

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-17 _____

DOCKET NO. UG-17 _____

EXH. EMA-4

ELIZABETH M. ANDREWS

REPRESENTING AVISTA CORPORATION

AVISTA UTILITIES
CALCULATION OF K-FACTOR STUDY REVENUE
WASHINGTON ELECTRIC
TWELVE MONTHS ENDED DECEMBER 31, 2016

The following information provides the Company's "K-Factor Study" results for the period 5/1/2018 through 4/30/2021. This Study provides the K-Factor calculations for Rate Years 1 - 3, as well as the revenue requirement results if the K-Factor was applied for each year during the Three-Year Rate Plan. The revenue requirement for each of the years effective May 1, 2018, May 1, 2019 and May 1, 2020 shown in this Study are provided to support that requested by the Company during the 5/1/2018 - 4/30/2021 Three-Year Rate Plan. See Exh. EMA-3 for the EOP Rate Base Study representing the Company's requested electric rate relief proposed in this case.

		Per K-Factor Restated Commission Basis Study				
Line No.	Description	Base Rate Change 5/1/2018	K-Factor Adjustments	Base Rate Change 5/1/2018	Pro Forma Power Supply	Total Base Rate Change Including Power Supply 5/1/2018
		(000's of Dollars)				
		(a)	(b)	(c)	(d)	(e)
1	Revenue Requirement	\$ 4,330	\$ 37,112	\$ 41,442	\$ 16,609	\$ 58,051
2	Total General Business Revenues	\$492,413	\$492,413	\$492,413	\$492,413	\$492,413
3	Percentage Revenue Increase	0.88%	7.54%	8.42%	3.37%	11.79%
4	Total <u>Billed</u> General Business Revenues			\$511,823	\$511,823	\$511,823
5	Percentage Revenue Increase			8.10%	3.24%	11.34%
6				Less Tariff 93 Expiration	\$	(14,976)
7				Bill Impact 5/1/2018	\$	43,075
8						8.42%
9				Total 05/01/2019 Revenue Increase (Rate Period 2, per pg 7)		\$ 13,863
10				Percentage Billed Revenue Increase		2.51%
11				Total 05/01/2020 Revenue Increase (Rate Period 3, per pg 7)		\$ 14,308
12				Percentage Billed Revenue Increase		2.52%

AVISTA UTILITIES K-FACTOR COST OF CAPITAL WASHINGTON ELECTRIC			
Capital Structure			
<u>Component</u>	<u>Capital Structure</u>	<u>Cost</u>	<u>Weighted Cost</u>
Total Debt	51.5%	5.62%	2.89%
Common	48.5%	9.90%	4.80%
Total	<u>100.00%</u>		<u>7.69%</u>

**AVISTA UTILITIES
REVENUE CONVERSION FACTOR
WASHINGTON ELECTRIC
TWELVE MONTHS ENDED DECEMBER 31, 2016**

<u>Line No.</u>	<u>Description</u>	<u>Factor</u>
1	Revenues	<i>1.000000</i>
	Expense:	
2	Uncollectibles	<i>0.006578</i>
3	Commission Fees	<i>0.002000</i>
4	Washington Excise Tax	<i>0.038479</i>
6	Total Expense	<u><i>0.047057</i></u>
7	Net Operating Income Before FIT	<i>0.952943</i>
8	Federal Income Tax @ 35%	<u><i>0.333530</i></u>
9	REVENUE CONVERSION FACTOR	<u><u><i>0.619413</i></u></u>

K-Factor Study (Electric)

AVISTA UTILITIES
 WASHINGTON ELECTRIC RESULTS
 K-FACTOR STUDY
 TWELVE MONTHS ENDED DECEMBER 31, 2016
 (000'S OF DOLLARS)

