

# **WASHINGTON**

## **Avista 2019 Schedule 51**

### **Allowance**

### **Workpapers**

## Allowable Investment by Customer Class

<b>RESIDENTIAL (SCHEDULE 1-2)</b>			
	Distribution	Terminal Facilities	Total
Allowable Investment per Customer	\$1,250	\$610	\$1,860
<b>GENERAL SERVICE (SCHEDULE 11-12)*</b>			
	Distribution	Terminal Facilities	Total
Allowable Investment per kWh	\$0.10783	\$0.04225	\$0.15007
<b>LARGE GENERAL SERVICE (SCHEDULE 21-22)*</b>			
	Distribution	Terminal Facilities	Total
Allowable Investment per kWh	\$0.10225	\$0.02403	\$0.12628
<b>PUMPING SERVICE (SCHEDULE 31)</b>			
	Distribution	Terminal Facilities	Total
Allowable Investment per kWh	\$0.12277	\$0.03674	\$0.15951

\* Schedules 12 and 22 are for customers who meet the requirements for service under Schedules 11 and 21 and whose electric use qualifies as "residential load" as defined in the Pacific Northwest Electric Power Planning and Conservation Act and the Residential Purchase and Sale Agreement contract in effect between Avista and the Bonneville Power Administration. Tariffed rates are the same under Schedules 11 and 12 and under Schedules 21 and 22.

**Calculation of Allowance - Schedule 51  
Schedule 001**

**Summary**

<b>Residential (Schedule 1)</b>			
# Customers	209,864		
Rate of Return	9.043%		
2015 Cost of Service Study	Distribution Plant	Terminal Facilities	Total
Net Plant	234,913,585	121,823,757	356,737,343
Return on Net Plant	21,242,607	11,016,197	32,258,804
Depreciation Expense	10,271,434	4,410,414	14,681,848
Total	31,514,042	15,426,611	46,940,652
Per Customer Expenses	Distribution Plant	Terminal Facilities	Total
Net Plant	1119.36	580.49	1699.85
Return on Net Plant	101.22	52.49	153.71
Depreciation Expense	48.94	21.02	69.96
Total	150.16	73.51	223.67
Allowable Investment	\$1,249.16	\$611.48	\$1,860.65
Rounded to nearest \$5 increment	\$0.84	(\$1.48)	(\$0.65)
<b>Allowable Investment</b>	<b>\$1,250.00</b>	<b>\$610.00</b>	<b>\$1,860.00</b>

**Apartments**

Current Schedule 1 Allowance	\$ 1,695	Present Schedule 51
Current Duplex Allowance	\$ 1,355	Present Schedule 51
Current Multiplex Allowance	\$ 1,015	Present Schedule 51
Ratio of Duplex to Residence	0.799410029	C40/C39
<b>New Duplex Allowance</b>	<b>\$ 1,485.00</b>	E32*C42
Ratio of Multiplex to Residence	0.598820059	C41/C39
<b>New Multiplex Allowance</b>	<b>\$ 1,115.00</b>	E32*C44

**Calculation of Allowance - Schedule 51**  
**Schedule 011/012**

<b>Residential (Schedule 11/12)</b>			
Annual MWhs	623,244		
Rate of Return	9.043%		
2015 Cost of Service Study	Distribution Plant	Terminal Facilities	Total
Net Plant	60,220,942	25,376,575	85,597,517
Return on Net Plant	5,445,619	2,294,736	7,740,355
Depreciation Expense	2,633,120	870,316	3,503,436
Total	8,078,738	3,165,052	11,243,790
Per Customer Expenses	Distribution Plant	Terminal Facilities	Total
Net Plant	0.0966	0.0407	0.1373
Return on Net Plant	0.0087	0.0037	0.0124
Depreciation Expense	0.0042	0.0014	0.0056
Total	0.0130	0.0051	0.0180
<b>Allowable Investment</b>	<b>\$0.10783</b>	<b>\$0.04225</b>	<b>\$0.15007</b>

