

Washington Electric -Major Projects

Erval	Depreciation category	Erval + Depr Cat	Percent included in I Total (including Residual CWIP)	AMA - Full Year (including Residual CW Plant Investment Driver		
1003	Elec Distribution 360-373	1003 Elec Distribution 360-373	100.00%	4,124,876	2,062,436	Customer Requested
2055	Elec Distribution 360-373	2055 Elec Distribution 360-373	100%	6,238,885	3,064,831	Asset Condition
2060	Elec Distribution 360-373	2060 Elec Distribution 360-373	100%	8,136,814	3,628,542	Asset Condition
2204	Elec Distribution 360-373	2204 Elec Distribution 360-373	100%	4,662,338	320,156	Asset Condition
2215	Elec Transmission 350-359	2215 Elec Transmission 350-359	100%	3,269,500	1,212,051	Asset Condition
2470	Elec Distribution 360-373	2470 Elec Distribution 360-373	100%	5,459,944	1,627,298	Asset Condition
2556	Elec Transmission 350-359	2556 Elec Transmission 350-359	100%	4,064,631	234,091	Mandatory & Compliance
2580	Elec Transmission 350-359	2580 Elec Transmission 350-359	100%	4,849,411	290,813	Mandatory & Compliance
2604	Elec Transmission 350-359	2604 Elec Transmission 350-359	100%	5,751,053	2,721,587	Customer Requested
4152	Hydro 331-336	4152 Hydro 331-336	100%	5,915,999	1,854,489	Asset Condition
4178	Hydro 331-336	4178 Hydro 331-336	100%	3,269,500	1,120,102	Asset Condition
5016	General 5yr 389 / 393-395 / 397-398	5016 General 5yr 389 / 393-395 / 397-398	100%	4,997,577	2,390,519	Asset Condition
5020	General 12yr 389 / 393-395 / 397-398	5020 General 12yr 389 / 393-395 / 397-398	100%	3,681,229	1,599,247	Performance & Capacity
5020	Software 303	5020 Software 303	100%	46,337	23,168	Performance & Capacity
5151	Software 303	5151 Software 303	100%	5,492,033	1,487,695	Customer Service Quality & Reliability
7000	Transportation and Tools 392 / 396	7000 Transportation and Tools 392 / 396	100%	4,154,861	2,215,307	Asset Condition
7131	Facilities 390-391	7131 Facilities 390-391	100%	7,771,412	226,287	Performance & Capacity
7135	Facilities 390-391	7135 Facilities 390-391	100%	2,985,137	1,492,568	Asset Condition
			84,871,537	27,571,187		
			WA PF Major Summary	WA PF Major Summary		

Washington Natural Gas - Major Projects

Erval	Depreciation category	Erval + Depr Cat	Percent included in Rate Total (including Residual CWAMA - Full Year (including Resid Plant Investment Driver			
3005	Gas Distribution 374-387	3005 Gas Distribution 374-387	100%	2,514,545	1,241,155	Failed Plant & Operations
3008	Gas Distribution 374-387	3008 Gas Distribution 374-387	100%	12,077,056	5,326,725	Mandatory & Compliance
5016	General 5yr 389 / 393-395 / 397-398	5016 General 5yr 389 / 393-395 / 397-398	100%	1,530,372	732,031	Asset Condition
5020	General 12yr 389 / 393-395 / 397-398	5020 General 12yr 389 / 393-395 / 397-398	100%	1,127,276	489,726	Performance & Capacity
5020	Software 303	5020 Software 303	100%	(31,811)	(15,906)	Performance & Capacity
5151	Software 303	5151 Software 303	100%	1,681,785	455,566	Customer Service Quality & Reliability
7000	Transportation and Tools 392 / 396	7000 Transportation and Tools 392 / 396	100%	1,272,313	678,377	Asset Condition
7131	Facilities 390-391	7131 Facilities 390-391	100%	2,379,783	69,294	Performance & Capacity
7132	Facilities 390-391	7132 Facilities 390-391	100%	3,052,640	1,957,169	Asset Condition
7135	Facilities 390-391	7135 Facilities 390-391	100%	914,117	457,058	Asset Condition
				26,518,076	11,391,196	
				WA PF Major Summary	WA PF Major Summary	

Avista Utilities
O&M Offsets
Test Year Dec 31, 2018

Excludes Plant Additions for Customer Growth (Budget Category 1,000's)