Line No.	DESCRIPTION	ACTUAL	RESTATEMENT ADJUSTMENTS						
		RESULTS	Deferred FIT Rate Base	Deferred Debits and Credits	Working Capital	Eliminate B & O Taxes	Restate Property Tax	Uncollect. Expense	Regulatory Expense
		1.00	1.01	1.02	1.03	2.01	2.02	2.03	2.04
		E-ROO	E-DFIT	E-DDC	E-WC	E-EBO	E-RPT	E-UE	E-RE
	Adjustment Number								
	Workpaper Reference								
	REVENUES								
1	Total General Business	\$516,333	\$0	\$0	\$0	(\$17,807)	\$0	\$0	\$0
2	Interdepartmental Sales	946	-	-	-	-	-	-	-
3	Sales for Resale	78,098	-	-	-	-	-	-	-
4	Total Sales of Electricity	595,377	-	-	-	(17,807)	-	-	-
5	Other Revenue	81,735	-	-	-	(14)	-	-	-
6	Total Electric Revenue	677,112	-	-	-	(17,821)	-	-	-
	EXPENSES								
	Production and Transmission								
7	Operating Expenses	184,672	-	4	-	-	-	-	-
8	Purchased Power	96,772	-	-	-	-	-	-	-
9	Depreciation/Amortization	26,677	-	-	-	-	-	-	0
10	Regulatory Amortization	4,310	-	-	-	-	-	-	-
11	Taxes	14,904	-	-	-	-	86	-	-
12	Total Production & Transmission	327,335	-	4	-	-	86	-	-
	Distribution								
13	Operating Expenses	21,420	-	-	-	-	-	-	-
14	Depreciation/Amortization	27,913	-	-	-	-	-	-	-
15	Regulatory Amortization	0	-	-	-	-	-	-	-
16	Taxes	45,258	-	-	-	(17,674)	(336)	-	-
17	Total Distribution	94,591	-	-	-	(17,674)	(336)	-	-
18	Customer Accounting	11,733	-	8	-	-	-	1,321	-
19	Customer Service & Information	18,081	-	-	-	-	-	-	-
20	Sales Expenses	0	-	-	-	-	-	-	-
	Administrative & General								
21	Operating Expenses	50,568	-	-	-	-	-	-	7
22	Depreciation/Amortization	23,877	-	-	-	-	-	-	-
23	Taxes	0	-	-	-	-	-	-	-
24	Total Admin. & General	74,445	-	-	-	-	-	-	7
25	Total Electric Expenses	526,185	-	12	-	(17,674)	(250)	1,321	7
26	OPERATING INCOME BEFORE FIT	150,927	-	(12)	-	(147)	250	(1,321)	(7)
	FEDERAL INCOME TAX								
27	Current Accrual	(25,741)	-	(4)	-	(51)	88	(462)	(2)
28	Debt Interest	0	(8)	-	30	-	-	-	-
29	Deferred Income Taxes	66,436	-	-	-	-	-	-	-
30	Amortized ITC - Noxon	(325)	-	-	-	-	-	-	-
31	NET OPERATING INCOME	\$110,557	\$8	(\$8)	(\$30)	(\$96)	\$163	(\$859)	(\$5)
	PLANT IN SERVICE								
32	Intangible	\$156,057	\$0	\$0	\$0	\$0	\$0	\$0	\$0
33	Production	832,833	-	-	-	-	-	-	-
34	Transmission	430,613	-	-	-	-	-	-	-
35	Distribution	970,455	-	-	-	-	-	-	-
36	General	233,266	-	-	-	-	-	-	-
37	Total Plant in Service	2,623,224	-	-	-	-	-	-	-
	ACCUMULATED DEPRECIATION/AMORT								
38	Intangible	(30,914)	-	-	-	-	-	-	-
39	Production	(351,625)	-	-	-	-	-	-	-
40	Transmission	(135,624)	-	-	-	-	-	-	-
41	Distribution	(295,383)	-	-	-	-	-	-	-
42	General	(80,093)	-	-	-	-	-	-	-
43	Total Accumulated Depreciation	(893,639)	-	-	-	-	-	-	-
44	NET PLANT	1,729,585	-	-	-	-	-	-	-
45	DEFERRED TAXES	(354,707)	806	-	-	-	-	-	-
46	Net Plant After DFIT	1,374,878	806	-	-	-	-	-	-
47	DEFERRED DEBITS AND CREDITS & OTHER	4,568	-	-	-	-	-	-	-
48	WORKING CAPITAL	65,480	-	-	(3,006)	-	-	-	-
49	TOTAL RATE BASE	1,444,926	\$806	\$0	(\$3,006)	\$0	\$0	\$0	\$0
50	RATE OF RETURN	7.65%							
51	REVENUE REQUIREMENT	901	87	13	(324)	154	(262)	1,386	7

K-Factor Study (Electric)

Exh. EMA-4

AVISTA UTILITIES
 WASHINGTON ELECTRIC RESULTS
 K-FACTOR STUDY
 TWELVE MONTHS ENDED DECEMBER 31, 2016
 (000'S OF DOLLARS)

