due to Asset Maintenance issues like Asset Condition, Equipment Failures, Safety Issues, and Environmental Issues. Most are substation equipment replacements for equipment that has failed in service and are replaced on an emergency basis.

Assuming that a GPSS Serviceman spends approximately four hours each week driving to a substation, maintaining equipment to 'limp it along' instead of replacing it, and cleaning up. In 2020, 95 substations had Asset Management projects opened or completed. If none of these capital replacement projects were completed this equates to 19,760 hours spent on constantly limping equipment along. This figure does not include tools, materials and vehicle costs (miles and maintenance) used during this equipment maintenance.

95 locations * 4 hours of O&M * 52 weeks = 19,760 hours of additional maintenance would be needed.

19,760 hours / 52 weeks / 40 hours = 9.5 additional GPSS Serviceman needed to complete this additional O&M work each year. Round this up to 10 Serviceman, this will cost $1,768,000 annually (10 Journeyman Electricians * $85 loaded labor/hour *40 hours/week * 52 weeks)

Risk of Outages due to not replacing equipment.

Risk Cost = Prob of Failure * Prob (consequence) * Cost (consequence)

1,000 customers / feeder
Assuming 30 voltage regulator failures that result in customer outages per year. Also assuming ~1,000 customers per feeder.
Risk Cost = 4% prob of failure * 1% catastrophic failure (customers out) * (1,000 customers * 4 hour outage * $116.15/hr) = $185.84 per outage * 30 failures per year = $5,575 per year

If a substation Transformer fails, assume 3,000 customers out (three feeders). Assume 1 transformer failure / year.
Risk Cost = 0.4% prob of failure * 1% catastrophic failure * 3,000 customers * 8 hour outage * $116.15/hr = $111.50 per outage * 1 failure per year = $111.50 per year

Quantified indirect savings (ER2215):

2022	2023	Lifetime
$1,775,000	$1,775,000	$1,775,000 Annually

Station Rebuild (ER2204 Substation Rebuilds)
We assumed that each substation has four pieces of equipment that require 'limp along' maintenance (power transformer, low voltage breaker recloser, High voltage breaker, and a voltage regulator) We assumed that a GPSS Serviceman spends approximately 10 hours each week driving to a substation, maintaining equipment to 'limp it along' instead of replacing it, and cleaning up.

Two locations * 10 hours of O&M * 52 weeks = 1,040 hours of additional maintenance would be needed if these station rebuilds did not take place. We rebuild two substations per year on average. If we do not do that work 1 additional GPSS Serviceman will be needed to address the limp along maintenance needed to keep those stations in service. This figure does not include tools, materials and vehicle costs (miles and maintenance) used during this equipment maintenance.

1,040 hours / 52 weeks / 40 hours = 1/2 additional GPSS Serviceman needed to complete this additional O&M work each year. Round this up to 1 Serviceman, this will cost $176,800 annually (1 Journeyman Electrician * $85 loaded labor/hour *40 hours/week * 52 weeks).

Substation rebuilds are usually the result of many issues within a substation. There are often asset condition issues with several pieces of equipment, issues with safety, efficiency, environmental impacts where a rebuild is the only way to avoid risk from all of these factors. All new substation equipment means little maintenance other than the routine inspections, testing and maintenance. Servicemen will spend less time maintaining but will often spend more time completing inspections and testing because substation rebuilds usually result in a larger station with more equipment.

Quantified indirect savings (ER2204):

2022	2023	Lifetime
$176,800	$176,800	$176,800 Annually

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 Josh DiLuciano

Director Signature 

Date 11/19/2021

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Technology Failed Assets

2. Business Case Owner: Kaitlyn Richardson

3. Director Responsible: Jim Corder

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):

This business case does not yield any notable direct cost savings for our customers.

Quantified direct savings:

2022	2023	Lifetime
$0.00	$0.00	$0.00

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 do not do this project now, it may cost more in the future (cost avoidance).