Functional Plant Categories	ER	Service	State	Electric WA Share	Gas WA Share	Total Offsets		
						System Total	Electric WA Share	Gas WA Share
Generation Plant								
Little Falls	4152	ED	AN	65.39%	0.00%	50,000	32,695	
Electric Distribution								
Wood Pole Mgmt	2060	ED	AN	65.39%	0.00%	109,200	71,406	-
Distribution Grid Mod	2470	ED	AN	65.39%	0.00%	51,608	33,747	-
Electric Distribution Subtotal						160,808	105,153	-
General:								
Parking Garage - COF Long Term Restructuring Phase 2	7131	CD	AA	48.41%	14.83%	27,500	13,314	4,077
Dollar Road Service Center	7132	GD	AA	0.00%	50.43%	20,000	-	10,086
General Plant Subtotal						47,500	13,314	14,163
Subtotal Offsets						258,308	151,161	14,163

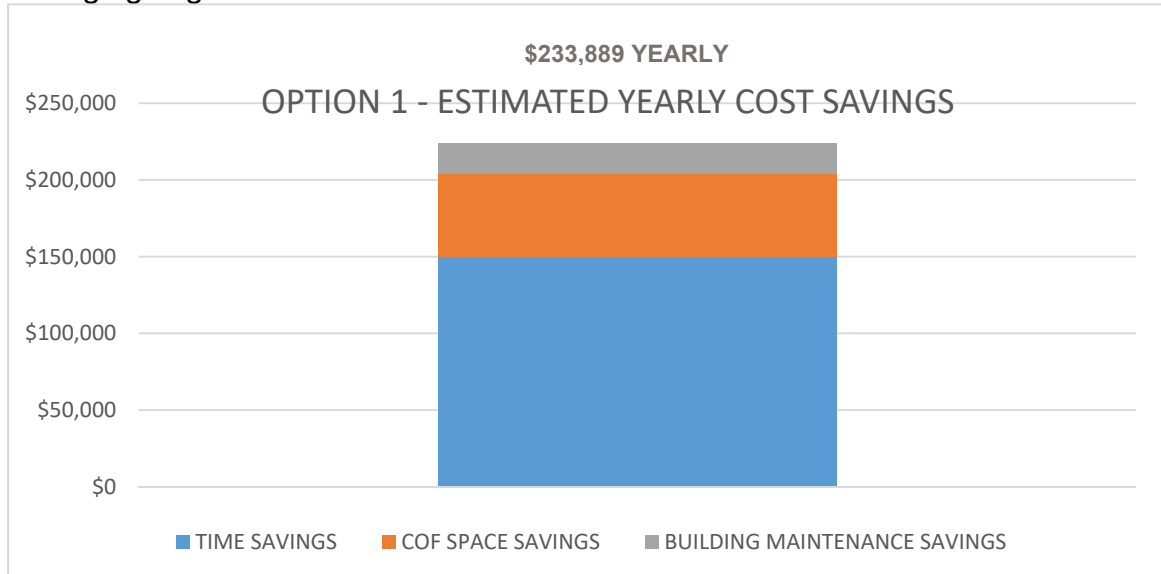
Prep by: _____ 1st Review: _____

Date: 4/26/2019 Mgr. Review: _____

New Dollar Road Service Center

The benefits this proposed design will provide include the following items 1 through 7.

1. Estimated Cost Savings. The chart below summarizes estimated yearly cost savings going forward.



- Time savings from increased efficiency and production capabilities of Avista employees leading to direct cost savings, is estimated at approximately \$150,000 annually.
 - Space savings for potential office space and parking uses will occur once the project is completed due to the relocation of approximately 10 gas meter shop employees from the main campus, and the capacity for relocating up to 30 more as needed, resulting in decreased pressure on the limited employee and parking space at the main campus.
 - Building maintenance savings refers to the reduction in building, site, electrical, plumbing, or HVAC systems that will need repair and or maintenance once a new building is completed. The direct cost savings are conservatively estimated to be (\$20,000) yearly going forward.
2. Non-quantifiable improvements in safety of Avista employees, including but not limited to:
 - Service truck backing accidents.
 - Air quality for welding and work that produces possible harmful vapors or particles.
 - Providing clearly articulated paths of service vehicle traffic on site.
 - Separating employee parking from service yard traffic and parking.
 - Providing necessary clearances for employees that work with interior shelving and forklifts, build natural gas control gates, and pick materials such as 60 foot sticks of gas pipe in the storage yard.
 - Providing gantry, trolley, and jib cranes as needed to prevent lost time accidents resulting from manual lifting and moving of equipment and materials.
 - Providing canopies or covers for main forklift and pedestrian pathways

2019 rate case data

WPM	2016	717	WPM	2017	603	WPM	2018	764
2017 projected events		603	2018 projected events		522	2019 projected events		582
Difference		114	Difference		81	Difference		182
Assume \$600 cost per event to Avista	\$	68,400	Assume \$600 cost per event to Avista	\$	48,600	Assume \$600 cost per event to Avista	\$	109,200
Round up	\$	68,000	Round up	\$	49,000	Round up	\$	109,000