Line No.	DESCRIPTION	Injuries and Damages 2.05 E-ID	FIT/DFIT/ ITC Expense 2.06 E-FIT	Office Space Charges to Non-Utility 2.07 E-OSC	Restate Excise Taxes 2.08 E-RET	Net Gains / Losses 2.09 E-NGL	Weather Normalization 2.10 E-WN	Eliminate Adder Schedules 2.11 E-EAS	Misc. Restating Non-Util / Non-Recurring Expenses 2.12 E-MR
	Adjustment Number	2.05	2.06	2.07	2.08	2.09	2.10	2.11	2.12
	Workpaper Reference	E-ID	E-FIT	E-OSC	E-RET	E-NGL	E-WN	E-EAS	E-MR
	REVENUES								
1	Total General Business	\$0	\$0	\$0	\$0	\$0	\$7,392	(\$18,203)	\$0
2	Interdepartmental Sales	-	-	-	-	-	-	-	-
3	Sales for Resale	-	-	-	-	-	-	-	-
4	Total Sales of Electricity	-	-	-	-	-	7,392	(18,203)	-
5	Other Revenue	-	-	-	-	-	(5,775)	684	(2,566)
6	Total Electric Revenue	-	-	-	-	-	1,617	(17,519)	(2,566)
	EXPENSES								
	Production and Transmission								
7	Operating Expenses	-	-	-	-	-	-	(383)	(5)
8	Purchased Power	-	-	-	-	-	-	-	-
9	Depreciation/Amortization	-	-	-	-	-	-	-	-
10	Regulatory Amortization	-	-	-	-	-	-	395	-
11	Taxes	-	-	-	-	-	-	-	-
12	Total Production & Transmission	-	-	-	-	-	-	12	(5)
	Distribution								
13	Operating Expenses	-	-	-	-	-	-	-	(2)
14	Depreciation/Amortization	-	-	-	-	(94)	-	-	-
15	Regulatory Amortization	-	-	-	-	-	-	-	-
16	Taxes	-	-	-	(62)	-	284	(700)	-
17	Total Distribution	-	-	-	(62)	(94)	284	(700)	(2)
18	Customer Accounting	-	-	-	-	-	49	(120)	-
19	Customer Service & Information	-	-	-	-	-	-	(16,675)	-
20	Sales Expenses	-	-	-	-	-	-	-	-
	Administrative & General								
21	Operating Expenses	151	-	(31)	-	-	15	(36)	(1,068)
22	Depreciation/Amortization	-	-	-	-	-	-	-	-
23	Taxes	-	-	-	-	-	-	-	-
24	Total Admin. & General	151	-	(31)	-	-	15	(36)	(1,068)
25	Total Electric Expenses	151	-	(31)	(62)	(94)	348	(17,519)	(1,075)
26	OPERATING INCOME BEFORE FIT	(151)	-	31	62	94	1,269	-	(1,491)
	FEDERAL INCOME TAX								
27	Current Accrual	(53)	110	11	22	33	444	-	(522)
28	Debt Interest	-	-	-	-	-	-	-	-
29	Deferred Income Taxes	-	(40)	-	-	-	-	-	-
30	Amortized ITC - Noxon	-	(1)	-	-	-	-	-	-
31	NET OPERATING INCOME	(\$98)	(\$69)	\$20	\$40	\$61	\$825	\$0	(\$969)
	PLANT IN SERVICE								
32	Intangible	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
33	Production	-	-	-	-	-	-	-	-
34	Transmission	-	-	-	-	-	-	-	-
35	Distribution	-	-	-	-	-	-	-	-
36	General	-	-	-	-	-	-	-	-
37	Total Plant in Service	-	-	-	-	-	-	-	-
	ACCUMULATED DEPRECIATION/AMORT								
38	Intangible	-	-	-	-	-	-	-	-
39	Production	-	-	-	-	-	-	-	-
40	Transmission	-	-	-	-	-	-	-	-
41	Distribution	-	-	-	-	-	-	-	-
42	General	-	-	-	-	-	-	-	-
43	Total Accumulated Depreciation	-	-	-	-	-	-	-	-
44	NET PLANT	-	-	-	-	-	-	-	-
45	DEFERRED TAXES	-	-	-	-	-	-	-	-
46	Net Plant After DFIT	-	-	-	-	-	-	-	-
47	DEFERRED DEBITS AND CREDITS & OTHER	-	-	-	-	-	-	-	-
48	WORKING CAPITAL	-	-	-	-	-	-	-	-
49	TOTAL RATE BASE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
50	RATE OF RETURN								
51	REVENUE REQUIREMENT	158	111	(33)	(65)	(99)	(1,332)	-	1,565

K-Factor Study (Electric)

AVISTA UTILITIES
 WASHINGTON ELECTRIC RESULTS
 K-FACTOR STUDY
 TWELVE MONTHS ENDED DECEMBER 31, 2016
 (000'S OF DOLLARS)

(Authorized P.S.
 @ Authorized
 P/T ratio)