An example of some assets that Avista needs to replace these technology assets for cost avoidance related to significant risk downtime related to failures:

- Printers
- Monitors
- Mobile phones
- Personal computers
- Field Area network devices
- Other devices

Investments in these technology asset replacements provide indirect savings to our customers by cost avoidance related to downtime issues and loss of productivity due to potentially implementing manual business processes. Without spare inventory on hand, this would increase the amount of time to resolve these breakdown issues, thereby reducing the efficiency of employees as well as our infrastructure systems. The amount of indirect savings would depend on the site and associated business process systems impacted by failure. Current trends indicate that the Company is running assets longer than recommended.

Indirect savings related to operating expenses could range from $100k - $10M a year representing at least 1 full-time employee up to 100 full-time employees needed to implement manual processes. This is also assuming we would not replace these assets when failed. This is a high-level estimate that the Company does not have a way to track.

Quantified indirect savings:

2022	2023	Lifetime
$100k-$10M	$100k-$10M	$100k-$10M/year

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 James B Corder

Director Signature DocuSigned by: James B Corder 700E487210444...

Date Oct-26-2021 | 8:43 AM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Telematics 2025

2. Business Case Owner: Greg Loew

3. Director Responsible: Alicia Gibbs

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):

By implementing vehicle telemetry as a part of this project and the subsequent data analytics that is part of the program we will experience direct savings in the following areas:

Maintenance—Current maintenance practices are based on time. This practice means we over service a portion of the fleet while at the same time underservicing high use vehicles. The process to manage the underservicing is problem therefore a manual process that currently has no automation and relies on staff knowledge/awareness. By integrating real time usage data into the Fleet Management Information System (FMIS) we can base maintenance on actual use and potential diagnostic codes to perform maintenance only when approaching the threshold or codes indicate an issue.

Vehicle Maintenance Cost Per Mile*	$ 0.85	Miles Driven Per Year*	8344	**Potential Annual Savings**
		Maintenance Reduction	2.0%	$ 106,386.00

Allocation:
O&M—$42,555
Capital—$63,831
Based on current clearing account O&M vs. Capital split

Quantified direct savings:

2022	2023	Lifetime
$0	$106,386	$212,772

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, if may cost more in the future (cost avoidance).

Telematics 2025 has the following indirect savings areas

Utilization—Vehicle use each day can be tracked and the validation of equipment needs can be verified. The company's primary focus in the first two years will be pickup trucks. Based on utilization data and subsequent analysis in the first two years, based on peer utility results, it is estimated that Avista can reduce the number of light duty trucks by 7-8 units. That reduction in count results in a two year total of $330,000 (based on 2020 class average spend) is vehicles that will not need to be replaced. Additionally, the company estimates that it can reduce is light and heavy trailers by 1% or 11 total units for an additional $201,000 in capital savings These reductions may not be realized immediately but over the class average life span we will see this reduction. This initiative will begin in 2022 and run through 2024. It will require approximately 6 months of data for validity. This reduction also results in a total life-time operating cost savings on maintenance of $440,310 in 2020 dollars. This is based on the light duty fleet operating cost of $4,516 including major costs such as fuel, maintenance, repairs and licensing over the 13 year life of a pickup truck and finally multiplying that across our estimated reduction.

Light Duty Pickup Reduction Summary Estimate

Average Vehicle Purchase Price*	$ 44,000	Fleet Reduction	0.5%	**Potential Annual Savings**
Realization Period (Years)	2	Vehicle Reduction	3.8	$ 165,000.00

Light and Heavy Trailers Reduction Summary Estimate

Average Non-Vehicle Purchase Price*	$ 18,295	Fleet Reduction	1.00%	**Potential Annual Savings**
Realization Period (Years)	2	Non-Vehicle Reduction	5.5	$ 100,622.50

Allocation*:
O&M—$176,124
Capital—$795,186
Based on current clearing account O&M vs. Capital split

Reduced Total Mileage—Avista's fleet travels more than 7.5 million miles annually. By reducing our total mileage driven .25% we can save $44,000 per year. The focus of this is route optimization, commuter miles and dispatch efficiency.