Street light	
2012 cost to change light	\$ 100.00
2015 cost due to 2% inflation	\$ 106.12
2016 cost due to 2% inflation	\$ 108.24
2017 cost due to 2% inflation	\$ 110.41
2018 cost due to 2% inflation	\$ 112.62

lights changed	WA	ID	Total
2015	5,000	0	5,000
2016	6,690	3,602	10,292
2017	7,246.19	2,356.81	9,603
2018	871.01	4,093.99	4,965

\$ of Energy Savings				38.48
Washington	Idaho	WA Energy	ID energy	
\$ 530,604	\$ -			
\$ 724,125	\$ 389,914			
\$ 800,038	\$ 260,211	\$ 3,387	\$ 1,110	
\$ 98,090	\$ 461,050	\$ 446	\$ 2,253	

	Actual	Actual	Projected Savings 2019
Washington	\$ 44,460	\$ 31,594	\$ 71,406
Idaho	\$ 23,940	\$ 17,010	\$ 37,794

602.834

2017			
WA	ID	200W	100W
48.98	39.04	16.91	11.94
74%	77%	26%	23%

MWH

Summary WPM shows a projected 2015 number of events to be 650 with a trendline indicating that we will have 543 WPM events in 2017. The difference between the two values of 107 events multiplied by the average cost per event to Avista of \$600 is the OM offset of WPM. See examples below
 OM offset System Wide 2017: (717-603) * \$600 = \$68,400
 Washington (Rounded): 65% * offset = \$42,000
 Idaho (Rounded): 35% * offset = \$22,500
 Street Lights have an OM cost associated with bulb change outs of around \$100. The LED program changed out around 5,000 in 2015 and plan on changing out 3,100 in 2016. It is unknown how many we will change out in 2017 and 2018. The OM

2018			
WA	ID	200W	100W
7.81	3.79	43.15	15.39
15%	20%	85%	80%

MWH

Assumptions Assuming we follow Landen Grant's planned quantity
 Energy savings from the lighting project is the value for a single year and is \$0.03848 per kWh.
 Assume a 2% inflation of costs per year to get the current cost to replace a light
 Landen Grant provided anticipated MWH saved per year and by state

Grid Mod O&M hard savings

The Grid Modernization program is not primarily targeted at hard O&M savings, and the program has not been in place long enough to get an accurate estimate of O&M hard savings. Thus the approach to estimate hard O&M savings was made in a very conservative manner using historical data from completed Grid Modernization feeders. A calculation was performed to determine the percent reduction in outage events based on comparing the average OMT events for each category before and after Grid Modernization completion (only categories impacted by Grid Modernization were included). Only 13 feeders have been fully completed by Grid Modernization to date, so the data available to complete this analysis was limited. In addition, the scope of Grid Modernization has been solidified and developed over the years, so the scope of the feeders that was completed earlier in the program was more limited than the current scope. It is expected that further reduction in OMT events will be seen in the future on more recently constructed Grid Modernization feeders. OMT events used in the analysis only include those that lead to outages, not partial outages or non-outage responses.

Table 1: Hard O&M savings in 2019 associated with 2017-2018 Grid Modernization work.

Event	% change	Average OMT per year before	Total for all 8 feeders	Cost per event	Projected O&M without GM	Projected O&M after grid mod	difference (O&M hard savings)
Conductor Primary	-19.50	0.28	2.22	\$902	\$2,001	\$1,621	\$380
Connector Primary	-7.72	0.29	2.34	\$629	\$1,472	\$1,045	\$427
Cutout/fuse	-37.38	0.35	2.84	\$2,226	\$6,320	\$3,982	
Lightning	-97.85	3.36	26.91	\$825	\$22,200	\$666	\$21,534
Total for Grid Modernization Program directly attributable OMT							\$22,341
Pole fire	-55.96	0.32	2.54				
pole rotten	-70.74	0.07	0.57	\$2,428	\$1,383	\$401	\$982
snow ice	-55.47	1.78	14.21	\$825	\$11,719	\$5,273	\$6,445
Tree fell	-21.63	0.85	6.83				
tree growth	-88.86	0.96	7.70				
Weather	-83.66	1.01	8.06	\$825	\$6,651	\$1,064	\$5,587
Wind	-27.55	4.53	36.28	\$825	\$29,927	\$21,547	\$8,380
Squirrel	-65.17	0.92	7.38	\$825	\$6,089	\$2,131	\$3,958
bird	-9.23	0.77	6.16	\$825	\$5,085	\$1,170	\$3,916
Total for Grid Modernization Program targeted but not directly attributable OMT							\$29,267
Grand Total							\$51,608.26