Line No.	DESCRIPTION	Eliminate WA Power Cost Defer 2.13	Nez Perce Settlement Adjustment 2.14	Restating Incentives 2.15	Normalize CS2/Colstrip Major Maint 2.16	Restate Debt Interest 2.17	Authorized Power Supply 2.18	Restated TOTAL R-Ttl
		E-EWPC	E-NPS	E-RI	E-PMM	E-RDI	E-APS	
	Adjustment Number	2.13	2.14	2.15	2.16	2.17	2.18	R-Ttl
	Workpaper Reference	E-EWPC	E-NPS	E-RI	E-PMM	E-RDI	E-APS	
	REVENUES							
1	Total General Business	\$4,698	\$0	\$0	\$0	\$0	\$0	\$492,413
2	Interdepartmental Sales	-	-	-	-	-	-	946
3	Sales for Resale	-	-	-	-	-	(20,773)	57,325
4	Total Sales of Electricity	4,698	-	-	-	-	(20,773)	550,684
5	Other Revenue	-	-	-	-	-	(56,948)	17,116
6	Total Electric Revenue	4,698	-	-	-	-	(77,721)	567,800
	EXPENSES							
	Production and Transmission							
7	Operating Expenses	(2,270)	(4)	-	(1,174)	-	(46,240)	134,600
8	Purchased Power	-	-	-	-	-	(19,641)	77,131
9	Depreciation/Amortization	-	-	-	-	-	-	26,677
10	Regulatory Amortization	-	-	-	-	-	-	4,705
11	Taxes	-	-	-	-	-	-	14,990
12	Total Production & Transmission	(2,270)	(4)	-	(1,174)	-	(65,881)	258,103
	Distribution							
13	Operating Expenses	-	-	-	-	-	-	21,418
14	Depreciation/Amortization	-	-	-	-	-	-	27,819
15	Regulatory Amortization	-	-	-	-	-	-	-
16	Taxes	181	-	-	-	-	-	26,951
17	Total Distribution	181	-	-	-	-	-	76,188
18	Customer Accounting	30	-	-	-	-	-	13,021
19	Customer Service & Information	-	-	-	-	-	-	1,406
20	Sales Expenses	-	-	-	-	-	-	-
	Administrative & General							
21	Operating Expenses	9	-	(626)	-	-	-	48,989
22	Depreciation/Amortization	-	-	-	-	-	-	23,877
23	Taxes	-	-	-	-	-	-	-
24	Total Admin. & General	9	-	(626)	-	-	-	72,866
25	Total Electric Expenses	(2,050)	(4)	(626)	(1,174)	-	(65,881)	421,584
26	OPERATING INCOME BEFORE FIT	6,748	4	626	1,174	-	(11,840)	146,216
	FEDERAL INCOME TAX							
27	Current Accrual	1,567	1	219	411	(860)	(4,144)	(28,935)
28	Debt Interest	-	-	-	-	-	-	22
29	Deferred Income Taxes	795	-	-	-	-	-	67,191
30	Amortized ITC - Noxon	-	-	-	-	-	-	(326)
31	NET OPERATING INCOME	\$4,386	\$3	407	763	860	(\$7,696)	108,263
	PLANT IN SERVICE							
32	Intangible	\$0	\$0	\$0	\$0	\$0	\$0	\$156,057
33	Production	-	-	-	-	-	-	832,833
34	Transmission	-	-	-	-	-	-	430,613
35	Distribution	-	-	-	-	-	-	970,455
36	General	-	-	-	-	-	-	233,266
37	Total Plant in Service	-	-	-	-	-	-	2,623,224
	ACCUMULATED DEPRECIATION/AMORT							
38	Intangible	-	-	-	-	-	-	(30,914)
39	Production	-	-	-	-	-	-	(351,625)
40	Transmission	-	-	-	-	-	-	(135,624)
41	Distribution	-	-	-	-	-	-	(295,383)
42	General	-	-	-	-	-	-	(80,093)
43	Total Accumulated Depreciation	-	-	-	-	-	-	(893,639)
44	NET PLANT	-	-	-	-	-	-	1,729,585
45	DEFERRED TAXES	-	-	-	-	-	-	(353,901)
46	Net Plant After DFTT	-	-	-	-	-	-	1,375,684
47	DEFERRED DEBITS AND CREDITS & OTHER	-	-	-	-	-	-	4,568
48	WORKING CAPITAL	-	-	-	-	-	-	62,474
49	TOTAL RATE BASE	\$0	\$0	\$0	\$0	\$0	\$0	\$1,442,726
50	RATE OF RETURN							(1)
51	REVENUE REQUIREMENT	(7,081)	(4)	(657)	(1,232)	(1,388)	12,425	4,330

(1) The Restated TOTAL column does not represent 12/31/2016 Test Period Commission Basis results of operation on a normalized basis (CBR basis). Two differences exist here: 1) inclusion of proposed (Pro Forma) cost debt (pro forma versus CBR cost of debt) impacting Adjustment 2.17 above; and 2) Authorized (ERM) Power Supply (Adj 2.18 above) versus revised Authorized Power Supply (CB) which included the updated Production/ Transmission (P/T) ratio. The P/T ratio update is included in PF Power Supply Adjustment 4.00 in order to separate increased power supply costs from non-energy increased costs requested by the Company.