Vehicle Operating Cost (With Fuel) Per Mile*	$ 2.84	Mileage Reduction	0.25%	**Potential Annual Savings**
		Miles Driven Per Year*	8344	$ 44,431.80

Allocation:
O&M—$17,773
Capital—$26,658
Based on current clearing account O&M vs. Capital split

Customer Service

The three year average for complaint calls related to vehicles and the potential whereabouts of people doing work on behalf of Avista totals 55 call hours per year using customer complaint records and an average call duration of 6.5 minutes.

Calls per year	Average call duration (min)	CSR cost per minute *assuming $52/hr loaded	Potential Annual Savings
55	6.5	$.87	$310

Allocation:
O&M—$310

Safety & Risk Reduction

The use of telematics allows us to identify risky driving behavior.

Average Accident Cost	$ 1,788	Preventable Accident Reduction	1.00%	**Potential Annual Savings**
		Number of Preventable Accidents	30	$ 536.40

2020 Vehicle accident rate per million miles driven	Average annual corporate miles driven	Catastrophic accident settlement / verdict	Catastrophic accident frequency
5.8	7,500,000	$7,500,000	8.5 years
Average recordable accidents per year	Average # of accidents per 8.5yr period	Potential risk exposure	Total annual risk cost
43.5	370	1/370	$20,270

Allocation:
O&M—$20,484
Capital—$321
Based on current clearing account O&M vs. Capital split

Maintenance

Under maintenance, on diesel engines with high idle times, has the potential to cost the company $111,702 annually. By basing maintenance scheduling on real time use age data both hours and miles we have the potential to save engine repair or replacement costs.

2020 engines replaced due to excessive idle and hours exceeding manufactures recommended maintenance interval	Average cost per engine parts & labor	Potential annual savings
5	$18,617	$93,085

Allocation:
O&M—$37,234
Capital—$55,851
Based on current clearing account O&M vs. Capital split

Compliance

DOT inspection administration

Average admin cost per hour loaded	Total number of commercial vehicles	Man hours per vehicle per year	Avoided labor cost
$40	489	1	$19,560

Allocation:
O&M—$19,560
Capital—$0

Quantified indirect savings:

2022	2023	Lifetime
$238,477	$443,815	$1,907,277

Calculation details

	2022	2023
Light Duty Pickup Reduction Summary Estimate	$ 82,500.00	$ 165,000.00
Light and Heavy Trailers Reduction Summary Estimate		$ 100,622.50
Reduced Total Mileage	$ 22,215.90	$ 44,431.80
Customer Service	$ 310.00	$ 310.00
Safety and Risk Reduction	$ 20,806.40	$ 20,806.40
Maintenance	$ 93,085.00	$ 93,085.00
Compliance	$ 19,560.00	$ 19,560.00
Total	**$ 238,477**	**$ 443,815**

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 Alicia Gibbs

Director Signature DocuSigned by: Alicia Gibbs 49C42855345E483...

Date Oct-29-2021 | 3:40 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Transmission Minor Rebuild

2. Business Case Owner: Ken Sweigart

3. Director Responsible: Josh DiLuciano

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, if 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
$2,539.53	$2,720.51	

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 Josh DiLuciano

Director Signature 

Date 11/17/2021

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: Josh DiLuciano

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, if 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
$3870.17	$3552.56	

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 Josh DiLuciano

Director Signature 

Date 10/29/2022

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: Josh DiLuciano

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, if 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 Josh DiLuciano

Director Signature _____

Date 11/4/2022

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Low Priority Ratings Mitigation

2. Business Case Owner: Ken Sweigart

3. Director Responsible: Josh DiLuciano

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, if 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
$0	$0	

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 Josh DiLuciano

Director Signature _____

Date 11/3/2022

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Tribal Permits & Settlements

2. Business Case Owner: Toni Pessemier

3. Director Responsible: Latisha Hill

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):

Please see # 6 below. By way of background, this business case is driven by compliance – the legal requirement to obtain and maintain permits/leases for Avista's facilities located on Tribal reservations. Permits for Avista's transmission and distribution facilities were originally obtained pursuant to 25 CFR 169. Business leases required for substations are obtained pursuant to 25 CFR 162. However, the federal regulations do not typically allow for perpetual easements. Rather, permits/leases can be issued up to 50 years and then these permits need to be renewed. The majority of Avista's permits have reached the 50 year expiration and need to be renewed. In order to acquire a renewed or new permit, a time-consuming federal regulatory process needs to be followed and permission needs to be obtained from the Tribe and/or the majority of individual Tribal landowners who have an interest in the relevant parcel of land. The permit is issued by the Bureau of Indian Affairs after they determine all steps of the process have been achieved.