Table 1 summarizes the data used to estimate hard O&M cost savings. The average number of OMT events before and after Grid Modernization was used to determine the cost savings on the Grid Mod feeders that had construction performed in 2017 and 2018. Because there are 8 feeders impacted by 2017 and 2018 work, the average OMT per year before Grid Mod was multiplied by 8 to get the total

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-19 _____

DOCKET NO. UG-19 _____

WORKPAPERS

KAREN K. SCHUH

REPRESENTING AVISTA CORPORATION

Workpapers of Karen K. Schuh

Supporting Capital Workpapers can be found in Company Witness Andrews workpapers under the following adjustments:

Electric:

2.19 – Restate 2018 Rates Base AMA to EOP

3.09 – PF Depreciation Study

3.10 – PF 2019 Capital Adds (Pro Forma detail listing included here)

3.11 – PF Offsets (supporting detail included here)

Natural Gas:

2.15 - Restate 2018 Rates Base AMA to EOP

3.09 - PF Depreciation Study

3.10 - PF 2019 Capital Adds (Pro Forma detail listing included here)

3.11 - PF Offsets (supporting info included here)

Capital Witness Exhibits number information included here.

expected events of each type for all of the feeders worked on by Grid Modernization. These values were then multiplied by the cost per event to estimate what the projected O&M spend would have been on the feeders without Grid Modernization being completed. The percent reduction values were then used to project what the O&M costs would be after Grid Modernization. These percent reduction values are the actual percent reduction that have been observed historically based on outages before and after Grid Modernization. The difference between the projected O&M and projected O&M after Grid Mod was calculated to determine the estimated cost savings.

For Grid Mod directly attributable OMT categories the projected 2019 O&M savings were \$23,341.05

Grid Modernization also makes changes on feeders to reduce wildlife outages and weather associated outages, but these changes cannot be completely attributed to Grid Mod. The O&M cost savings based on observed historical outage reduction in these categories was \$29,267.20.

Total hard O&M cost savings from 2017/2018 work: \$51,608.25 in 2019

It is worth noting that these calculations are for hard cost savings, not other cost savings associated with the program. Most cost savings that should be realized after Grid Modernization come from other areas addressed including:

- Reduction in O&M due to mobilization for planned work and outages
- Reduction in O&M due to the use of automation devices for hotline holds and feeder sectionalization
- cost savings associated with reduction in customers experiencing outages due to improved operational ability
- Decreased response times during outages due to improved accessibility.
- Improved energy efficiency of the system

The Grid Modernization scope provides a holistic approach to addressing each feeder project. This approach integrates work performed under various operational initiatives at Avista including the Wood Pole Management Program, the PCB Transformer Change-out Program, the Vegetation Management Program, the Segment Reconductor and Feeder Tie Program, and various budgeted maintenance programs. As an example of this coordination, a targeted feeder or segment will have its older wood poles and cross arms inspected and replaced (Wood Pole Management), end-of-life and transformers containing PCBs replaced (Transformer Change-Out Program), new communications and remotely operated equipment installed (Grid Modernization), and new higher-capacity conductor installed to avoid overloading or meet future capacity requirements (Segment Reconductor and Feeder Tie Program), all performed by one crew, one set of right-of-way or clearance zone agreements, and resulting in only one outage to customers and only one street closure while the work is performed, versus the potential for causing multiple outages if each portion of the work was performed under the individual programs at different times. This one-time approach leads to savings in customer impact, flagging cost, crew mobilization charges, and permitting fees.



Little Falls O&M Offsets

The operations and maintenance spend at Little Falls from 2005 through 2018 has averaged \$392,560/year. This number does not include major maintenance projects such as grouting and spill gate repair. This number is a reflection of maintenance spend at the plant, mostly associated with repairs and scheduled preventative maintenance on the units. See below the actual O&M cost broken down by year from Little Falls.

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
\$209k	\$362k	\$818k	\$412k	\$325k	\$421k	\$398k	\$354k	\$349k	\$350k	\$225k	\$446k	\$430k	\$391k

It is expected to see some O&M offset due to the ongoing work on the units. One unit overhaul was completed in 2016, the second completed in 2017, and the third unit in 2018. The fourth and final unit will come online in 2019. At that time an offset of \$50k a year should be seen due to the old equipment being replaced with new. However, periodic and scheduled preventative maintenance activities will continue on each of the units per the manufacturer's recommendations and are included in the operations and maintenance spend. Note that the general maintenance and operations costs of the plant are included in the cost summaries above including yearly crane inspections, cleaning supplies, pest control, etc. that are recurring costs not associated with the units directly.