K-Factor Study (Electric)

Exh. EMA-4

AVISTA UTILITIES
 WASHINGTON ELECTRIC RESULTS
 K-FACTOR STUDY
 TWELVE MONTHS ENDED DECEMBER 31, 2016
 (000'S OF DOLLARS)

Remove
 Authorized
 Power Supply

Line No.	DESCRIPTION	Remove Authorized Power Supply	Non-Energy Restated Total
	Adjustment Number	Remove	NE-Total
	Workpaper Reference		
	REVENUES		
1	Total General Business	(\$92,915)	\$399,498
2	Interdepartmental Sales	-	946
3	Sales for Resale	(57,325)	-
4	Total Sales of Electricity	(150,240)	400,444
5	Other Revenue	(10,225)	6,891
6	Total Electric Revenue	(160,465)	407,335
	EXPENSES		
	Production and Transmission		
7	Operating Expenses	(78,962)	55,638
8	Purchased Power	(77,131)	-
9	Depreciation/Amortization	-	26,677
10	Regulatory Amortization	-	4,705
11	Taxes	-	14,990
12	Total Production & Transmission	(156,093)	102,010
	Distribution		
13	Operating Expenses	-	21,418
14	Depreciation/Amortization	-	27,819
15	Regulatory Amortization	-	-
16	Taxes	(\$3,575)	23,376
17	Total Distribution	(3,575)	72,613
18	Customer Accounting	(\$611)	12,410
19	Customer Service & Information	-	1,406
20	Sales Expenses	-	-
	Administrative & General		
21	Operating Expenses	(\$186)	48,803
22	Depreciation/Amortization	-	23,877
23	Taxes	-	-
24	Total Admin. & General	(186)	72,680
25	Total Electric Expenses	(160,465)	261,119
26	OPERATING INCOME BEFORE FIT	0	146,216
	FEDERAL INCOME TAX		
27	Current Accrual	0	(28,935)
28	Debt Interest	-	22
29	Deferred Income Taxes	-	67,191
30	Amortized ITC - Noxon	-	(326)
31	NET OPERATING INCOME	0	108,264
	PLANT IN SERVICE		
32	Intangible	\$0	\$156,057
33	Production	-	832,833
34	Transmission	-	430,613
35	Distribution	-	970,455
36	General	-	233,266
37	Total Plant in Service	-	2,623,224
	ACCUMULATED DEPRECIATION/AMORT		
38	Intangible	-	(30,914)
39	Production	-	(\$351,625)
40	Transmission	-	(135,624)
41	Distribution	-	(295,383)
42	General	-	(80,093)
43	Total Accumulated Depreciation	-	(893,639)
44	NET PLANT	-	1,729,585
45	DEFERRED TAXES	-	(353,901)
46	Net Plant After DFTT	-	1,375,684
47	DEFERRED DEBITS AND CREDITS & OTHER	-	4,568
48	WORKING CAPITAL	-	62,474
49	TOTAL RATE BASE	\$0	1,442,726
50	RATE OF RETURN		
51	REVENUE REQUIREMENT	(0)	4,330

K-FACTOR CALCULATION

Authorized ROR				Weighted Cost	Tax	Tax on equity return
Component	Capital Structure	Cost	Cost			
Total Debt	51.5%	5.20%	2.68%	53.85%	2.48%	
Common	48.5%	9.50%	4.61%			
Total	100.00%		7.29%			
				Tax on Equity Return	2.48%	
				Total % to apply to RB	9.77%	

	Revenue on CB Less PS*	Portion of Total	Rate Year 1 Growth Rate	Rate Years 2 & 3 Growth Rate	
Depreciation	78,373	20.05%	9.13%		
O&M	139,675	35.74%	2.84%	2.55%	10% Eff. Reduction
Taxes OTI	38,366	9.82%	4.53%		
Net Plant After ADFIT	1,375,684	34.40%	4.81%	3.04%	Reduction to Growth in Net Plant 2019-2020
(RB*9.77%)		100.00%			
Non PS Revenue	\$ 390,850	Non-ERM revenues (1)			

*includes revenue related expenses
 (1) Non-ERM Revenues, covering investment-related costs and operating expenses.

Revenues Growth: (Per Adj. 18.06 w/ps - 2.333 years from 2016 to 04.30.2019)	
	Annual
	\$ 9,356
Revenue Growth to remove:	\$ 4,010
	-1.03%

	Rate YR 1 K-Factor 2017-2018	Rate Yrs 2 & 3 K-Factor 2019-2020	
Depreciation	1.83%	1.83%	
O&M	1.01%	0.91%	10% Eff. Reduction
Taxes OTI	0.44%	0.44%	
Net Plant After ADFIT	1.65%	1.05%	Reduction to Growth in Net Plant 2019-2020
Revenues	-1.03%	-1.03%	
	3.92%	3.21%	

	Rate Year 1				Rate Years 2 & 3				
	3.92%	3.92%	3.92%		3.21%	3.21%			
	Restated	K-Factor	K-Factor	K-Factor (1/3)	K-Factor	K-Factor			
	2016	2017	2018	1/3 2019	5/1/2018	5/1/2019	5/1/2020		
51	REVENUE REQUIREMENT	4,330	15,472	16,077	5,563	41,442	13,863	14,308	69,613
		Pro Forma Non-Energy							
						\$16,609	PS Pro Forma		\$16,609
						\$58,051			\$86,222