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, if may cost more in the future (cost avoidance).

<Answer and Please Show $$>

Quantified indirect savings:

2022	2023	Lifetime

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.

Costs are directly associated with compliance and adhering to federal law and regulations 25 CFR 169 and 162. Avista needs to obtain and maintain active permits for all of its encroachments on Trust lands on Tribal reservations. Avista has facilities on the following reservations: Spokane, Colville, Nez Perce, Coeur d'Alene, Flathead, and Kalispel trust lands in Airway Heights. Avista maintains approximately 82 miles of transmission lines on Trust lands and extensive distribution systems. Avista's current focus is to renew permits for distribution facilities on the Spokane and Colville Reservations.

Should a Tribe and/or Tribal member landowners refuse to renew a permit(s), there would be costs associated with various options, including: condemnation action, or relocating the facilities to continue providing service to customers. (If the land is held in trust for a Tribe, condemnation is not a feasible option.)

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 Latisha D. Hill

Director Signature 

Date Latisha D. Hill

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: **Upper Falls Trash Rake Replacement**

2. Business Case Owner: **PJ Henscheid**

3. Director Responsible: **Andy Vickers**

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):

The replacement intake rake is not anticipated to be faster or more efficient but will address safety concerns as described in the Business Case Justification Narrative and captured below in Risk Cost Reductions. The replacement rake will also not impact operations and maintenances costs as associated with the existing rake as the new rake will require similar maintenance as the existing.

Quantified direct savings:

2022	2023	Lifetime
N/A	N/A	N/A

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, if may cost more in the future (cost avoidance).

Asset analysis of this project results in the "Risk Cost Reduction" shown below, reflective of the premium that would be paid if we were to insure against asset failure during this time frame. This 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.

Quantified indirect savings:

2022	2023	Lifetime

$29,754	**$31,628**	**$304,602**

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 _____Andy Vickers_____

Director Signature _____  _____

Date _____10/26/2021_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: Use Permits

2. Business Case Owner: Dave Byus

3. Director Responsible: Bruce Howard

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):

Answer: There are no quantifiable direct savings, in that this Business Case is for the direct costs of acquiring legal rights to maintain and/or extend rights-of-way (ROW) for Avista's electric transmission/distribution and gas infrastructure across public lands. Public land entities typically provide rights-of-way via permits, and our goal is to acquire these at the lowest cost and for the longest term possible.

Absent such permits, Avista would be required to re-route linear projects around public lands. Such re-routing would result in significant additional direct costs. These would include additional materials and construction costs for longer distances, increased ROW acquisition costs, and increased internal labor for design, planning, permitting and project management. The range of such costs is too uncertain to quantify, but would be in the millions of dollars. By not maintaining ROW permit approvals, Avista would risk legal action, fines and ultimately, eviction from public lands.

Quantified direct savings:

2022	2023	Lifetime
N/A	N/A	N/A

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, if may cost more in the future (cost avoidance).

Answer: See above. While there are no quantifiable indirect savings, were Avista unable to acquire permits for public land ROW, we would be forced to seek alternative routes. In addition to the direct additional costs, there would be indirect costs, such as increased line losses due to increased distances, increased AFUDC, time delays, etc.

Quantified indirect savings:

2022	2023	Lifetime
N/A	N/A	N/A

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: See above. The legal requirements to acquire ROW permits reflect the public ownership of these lands, and state, federal and common law prohibitions on trespass. Each agency has unique regulations on the procedures for acquiring ROW.

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 Bruce Howard

Director Signature DocuSigned by: Bruce Howard CDB9B5DDD0114A5...