2019 should begin to see the offset in the O&M costs (around \$50k). These costs may not be directly following the unit upgrades as adjustments are made to the new units under O&M. Over time, the offset will grow until, by 2020, the full \$50k offset a year should be experienced. Additionally, the reliability of the new units reduces the risk of high repair costs and extended outages without power production.

Annual Maintenance & Operation cost of surface lots:

Maintenance:		
snow removal per incident	10 incidents	15,000
salting/de-icing per incident	10 incidents	3,000
cleaning		-
sealing/year		1,500
Landscaping maintenance		2,000
Total annual maintenance of surface lot		<u>21,500</u>
Operation:		
security		5,000
IS/IT-video surveillance		1,000
Total annual operating expenses of surface lot		<u>6,000</u>
Total annual maintenance and operations of surface lot		<u><u>27,500</u></u>

Sum of Current Activity cost SUM		Year	
ER	ER Desc	2017	2018
5005	Information Technology Refresh Program	15,001,195	8,687,848
5006	Information Technology Expansion Program	15,603,232	5,782,285
5010	Enterprise Business Continuity	640,382	257,515
5014	Security Systems	2,269,036	1,037,227
5015	Communications equip - Storms		-
5016	Endpoint Compute and Productivity Systems		1,033,833
5017	Energy Delivery Modernization		6,868
5018	Energy Delivery Op Efficiency & Shared Services		1,973,649
5019	Energy Resources Modernization & Op Efficiency		509,680
5020	Enterprise & Control Network Infrastructure		1,307,216
5022	Enterprise Communication Systems		428,669
5023	Enterprise Information Management & Analytics		1,829,613
5025	Environmental Control & Monitoring Systems		100,618
5026	ET Modernization & Op Efficiency - Technology		1,753,393
5028	Financial & Accounting Technology		1,195,280
5029	Human Resources Technology		135,775
5030	Land Mobile Radio & Real Time Comm Systems		180,863
5031	Legal & Compliance Technology		127,413
5037	Infrastructure Technology Failed Assets		1,695
5106	Next Generation Radio System	324,237	
5119	Moducom Replacement (RTCCS)	-	
5121	Microwave Replacement with Fiber	5,305,365	774,919
5142	High Voltage Protection Upgrade	788,500	163,122
5143	AU.com & AVANet Redevelopment	11,858,541	(16,813) Removed \$16k of reduction in 2018 - Immaterial
5144	Mobility in the Field	266,168	
5147	Project Atlas	6,493,524	2,242,717
5148	Transmission Outage Management	4,674	
5151	Customer Facing Technology	2,294,461	7,432,557
5155	Data Center Compute and Storage Systems		207,966
5156	Digital Grid Network Expansion		2,470,662
Grand Total		60,849,315	39,624,572
			16,813
			39,641,385

Sum of Current Activity cost SUM		Year	
ER	ER Desc	2017	2018
4116	Colstrip Capital Additions	10,444,331	5,125,260
4132	CS2 Capital Improvements	-	
4133	CS2/Generator Step Up Transformer Swap		668,298
4140	Nine Mile Redevelopment	7,679,798	8,556,852
4147	Base Hydro	760,120	943,795
4148	Regulating Hydro	5,520,850	6,330,403
4149	Base Load Thermal	2,666,663	2,218,870
4150	Peaking Generation	628,596	110,416
4152	Little Falls Powerhouse Redevelopment	10,258,268	7,892,001
4153	Post Falls Intake Gate Replacement		(0)
4160	GPSS Electric Shp 5 Ton Crane Replacement		-
4161	CG HED U#1 Refurbishment	47,178	
4162	PF S Channel Gate Replacement	10,213	
4164	Long Lake Plant Upgrades		3,488,539
4165	Mechanical Shop 3 Ton Crane		-
4171	Noxon Station Service	3,536,726	253,910
4172	Kettle Falls Stator Rewind	4,154,695	1,544
4174	Gen DC Supplied System Upgrade	43,251	2,435,491
4175	KFGS Reverse Osmosis System		2,855,598
4177	KF CT Control Upgrade		541,721
4180	Automation Replacement	289,863	1,231,420
4182	Purchase Certified Rebuilt Cat D10R Dozer	727,541	
4185	Post St Substation Transformer Cooling		943,042
4191	Resource Metering, Telemetry, and Controls Upgrade		165,998
4192	HMI Control Software		54,541
6000	PCB Identification & Disposal	-	
6001	Hydro Generation Minor Blanket	99,587	242,972
6002	Environmental Compliance Blanket		-
6100	Clark Fork License/Compliance	32,059	11,952
6101	Forest Svc Rqmts	-	559
6103	Clark Fork Implement PME Agreement	2,926,870	2,064,720
6107	Spokane River Implementation (PM&E)	814,264	415,863
Grand Total		50,640,876	46,553,765