ELECTRIC COST AND REVENUE TREND CALCULATIONS 2013-2016

Commission Basis Results of Operations

AVISTA UTILITIES

(000'S OF DOLLARS)

Line	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
No. REVENUES										
1 Total General Business	\$326,335	\$365,425	\$402,618	\$415,740	3.00%	\$459,266	\$468,006	\$488,372	\$497,229	\$492,413
2 Interdepartmental Sales	739	820	872	790	820	816	884	922	928	946
3 Sales for Resale	34,954	46,848	31,491	133,479	52,604	54,549	75,349	60,998	49,505	57,854
4 Total Sales of Electricity	362,028	413,093	434,981	550,009	53,424	514,631	544,239	550,292	547,662	551,213
5 Other Revenue	10,170	10,927	9,395	11,786	13,666	13,089	13,408	17,163	16,920	17,310
6 Total Electric Revenue	372,198	424,020	444,376	561,795	67,090	527,720	557,647	567,455	564,582	568,523
EXPENSES										
Production and Transmission										
7 Operating Expenses	102,890	117,123	87,599	147,107	145,634	131,795	143,904	120,307	140,485	136,385
8 Purchased Power	65,640	72,508	100,437	142,197	91,142	101,283	109,034	116,643	85,107	78,794
9 Depreciation/Amortization	24,877	23,076	23,969	25,008	25,158	25,680	23,284	23,715	24,947	26,676
10 Regulatory Amortization	(3,082)	(1,076)	(1,703)	(2,879)	403	(7,744)	8,629	8,101	5,974	4,706
11 Taxes	8,319	8,146	9,014	9,955	10,846	11,456	12,913	12,828	14,133	14,654
12 Total Production & Transmission	198,644	219,777	219,316	321,388	273,183	262,470	297,764	281,594	270,646	261,215
Distribution										
13 Operating Expenses	14,563	17,329	17,267	18,354	19,081	21,152	20,878	21,299	24,056	21,415
14 Depreciation/Amortization	11,333	15,611	16,809	17,985	19,240	20,749	22,303	23,794	25,379	27,819
15 Taxes	16,156	17,416	18,216	20,029	22,459	22,699	23,809	25,821	27,448	27,287
16 Total Distribution	42,052	50,356	52,292	56,368	60,780	64,600	66,990	70,914	76,883	76,521
17 Customer Accounting	7,514	7,919	9,646	9,261	10,275	10,336	11,334	11,166	12,363	13,021
18 Customer Service & Information	7,472	12,847	19,736	20,832	21,292	18,487	1,516	1,383	1,454	1,406
19 Sales Expenses	682	571	660	176	4	5	5	0	0	0
Administrative & General										
20 Operating Expenses	35,844	35,982	38,461	44,662	44,779	49,333	43,310	46,210	49,942	48,989
21 Depreciation/Amortization	6,739	7,187	7,688	9,277	10,906	12,517	14,721	16,947	21,503	23,877
22 Taxes	(9)	(3)	(3)	2	0	(4)	0	0	0	0
23 Total Admin. & General	42,574	43,166	46,146	53,941	55,685	61,846	58,031	63,157	71,445	72,866
24 Total Electric Expenses	298,938	334,636	347,796	461,966	421,219	417,744	435,640	428,214	432,791	425,029
25 OPERATING INCOME BEFORE FIT	73,260	89,384	96,580	99,829	(354,129)	109,976	122,007	139,241	131,791	143,494
FEDERAL INCOME TAX										
26 Current Accrual	5,070	(6,217)	(1,846)	9,263	6,569	11,499	19,267	(7,683)	4,968	(29,081)
27 Debt Interest	0	0	0	0	207	70	1	(136)	1	21
28 Deferred Income Taxes	6,497	26,634	23,983	13,823	16,402	15,684	10,613	46,085	29,492	67,191
29 Amortized ITC - Noxon	0	0	(58)	(83)	(99)	(128)	(130)	(128)	(129)	(326)
30 Levelized Settlement Exchange Power	0	0	0	0	0	0	0	0	0	0
31 NET OPERATING INCOME	\$61,693	\$68,967	\$74,501	\$76,826	(\$377,208)	\$82,850	\$92,256	\$101,103	\$97,459	\$105,689
(1) Corrected excise tax error in 2013-2015.										
RATE BASE										
PLANT IN SERVICE										
32 Intangible	\$20,632	\$23,321	\$57,116	\$81,955	\$84,081	\$85,247	\$91,466	\$102,620	\$144,970	\$156,057
33 Production	645,576	657,099	677,646	692,689	706,894	717,448	738,315	746,101	779,441	832,833
34 Transmission	259,532	289,302	301,090	312,505	328,012	342,382	359,941	371,971	401,700	430,613
35 Distribution	529,067	561,248	602,201	642,143	696,082	743,732	796,640	842,795	895,055	970,455
36 General	81,368	91,205	98,727	120,996	140,218	155,104	179,134	196,867	212,726	233,266
37 Total Plant in Service	1,536,175	1,622,175	1,736,780	1,850,288	1,955,287	2,043,913	2,165,496	2,260,354	2,433,892	2,623,224
ACCUMULATED DEPRECIATION/AMORT										
38 Intangible	6,349	7,252	9,302	12,606	13,074	14,736	17,667	20,242	24,943	30,914
39 Production	230,738	243,189	255,390	272,340	286,300	300,170	314,599	325,531	342,899	351,625
40 Transmission	90,140	95,026	100,649	106,041	111,144	116,316	122,308	123,869	129,936	135,624
41 Distribution	162,343	172,026	181,327	194,593	209,101	221,408	236,201	252,722	273,578	295,383
42 General	36,737	39,933	39,153	43,819	47,365	51,504	58,357	65,720	73,050	80,093
43 Total Accumulated Depreciation	526,307	557,426	585,821	629,399	666,984	704,134	749,132	788,084	844,406	893,639
44 NET PLANT	1,009,868	1,064,749	1,150,959	1,220,889	1,288,303	1,339,779	1,416,364	1,472,270	1,589,486	1,729,585
45 DEFERRED TAXES	(139,033)	(147,502)	(163,716)	(184,825)	(201,163)	(208,209)	(221,354)	(257,766)	(317,860)	(353,900)
46 Net Plant After Deferred Income Taxes	870,835	917,247	987,243	1,036,064	1,087,140	1,131,570	1,195,010	1,214,504	1,271,626	1,375,685
47 DEFERRED DEBITS AND CREDITS	21,020	19,593	17,776	17,776	18,845	16,438	14,761	10,846	7,458	4,566
48 WORKING CAPITAL	0	0	0	18,188	31,877	10,967	16,281	47,807	59,722	62,474
49 TOTAL RATE BASE	\$891,855	\$936,840	\$1,005,019	\$1,072,028	\$1,137,863	\$1,158,975	\$1,226,052	\$1,273,157	\$1,338,806	\$1,442,726