**Calculation of Allowance - Schedule 51  
Schedule 021/022**

<b>Residential (Schedule 21/22)</b>			
Annual MWhs	1,409,459		
Rate of Return	9.043%		
<b>2015 Cost of Service Study</b>	<b>Distribution Plant</b>	<b>Terminal Facilities</b>	<b>Total</b>
Net Plant	129,306,930	33,890,620	163,197,550
Return on Net Plant	11,692,880	3,064,638	14,757,518
Depreciation Expense	5,631,752	1,006,878	6,638,630
<b>Total</b>	<b>17,324,632</b>	<b>4,071,516</b>	<b>21,396,148</b>
<b>Per Customer Expenses</b>	<b>Distribution Plant</b>	<b>Terminal Facilities</b>	<b>Total</b>
Net Plant	0.0917	0.0240	0.1158
Return on Net Plant	0.0083	0.0022	0.0105
Depreciation Expense	0.0040	0.0007	0.0047
<b>Total</b>	<b>0.0123</b>	<b>0.0029</b>	<b>0.0152</b>
<b>Allowable Investment</b>	<b>\$0.10225</b>	<b>\$0.02403</b>	<b>\$0.12628</b>

**Calculation of Allowance - Schedule 51**  
**Schedule 031/032**

<b>Residential (Schedule 31/32)</b>			
Annual MWhs	133,495		
Rate of Return	9.043%		
	<b>Distribution Plant</b>	<b>Terminal Facilities</b>	<b>Total</b>
2015 Cost of Service Study			
Net Plant	14,686,231	4,837,402	19,523,633
Return on Net Plant	1,328,037	437,433	1,765,470
Depreciation Expense	642,145	152,154	794,299
Total	1,970,182	589,587	2,559,769
	<b>Distribution Plant</b>	<b>Terminal Facilities</b>	<b>Total</b>
Per Customer Expenses			
Net Plant	0.1100	0.0362	0.1462
Return on Net Plant	0.0099	0.0033	0.0132
Depreciation Expense	0.0048	0.0011	0.0060
Total	0.0148	0.0044	0.0192
<b>Allowable Investment</b>	<b>\$0.12277</b>	<b>\$0.03674</b>	<b>\$0.15951</b>

\*From UE-170485

Cost of Capital			Source
Capital Component	Capital Structure	Component Cost	Weighted Cost
Long Term Debt	48.60%	5.76%	2.80%
Short Term Debt	2.90%	3.26%	0.09%
Common Equity	48.50%	9.50%	4.61%
Total	100.00%		7.50%

UE-170485, Order 7, Pg 40  
 UE-170485, Order 7, Pg 40  
 UE-170485, Order 7, Pg 40  
 UE-170485, Order 7, Pg 40

Grossed-up Rate of Return	
Tax Gross-up Factor	1.328 Adjusted for Tax Reform
Weighted ROE * Tax Gross-up	1.328 * 4.608%
Long Term and Short Term Debt	6.118%
Preferred Equity * Tax Gross-up	2.799%
Grossed-up Rate of Return	0.126%
	9.043%

\*From UE-170485 Cost of Service (Knox)

	Total	Schedule 001	Schedule 011/012	Schedule 021/022	Schedule 031/032	Source
Number of Customers	245,486	209,864	31,286	1,903	2,433	Knox COS Study - "Assign" (columns BB - BL)
Annual Consumption (MWhs)	4,528,084	2,361,886	623,244	1,409,459	133,495	Knox COS Study - "Assign" (columns BB - BL)
NCP Demand (kw)	844,928	451,201	115,667	249,852	28,208	Knox COS Study - "Assign" (columns BB - BL)

**Plant in Service**

Account	Schedule 001	Schedule 011/012	Schedule 021/022	Schedule 031/032	Final Proforma Cost of Service Balances From UE-170485
361 Structures & Improvements	7,138,426	1,829,961	3,952,894	446,277	14,851,000
362 Station Equipment	41,379,996	10,607,911	22,914,122	2,586,978	83,107,000
363 Storage Battery Equipment	1,256,575	322,127	695,827	78,558	2,631,000
364 Poles, Towers & Fixtures	112,840,284	28,927,013	62,429,735	7,054,503	233,645,000
365 OH Conductors & Devices	75,265,044	19,294,465	41,658,499	4,705,389	148,163,000