Used Jeannes numbers for transfers to agree to adjustment. These amounts include \$ for A/C 392,394,396

Colstrip amounts 19,312 596,968

50,621,564 45,956,797 KKS-2, Witness Exhibits

Sum of Current Activity cost SUM		Year		
ER	ER Desc	2017	2018	
1001	Gas Revenue Blanket	34,738,136	33,809,857	
1050	Gas Meters Minor Blanket	1,848,075	3,935,929	
1051	Gas Regulators Minor Blanket	574,111	576,087	
1053	Gas ERT Minor Blanket	1,183,597	3,427,690	
3000	Gas Reinforce-Minor Blanket	1,192,295	1,767,984	
3001	Replace Deteriorating Gas System	729,804	1,784,165	ID OR Only not included
3002	Regulator Reliable - Blanket	1,115,307	1,067,355	
3003	Gas Replace-St&Hwy	2,956,031	4,704,048	
3004	Cathodic Protection-Minor Blanket	1,101,801	311,249	
3005	Gas Distribution Non-Revenue Blanket	9,670,341	8,811,389	
3006	Overbuilt Pipe Replacement Blanket	501,419	85,263	
3007	Isolated Steel Replacement	1,570,633	1,416,008	
3008	Aldyl -A Pipe Replacement	18,371,496	21,914,044	
3054	Gas ERT Replacement Program	200,875	179,682	OR Only Not included
3055	Gas Meter Replacement Non Revenue	2,193,827	2,863,796	
3057	Gas HP Pipeline Remediation Program	5,416,624	4,952	OR Only Not included
3102	N-S Freeway/Gas	-	-	
3115	Metretek Replacement	-	-	
3117	Gas Telemetry	147,291	214,943	
3203	East Medford Reinforcement	2,220	-	OR Only Not included
3209	Gas Pierce Rd La Grande HP Reinforcement	2,080,771	(25,555)	OR Only Not included
3220	N Medford Boise Cascade HP Main&Reg Stn	-	0	
3237	US2 N Spo Gas HP Reinforce(Kaiser Prop)	2,633,799	42,168	
3246	Construct Chase Rd Gate Stn Post Falls ID	-	0	
3252	Reinforcement - Hwy 41 & Praire Ave Looping, PF ID	-	-	
3257	Oakland Bridge Bore & Relocation, Oakland OR	-	0	
3263	Reinforce,Upgrd Reg Stn 15, Separate HP,SpokWA	-	0	
3271	Rebuild-Reg Station #203(Schweitzer),Sandpoint ID	-	-	
3277	IMP Pipe Replace, 2012 Commitment, Medford OR	-	(0)	
3293	Klamath Falls Lateral	-	0	
3297	Hwy 95 Relocation and Replacement w/ 6" PE	-	-	
3298	Old Hwy 95 Relocation	-	5,144	ID only not included
3301	Rathdrum Prairie HP Gas Reinforcement	3,366,180	3,122,112	ID only not included
3304	NSC Greene St HP Gas Main	-	2,905,791	
3306	Goldendale HP	1,375	(0)	
3307	Bonanza Gate Stn Move	-	(0)	
Grand Total		91,596,006	92,924,102	
Removed ID and OR ER's		11,796,474	5,070,500	
		79,799,532	87,853,602	KKS-2, Witness Exhibits