ELECTRIC COST AND REVENUE TREND CALCULATIONS 2013-2016

AVISTA UTILITIES
WASHINGTON ELECTRIC RESULTS
(000'S OF DOLLARS)

Line No.	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Exclude Power Supply and Adder Schedule Expenses (DSM Tariff Rider and Residential Exchange Credit) from O&M											
1	102,890	117,123	87,599	147,107	145,634	131,795	143,904	120,307	140,485	136,385	
2	65,640	72,508	100,437	142,197	91,142	101,283	109,034	116,643	85,107	78,794	
3	14,563	17,329	17,267	18,354	19,081	21,152	20,878	21,299	24,056	21,415	
4	7,514	7,919	9,646	9,261	10,275	10,336	11,334	11,166	12,363	13,021	
5	7,472	12,847	19,736	20,832	21,292	18,487	1,516	1,383	1,454	1,406	
6	682	571	660	176	4	5	5	0	0	0	
7	35,844	35,982	38,461	44,662	44,779	49,333	43,310	46,210	49,942	48,989	
8	234,605	264,279	273,806	382,589	332,207	332,391	329,981	317,008	313,407	300,010	
9	(135,719)	(152,984)	(146,538)	(249,369)	(188,583)	(180,834)	(201,471)	(186,117)	(175,095)	(160,262)	
10	(6,711)	(12,172)	(19,005)	(19,612)	(20,235)	(17,018)	0	0	0	0	
11	37	24	27	41	31	55	0	0	0	0	
12	92,212	99,146	108,289	113,650	123,419	130,194	129,510	131,891	137,009	140,848	
	3.81%	7.52%	9.22%	4.95%	8.60%	5.49%	-0.53%	1.84%	3.88%	2.80%	
Depreciation/Amortization											
13	24,877	23,076	23,969	25,008	25,158	25,680	23,284	23,715	24,947	26,676	
14	11,333	15,611	16,809	17,985	19,240	20,749	22,303	23,794	25,379	27,819	
15	6,739	7,187	7,688	9,277	10,906	12,517	14,721	16,947	21,503	23,877	
16	42,949	45,874	48,466	52,270	55,304	58,946	60,308	64,456	71,829	78,372	
	2.72%	6.81%	5.65%	7.85%	8.80%	6.59%	2.31%	6.88%	11.44%	9.11%	
Exclude Adder Schedule excise taxes (DSM Tariff Rider and Residential Exchange Credit) from Taxes Other Than Income Tax											
20	8,319	8,146	9,014	9,955	10,846	11,456	12,913	12,828	14,133	14,654	
21	16,156	17,416	18,216	20,029	22,459	22,699	23,809	25,821	27,448	27,287	
22	(9)	(3)	(3)	2	0	(4)	0	0	0	0	
23	24,466	25,559	27,227	29,986	33,305	34,151	36,722	38,649	41,581	41,941	
24	(269)	(488)	(762)	(787)	(812)	(683)	0	0	0	0	
25	225	144	162	252	186	336	0	0	0	0	
26	24,422	25,215	26,626	29,451	32,680	33,805	36,722	38,649	41,581	41,941	
	-3.93%	3.25%	5.60%	10.61%	10.96%	3.44%	8.63%	5.25%	7.59%	0.87%	(1) Planned (Per Rate Period Study)
27	870,835	917,247	987,243	1,036,064	1,087,140	1,131,570	1,195,010	1,214,504	1,271,626	1,375,685	
											2018 2019 2020
											1,539,337 1,574,348 1,634,379