Date Oct-28-2021 | 3:02 PM PDT

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: **ER 2075 Wildfire Resiliency**

2. Business Case Owner: **David James**

3. Director Responsible: **David Howell**

4. Direct Savings -

The direct savings associated with Wildfire Resiliency Grid Hardening and Enhanced Vegetation programs is a measure of outage performance associated with tree fall-ins, tree grow-ins, as well as overhead equipment failures that result in a 'wire-down' situation. These outages are outside of the OMT categories of wind and storm. Since these savings will be based on actual outage counts rather than outage estimates, we aren't projecting future savings at this time. However, we have calculated avoided outage responses through September 30, 2021. That information is reprinted below.

9/30/2021

	Outage Count	5-Yr Avg	2-person Service Crew (hours)	4-man Line Crew (hours)	Tree Crew	Direct Labor Cost ($)	ICE Cost to Customer ($) (per 100 customers)
Hourly Crew Rate (DT)			*$262.92*	*$494.91*	*255.52*		
Pole Fire	145	55	2	6	0	$314,577	$8,362,800
Tree Fall-In	231	242	2	4	2.04	-$33,294	-$1,027,231
OH Equip Failure	419	493	2	6	0	-$258,652	-$6,876,080
Tree Grow-In	67	77	3	0	2.73	-$14,863	-$665,540
					Total	**$7,767**	**-$206,050**

ICE

The drought of 2021 was the worst in over 120 years according to NOAA climate scientists. The period from March through September brought very little rain to the region and made the conditions for distribution pole fires much more likely than in previous years. The mechanism that causes pole fires is well understood and is a combination of electrical tracking and wood to wood contacts. Most pole fires occur at the interface between a wood crossarm and the face of a wood utility pole. Since the

early 2000's, Avista has been replacing wood crossarms with fiberglass units and this has proven to be an effective mitigation strategy. However, there are still thousands of wood crossarms on the system and through September 30th, we've experienced 145 pole fires as compared to the 5-year average of only 55. Therefore, the cost offset is a direct cost and not a savings. However, outage rates for tree fall-ins, tree grow-ins, and equipment failures trended below the 5-year average and these are reflected as O&M cost savings (see table, previous page).

5. Indirect Savings –

The Interruption Customer Estimate or ICE calculation is also shown in the table (right hand column). This is a function of the number of customers impacted by an outage, the duration of that outage, and the societal costs associated with the interruption. The Asset Management group publishes the ICE cost which is currently valued at $116.15 per customer*hour. This reflects a blended rate across all customer classes including housing, commercial, and industrial. Again, the excessive number of pole fires in 2021 have skewed data but overall, there is a slight indirect cost savings to customers of $206,050 through 9/30/21. This value is indexed at an average customer outage rate of 100 customers.

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 _____David Howell_____

Director Signature _____David Howell_____

Date _____11/24/21_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. **Business Case Name:** Wood Pole Management

2. **Business Case Owner:** Mark Gabert

3. **Director Responsible:** David Howell

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):

There are no significant direct savings related to this work. Work within this business case is completed to ensure the long-term operating reliability of the electric system during more severe operating conditions. The goal is to replace a pole prior to failure in field due to an extreme weather event.

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, if may cost more in the future (cost avoidance).

There are two (2) identified indirect savings related to the wood pole management program.

1) **Potential reduction in OMT work orders during extreme weather events.**
2) **Potential reduction in customer reductions.**

<u>Potential Reduction in OMT Work Orders</u>

Between 2005-2009 the average number of OMT events related to Wood Pole Management was 1460 per year. Between 2016 and 2020 the average number of OMT events has been reduced to 908 per year. This is an average reduction of 552 OMT events per year related to WPM work. The average OMT event takes 3.5 hours to restore at a straight time cost of $500 per hour for a total of $1750 per event. Based on this information the annual labor to complete the restoration work is $966,000. This does not include the material or any overtime costs. It is anticipated that the 5-year average OMT event will continue to be reduced as feeders are completed and there are no funding or labor resource delays.

Quantified indirect savings:

2022	2023	Lifetime
$966,000	**$966,000**	**ongoing**

Note: A major driver of this indirect savings is related to the significance of the annual extreme weather events.