366	UG Conduit	34,737,003	8,904,955	18,775,543	2,171,674	67,628,000
367	UG Conductors & Devices	62,375,794	15,990,260	33,817,053	3,899,585	122,166,000
	<b>Subtotals</b>	<b>334,993,121</b>	<b>85,876,692</b>	<b>184,243,672</b>	<b>20,942,964</b>	<b>672,191,000</b>
368	Line Transformers	92,283,009	23,657,081	45,834,611	5,769,311	168,718,000
369	Services	88,621,902	13,211,657	787,134	1,027,307	103,648,000
370	Meters	0	0	0	0	0
	<b>Subtotals</b>	<b>180,904,911</b>	<b>36,868,738</b>	<b>46,621,745</b>	<b>6,796,618</b>	<b>272,366,000</b>
	<b>Totals</b>	<b>515,898,032</b>	<b>122,745,430</b>	<b>230,865,417</b>	<b>27,739,582</b>	

### Accumulated Depreciation

Account	Schedule 001	Schedule 011/012	Schedule 021/022	Schedule 031/032		
361	Structures & Improvements	2,155,323	552,525	1,193,507	134,746	4,484,000
362	Station Equipment	11,543,100	2,959,115	6,391,978	721,647	23,183,000
363	Storage Battery Equipment	102,685	26,324	56,862	6,420	215,000
364	Poles, Towers & Fixtures	26,560,172	6,808,796	14,694,615	1,660,478	54,995,000
365	OH Conductors & Devices	21,142,974	5,420,077	11,702,438	1,321,808	41,621,000
366	UG Conduit	9,884,133	2,533,833	5,342,429	617,932	19,243,000
367	UG Conductors & Devices	28,691,150	7,355,080	15,554,914	1,793,702	56,193,000
	<b>Subtotals</b>	<b>100,079,536</b>	<b>25,655,750</b>	<b>54,936,743</b>	<b>6,256,733</b>	<b>199,934,000</b>
368	Line Transformers	25,023,694	6,414,914	12,428,629	1,564,421	45,750,000
369	Services	34,057,460	5,077,249	302,496	394,795	39,832,000
370	Meters	0	0	0	0	0
	<b>Subtotals</b>	<b>59,081,154</b>	<b>11,492,163</b>	<b>12,731,125</b>	<b>1,959,216</b>	<b>85,582,000</b>
	<b>Totals</b>	<b>159,160,690</b>	<b>37,147,913</b>	<b>67,667,868</b>	<b>8,215,949</b>	

### Net Plant

Account	Schedule 001	Schedule 011/012	Schedule 021/022	Schedule 031/032		
361	Structures & Improvements	4,983,103	1,277,436	2,759,387	311,531	
362	Station Equipment	29,836,896	7,648,796	16,522,144	1,865,331	
363	Storage Battery Equipment	1,153,890	295,803	638,965	72,138	
364	Poles, Towers & Fixtures	86,280,112	22,118,217	47,735,120	5,394,025	
365	OH Conductors & Devices	54,122,070	13,874,388	29,956,061	3,383,581	
366	UG Conduit	24,852,870	6,371,122	13,433,114	1,553,742	
367	UG Conductors & Devices	33,684,644	8,635,180	18,262,139	2,105,883	
	<b>Subtotals</b>	<b>234,913,585</b>	<b>60,220,942</b>	<b>129,306,930</b>	<b>14,686,231</b>	
368	Line Transformers	67,259,315	17,242,167	33,405,982	4,204,890	
369	Services	54,564,442	8,134,408	484,638	632,512	
370	Meters	0	0	0	0	
	<b>Subtotals</b>	<b>121,823,757</b>	<b>25,376,575</b>	<b>33,890,620</b>	<b>4,837,402</b>	

Totals	356,737,343	85,597,517	163,197,550	19,523,633
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**Depreciation Expense**