Sum of Current Activity cost SUM		Year				
ER	ER Desc	2017	2018			
1000	Electric Revenue Blanket	24,137,516	24,425,895			
1001	Gas Revenue Blanket	34,738,136	33,809,857			
1002	Electric Meters Minor Blanket	1,438,517	985,016	76,270,395	75,626,872	All Growth Ers
1003	Distribution Line Transformers	7,574,651	8,037,015	(3,166,412)	(2,479,523)	ER 1006
1004	Street Lt Minor Blanket	1,502,230	1,528,287	73,103,983	73,147,349	Growth
1005	Area Light Minor Blanket	742,104	629,598			
1006	Power Xfmr-Distribution	3,166,412	2,479,523			
1009	Network Transformers & Network Protectors	1,350,938	828,882			
1106	Lucky Friday 115 kV Rebuild for Load Growth	-	-			
1107	Lewiston Mill Rd. 115 kV Substation - New Sub	(4,830)	(181)			
1108	Hallett & White Subst - Expand Sub; Add Capacity	1,624,722	2,902,980			
2000	Substation - Capital Spares	2,749,235	1,075,437			
2051	Electric Transmission Plant-Storm	4,253,192	1,620,091			
2054	Electric Underground Replacement	608,762	637,472			
2055	Electric Distribution Minor Blanket	13,752,649	9,272,548			
2056	Distribution Line Relocations	3,493,008	1,565,125			
2057	Transmission Minor Rebuild	4,249,635	371,177			
2058	Spokane Electric Network Incr Capacity	1,361,349	78,120			
2059	Failed Electric Dist Plant-Storm	2,560,279	1,570,349			
2060	Wood Pole Mgmt	9,584,384	10,999,184			
2061	WSDOT Franchise Requirements Construction	632	8,326			
2062	Downtown Network Asset Condition	-	2,742,350			
2063	Downtown Network - Performance & Capacity	-	262,218			
2070	Trans/Dist/Sub Reimbursable Projects	(125,950)	(5,756)			
2073	Elec Meter Replacement Non Revenue	309,075	257,742			
2102	Dry Creek 230 kV Substation - Construct	-	-			
2112	Beacon 230 kV Sub- Convert to DB-DB	422,516	-			
2204	Substation Rebuilds	1,490,512	11,945,399			
2214	Colstrip Transmission Capital Additions	440,528	120,892			
2215	Substation Asset Mgmt Capital Maintenance	4,317,444	2,358,401			
2217	Spokane-CDA 115 kV Line Relay Upgrades	(2,517)	(1,300)			
2221	System-Install Eye Wash Stations	-	-			
2237	Metro FDR Upgrade	167,200	-			
2251	Post St-Improvement/Upgrades	0	-			
2252	System - Replace/Install Relays	(11,282)	(50,022)			
2253	System - Upgrade Meters	-	-			
2254	System 115kV Air Switch Upgrade	307,158	215,752			
2260	System - Upgrade Surge Protection	-	-			
2273	Beacon ST YD-Oil Contain	-	-			
2274	New Substations	-	636,686			
2275	System - Rock/Fence Restore	-	41,482			
2276	Distribution Line Protection	35,123	263			
2277	SCADA Upgrade	759,529	528,722			
2278	System-Replace Obsolete Reclosers	-	-			
2283	Millwood Sub - Rebuild	(14,201)	(1,673)			
2289	Harrington Conversion to 13 kV	45,257	143,563			
2293	SCADA - Install/Replace	-	-			
2294	System - Batteries	-	1,927			
2301	Tribal Permits and Settlements	125,763	87,307			
2306	Appleway Sub - Rebuild	-	-			
2310	West Plains Transmission Reinforce	1,574,604	-			
2322	Downtown West Sub - Property	-	-			
2336	System - Replace Dist Power Xfmrs	-	388			
2341	Ninth & Central Sub - Increase Capacity & Rebuild	-	-			
2342	Pine Creek 230 Sub-Rebuild Dist/Replace Cap Bank	0	-			
2343	System - Replace/Install Substation Structures	538	-			
2346	Dry Creek - Integrate 115 kV Xsmn	-	-			
2390	Otis Orchards 115-Replace PCBs & Relays	-	-			
2397	System - Install/Replace Borderline Metering	(16,054)	-			
2414	Sys-Dist Reliability-Improve Worst Fdrs	485,747	0			
2423	System Transmission:Rebuild Condition	5,518,620	(345,048)			
2425	System - High Voltage Fuse Upgrades	-	-			
2443	Greenacres 115-13kV Sub - New Construct	2,244	6,200			
2446	Irvin Sub - New Construction	2,033,844	-			
2449	System - Replace Substation Air Switches	45,351	-			
2457	Benton-Othello 115 Recond	3,311,971	-			
2470	Dist Grid Modernization	16,541,615	14,519,118			
2474	Beacon-Boulder #2 115: Capacity Upgrade	1,427,065	-			