Potential reduction in customer interruptions

Based on the ICE calculator (Interruption Cost Estimate) total hours per incident is 157.5 hours (# customers impacted (45) *average outage time (3.5)). The ICE cost is $116.15. Therefore, your indirect benefit per incident is $18,294. Wood Pole Management work indirectly supports the avoidance of 552 OMT events per year on average therefore the indirect benefit is $10,098,288

Quantified indirect savings:

2022	2023	Lifetime
$10,098,288	**$10,098,288**	**Ongoing**

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.

The wood pole management program is completed in accordance with state and industry standards. The National Electric Safety Code (NESC) is adopted as Washington Law under WAC296-45-045. Part 013C of the NESC describes the application, Part 121 defines the inspection interval, and Part 214A details documentation and correction of the pole inspection results.

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 ____David Howell_____

Director Signature _David Howell_____

Date _____ 11/24/21_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: **WSDOT Control Zone Mitigation**

2. Business Case Owner: **Mark Gabert**

3. Director Responsible: **David Howell**

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):

No direct savings is attributed to this business case. The work is being completed to support compliance with Washington State highway control zone requirements.

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, if may cost more in the future (cost avoidance).

Indirect savings is attributed to avoiding penalties for not following Washington State code requirements.

RCW Title 47 Public Highways and Transportation - Section 47.44.060 Penalties.

> **Without having obtained and kept the franchise in full force and in effect at all times is guilty of a misdemeanor. Each day of violation is a separate and distinct offense. You're also liable for a civil penalty of $100 per calendar day the permit is required, or the facility must be removed. There are currently 29 expired distribution franchise agreements. The calculation is 365 days/year*$100/day=$36,000/year/ franchise agreement. Mitigation should occur at approximately 5 renewals per year.**

Quantified indirect savings:

2022	2023	Lifetime
$ 1,058,500	**$876,000**	**$3,613,500**

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.

This is a mandatory Business Case.

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 _____David Howell_____

Director Signature _____David Howell_____

Date _____11/24/21_____

2022-2023 CAPITAL PROJECT

SAVINGS AND PRODUCTIVITY REPORTING FORM

1. Business Case Name: WSDOT Franchises

2. Business Case Owner: Dave Byus

3. Director Responsible: Bruce Howard

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):

Answer: There are no quantifiable direct savings, in that this Business Case is for the direct costs of acquiring legal rights to maintain and/or extend rights-of-way (ROW) for Avista's electric transmission/distribution and gas infrastructure on public highways, through franchises with the State of Washington. We are required to have Franchises for each highway by county, issued by WSDOT, and our goal is to acquire these at the lowest cost and for the longest term possible.

Highway ROW Franchises require surveys, submittals, fees and payments to WSDOT for its labor in reviewing the applications. Were we unable to update and maintain highway franchises, Avista could be forced to move this linear infrastructure onto private lands adjoining the highway. Such moves would result in millions of dollars in relocation costs and private ROW acquisition costs. Using the highway right-of-way for utility infrastructure benefits customers by reducing costs compared to the next best alternative.

Quantified direct savings:

2022	2023	Lifetime
NA	NA	NA

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, if may cost more in the future (cost avoidance).

Answer: See above. While there are no quantifiable indirect savings, were Avista unable to secure highway franchises, we would be forced to seek alternative routes. In addition to the direct additional costs, there would be indirect costs, including the opportunity costs of having to prioritize road moves over other work with no benefit to reliability, the potential for increased permitting and restoration costs by having to move away from road rights-of-way, and the costs of potential legal challenges or the need to use eminent domain.

Quantified indirect savings:

2022	2023	Lifetime
NA	NA	NA

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: See above. The legal requirements to acquire ROW permits reflect the public ownership of highways, the rights of utilities to operate in such rights of way, and the requirements placed on Avista by the WSDOT.

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 Bruce Howard

Director Signature DocuSigned by: Bruce Howard CDB9B5DDD0114A5...

Date Oct-28-2021 | 3:00 PM PDT