Account	Schedule 001	Schedule 011/012	Schedule 021/022	Schedule 031/032	
361	118,725	30,436	65,744	7,422	247,000
362	851,928	218,395	471,754	53,260	1,711,000
363	63,521	16,284	35,175	3,971	133,000
364	2,611,344	669,427	1,444,746	163,255	5,407,000
365	2,084,782	534,442	1,153,908	130,336	4,104,000
366	943,571	241,888	510,006	58,990	1,837,000
367	3,597,562	922,248	1,950,420	224,911	7,046,000
Subtotals	10,271,434	2,633,120	5,631,752	642,145	20,485,000
368	1,983,846	508,566	985,325	124,025	3,627,000
369	2,426,568	361,750	21,553	28,129	2,838,000
370	0	0	0	0	0
Subtotals	4,410,414	870,316	1,006,878	152,154	6,465,000
Totals	14,681,848	3,503,436	6,638,630	794,299	

**Total Distribution Plant Depreciation Rates by Account**

Account Number	Account Description	Plant in Service	Accumulated Depreciation	Net Plant	Depreciation Expense	Effective Depreciation Rate	Weighted Depreciation Rate	Distribution Weighted Rate	Term Fac Weighted Rate
360	Land & Land Rights	\$4,757,000	\$29,000	\$4,728,000	\$5,000	0.11%	0.00%	0.00%	
361	Structures & Improvements	\$14,851,000	\$4,484,000	\$10,367,000	\$247,000	1.66%	0.03%	0.02%	
362	Station Equipment	\$83,107,000	\$23,183,000	\$59,924,000	\$1,711,000	2.06%	0.19%	0.17%	
363	Storage Battery Equipment	\$2,631,000	\$215,000	\$2,416,000	\$133,000	5.06%	0.02%	0.03%	
364	Poles, Towers & Fixtures	\$233,645,000	\$54,995,000	\$178,650,000	\$5,407,000	2.31%	0.62%	0.61%	
365	OH Conductors & Devices	\$148,163,000	\$41,621,000	\$106,542,000	\$4,104,000	2.77%	0.44%	0.55%	
366	UG Conduit	\$67,628,000	\$19,243,000	\$48,385,000	\$1,837,000	2.72%	0.20%	0.24%	
367	UG Conductors & Devices	\$122,166,000	\$56,193,000	\$65,973,000	\$7,046,000	5.77%	0.57%	1.98%	
368	Line Transformers	\$168,718,000	\$45,750,000	\$122,968,000	\$3,627,000	2.15%	0.40%		1.21%
369	Services	\$103,648,000	\$39,832,000	\$63,816,000	\$2,838,000	2.74%	0.26%		1.20%
370	Meters	\$0	\$0	\$0	\$0	0.00%	0.00%		0.00%
Totals		\$949,314,000	\$285,545,000	\$663,769,000	\$26,955,000	2.8394%	2.8394%	3.6171%	2.4080%
						Revenue Conversion Factor (Before FIT)		95.3323%	
						Grossed-up Depreciation Rate		2.9784%	

**\*From UE-170485 Cost of Service (Knox)**

Allocations to Rate Schedules

Allocator  
C01  
E01  
D02

**Plant in Service**

Account	Total	Schedule 001	Schedule 011/012	Schedule 021/022	Schedule 031/032	Schedule 25	Sch 41-49
361	14,850,999	7,138,426	1,829,961	3,952,894	446,277	1,392,629	90,812
362	83,107,001	41,379,996	10,607,911	22,914,122	2,586,978	5,091,574	526,420
363	2,631,001	1,256,575	322,127	695,827	78,558	261,928	15,986
364	233,645,001	112,840,284	28,927,013	62,429,735	7,054,503	9,228,978	13,164,488
365	148,163,000	75,265,044	19,294,465	41,658,499	4,705,389	6,282,111	957,492
366	67,627,999	34,737,002	8,904,955	18,775,543	2,171,674	2,596,915	441,910
367	122,166,001	62,375,795	15,990,260	33,817,053	3,899,585	5,289,788	793,520
	<b>672,191,002</b>	<b>334,993,122</b>	<b>85,876,692</b>	<b>184,243,673</b>	<b>20,942,964</b>	<b>30,143,923</b>	<b>15,990,628</b>
368	168,718,000	92,283,009	23,657,081	45,834,611	5,769,311	0	1,173,988
369	103,648,001	88,621,903	13,211,657	787,134	1,027,307	0	0
370	0	0	0	0	0	0	0
	<b>272,366,001</b>	<b>180,904,912</b>	<b>36,868,738</b>	<b>46,621,745</b>	<b>6,796,618</b>	<b>0</b>	<b>1,173,988</b>
Totals	944,557,003	515,898,034	122,745,430	230,865,418	27,739,582	30,143,923	17,164,616