2481	System-Replace/Install Capacitor Banks	0	-
2483	System-Replace/Install Fire Extinguishers	110	-
2484	Moscow 230 kV Sub-Rebuild 230 kV Yard	-	-
2492	System-Install Autotransformer Diagnostic Monitor	-	-
2493	System-Replace/Upgrade Voltage Regulators	-	-
2505	System-Replace Current & Potential Devices	-	-
2514	Distribution - Spokane North & West	2,446,105	2,601,228
2515	Distribution - CdA East & North	1,262,667	983,683
2516	Distribution - Pullman & Lewis Clark	475,773	101,572
2522	10th & Stewart Dx Int	-	-
2525	Mead Cx 12F3	-	-
2529	Spokane Smart Circuit	0	(2,909)
2530	SGDP-Pullman Smart Grid Demonstration Project	-	-
2531	Westside 230 kV Substation - Rebuild	-	9,559,989
2532	Noxon 230 kV Substation - Rebuild	8,549	(592,370)
2533	Pullman Substation Rebuild	-	-
2535	TCOP Related Distribution Rebuilds	3,773,562	2,064,151
2538	College & Walnut Substation Yard Expansion	1,446,350	-
2539	Garden Springs 230-115 kV Substation	56,311	-
2545	Thornton 230 kV Switching Station - Construct	-	-
2546	Blue Creek 115 kV - Rebuild	-	-
2549	Moscow City to North Lewiston 115kV Rebuild Proj	(0)	-
2550	Burke-Thompson A&B 115kV Transmission Rebuild Proj	6,187,242	(894,244)
2552	Opportunity 115 kV Switching Station	(0)	-
2555	Coulee-Westside 230kV Transmission Line: R-O-W	-	-
2556	CDA-Pine Creek 115kV Transmission Line: Rebuild	4,453,427	7,538,038
2557	9CE-Sunset 115kV Transmission Line: Rebuild	2,158,224	(246,126)
2560	Line Ratings Mitigation Project	343,466	-
2561	Lewiston Mill Road 115 kV Substation	117,410	-
2563	Stratford 115kV - Upgrade Bus	-	-
2564	Devils Gap-Lind 115kV Transmission Rebuild Proj	(349,451)	8,747,341
2569	Gifford 115 kV - Rebuild Substation	90,113	68
2570	Sandpoint Grid Modernization Project	-	-
2571	Clearwater 115 kV Substation Upgrades	-	(802)
2572	Noxon Construction Sub - Minor Rebuild	-	(642)
2574	Chelan-Stratford 115kV - Rbld Columbia River Xing	-	-
2576	Addy-Devils Gap 115kV - Rec/Rbld 266 & 397 Cond	-	3,553,475
2577	Benewah-Moscow 230kV - Structure Replacement	2,822,741	50,026
2579	Low Priority Ratings Mitigation	1,550,962	774,519
2581	Medium Priority Ratings Mitigation	1,289,018	(155,480)
2583	Lewiston Mill Road- Dx Line Integration	(0)	-
2584	Street Light Conversion to LED Fixtures	2,265,528	1,367,942
2586	Washington AMI	33,987,445	33,868,858
2587	Irvin 115-13 kV Sub - Add Distribution Station	-	(0)
2589	Mobile Substation - Purchase New Mobile Subs	2,326,032	-
2591	Davenport 115 kV Substation - Minor Rebuild	(1,432)	-
2599	Grid Mod Automation	1,549,377	269,426
2605	Saddle Mountain Integration	-	2,554,495
2607	Noxon-Hot Springs 230kV Rebuild	2,227,346	202,608
2609	Lind Solar Project #53 Interconnection	-	1,335,341
Grand Total		228,562,093	209,969,498

WA AMI	33,987,445	33,868,858
Imm amounts	(125,950)	(4,353)
		(5,756)

194,700,598 176,110,749 KKS-2, Witness Exhibits

Sum of Current Activity cost SUM		Year		
ER	ER Desc	2017	2018	
7000	Transportation Equip	6,624,194	8,560,627	
7001	Structures & Improv	841,601	3,659,431	
7003	Office Furniture	191,093	271,598	
7005	Stores Equip	547,037	429,056	
7006	Tools Lab & Shop Equipment	3,446,426	2,288,204	
7050	Productivity Initiative	5,507,543	7,098,685	
7060	Strategic Initiatives	1,688,026	1,056,725	
7101	COF HVAC Improvmt		-	
7126	Long term Campus Re-Structuring Plan	3,065,078	-	
7127	CNG Fleet Conversion	76,260	75,174	
7130	Colstrip Unit 4 Outage due to Generator Failure		-	
7131	COF Long Term Restructuring Plan Phase 2	4,557,762	12,304,512	
7132	Dollar Rd Service Center Addition and Remodel	3,195,906	17,195,902	
7136	New Airport Hanger		1,951,555	
7139	Downtown Campus	(2)	7,893,920	
7140	Community Solar - Boulder Pk		147	Excluded Immaterial
7143	Noxon and Clark Fork Living Facility Remodel	2,036,182	524,385	
7144	Ergonomic Equipment	589,902	1,024,405	
7200	Appren Craft Train		136,695	
7201	Jackson Prairie Storage	1,653,586	2,351,222	
7206	Jackson Prairie - Purchase Weyerhauser Property		-	
7207	Purchase Company Aircraft	369,038	6,197,768	
7500	FAS 143 ARO		625	Excluded Immaterial
Grand Total		34,389,632	73,020,635	

(772)

34,389,632 73,019,863 KKS-2, Witness Exhibits