**Accumulated Depreciation**

Account	Schedule 001	Schedule 011/012	Schedule 021/022	Schedule 031/032	Schedule 25	Sch 41-49
361	4,484,000	2,155,323	552,525	1,193,507	134,746	420,480
362	23,183,000	11,543,100	2,959,115	6,391,978	721,647	1,420,313
363	215,001	102,685	26,324	56,862	6,420	21,404
364	54,995,001	26,560,172	6,808,796	14,694,615	1,660,478	2,172,303
365	41,620,999	21,142,973	5,420,077	11,702,438	1,321,808	1,764,730
366	19,243,000	9,884,133	2,533,833	5,342,429	617,932	738,931
367	56,193,000	28,691,150	7,355,080	15,554,914	1,793,702	2,433,157
	<b>199,934,001</b>	<b>100,079,536</b>	<b>25,655,750</b>	<b>54,936,743</b>	<b>6,256,733</b>	<b>8,971,318</b>
						<b>4,033,921</b>
368	45,750,000	25,023,694	6,414,914	12,428,629	1,564,421	0
369	39,832,000	34,057,460	5,077,249	302,496	394,795	0
370	0	0	0	0	0	0
	<b>85,582,000</b>	<b>59,081,154</b>	<b>11,492,163</b>	<b>12,731,125</b>	<b>1,959,216</b>	<b>0</b>
						<b>318,342</b>
Totals	285,516,001	159,160,690	37,147,913	67,667,868	8,215,949	8,971,318
						<b>4,352,263</b>

**Net Plant**

Account	Schedule 001	Schedule 011/012	Schedule 021/022	Schedule 031/032	Schedule 25	Sch 41-49
361	10,366,999	4,983,103	1,277,436	2,759,387	311,531	972,149
362	59,924,001	29,836,896	7,648,796	16,522,144	1,865,331	3,671,261
363	2,416,000	1,153,890	295,803	638,965	72,138	240,524
364	178,650,000	86,280,112	22,118,217	47,735,120	5,394,025	7,056,675
365	106,542,001	54,122,071	13,874,388	29,956,061	3,383,581	4,517,381
366	48,384,999	24,852,869	6,371,122	13,433,114	1,553,742	1,857,984
367	65,973,001	33,684,645	8,635,180	18,262,139	2,105,883	2,856,631
Subtotals	472,257,001	234,913,586	60,220,942	129,306,930	14,686,231	21,172,605
368	122,968,000	67,259,315	17,242,167	33,405,982	4,204,890	0
369	63,816,001	54,564,443	8,134,408	484,638	632,512	0
370	0	0	0	0	0	0
Subtotals	186,784,001	121,823,758	25,376,575	33,890,620	4,837,402	0
Totals	659,041,002	356,737,344	85,597,517	163,197,550	19,523,633	21,172,605

**Depreciation Expense**

Account	Schedule 001	Schedule 011/012	Schedule 021/022	Schedule 031/032	Schedule 25	Sch 41-49
361	246,999	118,725	30,436	65,744	7,422	23,162
362	1,711,000	851,928	218,395	471,754	53,260	104,825
363	133,000	63,521	16,284	35,175	3,971	13,241
364	5,407,001	2,611,344	669,427	1,444,746	163,255	213,577
365	4,104,001	2,084,783	534,442	1,153,908	130,336	174,010
366	1,837,001	943,572	241,888	510,006	58,990	70,541
367	7,046,001	3,597,563	922,248	1,950,420	224,911	305,092
Subtotals	20,485,003	10,271,436	2,633,120	5,631,753	642,145	904,448
368	3,627,000	1,983,846	508,566	985,325	124,025	0
369	2,838,000	2,426,568	361,750	21,553	28,129	0
370	0	0	0	0	0	0
Subtotals	6,465,000	4,410,414	870,316	1,006,878	152,154	0
Totals	26,950,003	14,681,850	3,503,436	6,638,631	794,299	904,448

Totals 427,339