ANNUAL GROWTH RATES

Line No.	Electric K-Factor Growth Rate Analysis							Rate Year 1		Rate Years 2 & 3		
Compound Growth Rates to 2016												
	2007-2016	2008-2016	2009-2016	2010-2016	2011-2016	2012-2016	2013-2016	2018-2020				
1	4.82%	4.49%	3.83%	3.64%	2.68%	1.99%	2.84%	2.55%	10% efficiency deduction (1)			
2		6.91%	6.92%	7.11%	6.98%	7.22%	7.38%	9.13%				
3		6.19%	6.57%	6.71%	6.07%	5.12%	5.54%	4.53%				
4		5.21%	5.20%	4.85%	4.84%	4.82%	5.00%	4.81%	3.04%	(2)		
Portion							2013-2016	2018-2020				
5	20.05%	1.39%	1.39%	1.43%	1.40%	1.45%	1.48%	1.83%				
6	35.74%	1.72%	1.60%	1.37%	1.30%	0.96%	0.71%	1.01%	10% Eff Adjustment			
7	9.82%	0.61%	0.64%	0.66%	0.60%	0.50%	0.54%	0.44%				
8	34.40%	1.79%	1.79%	1.67%	1.66%	1.66%	1.72%	1.65%	Rate Base Reduction (1)			
9		-1.02%	-1.02%	-1.02%	-1.02%	-1.02%	-1.02%	-1.02%				
10		4.49%	4.40%	4.10%	3.94%	3.55%	3.43%	3.92%				

(1) This efficiency adjustment is on top of the already reduced O&M growth in 2017 and beyond compared to past planned growth in O&M. As noted in the Company's prior 2016 case (Docket UE-160226, Exhibit No. (EMA-1T), page 35, line 2, the previous growth trend in O&M per the Company's forecast from 2015 to 2017 had expected to be 4.24% annually for electric operations. The Company has recently reduced its expected O&M annual increases for the period 2017-2020 to 2.71% annually, a significant reduction, and one more in-line with recent years 2013-2016 average growth of 2.84% for electric operations.

(2) Reduction in net plant compared to previous years trend warrants a growth rate reduction for the 2-Year period 2019-2020. This is based on planned transfers to plant and impacts of A/D & ADFFIT for those years. Reductions in net plant in 2019 and 2020 results from: 1) timing of transfers to plant (less in 2019-2020); 2) the continuing impact of repairs and bonus depreciation on ADFFIT through 2020; and 3) carrying forward A/D on all plant from December 31, 2016 on an AMA basis to each rate year, increases A/D, reducing the net plant adjustment amount in each year.

K-Factor Study
(Electric)

AVISTA UTILITIES
WASHINGTON ELECTRIC RESULTS
K-FACTOR PRO FORMA STUDY
TWELVE MONTHS ENDED DECEMBER 31, 2016
(000'S OF DOLLARS)

Remove
Authorized
Power Supply

PROVIDED FOR INFORMATIONAL PURPOSES ONLY

Line No.	DESCRIPTION	Non-Energy Pro Forma Sub-Total	Remove Authorized Power Supply	Pro Forma Excluding PS Total
	Adjustment Number Workpaper Reference	PF-SubTtl	Remove	PF-Ttl
REVENUES				
1	Total General Business	\$491,188	(\$92,915)	\$398,273
2	Interdepartmental Sales	946	-	946
3	Sales for Resale	57,325	(57,325)	-
4	Total Sales of Electricity	549,459	(150,240)	399,219
5	Other Revenue	13,300	(10,225)	3,075
6	Total Electric Revenue	562,759	(160,465)	402,294
EXPENSES				
Production and Transmission				
7	Operating Expenses	135,745	(78,962)	56,783
8	Purchased Power	77,131	(77,131)	-
9	Depreciation/Amortization	26,806	-	26,806
10	Regulatory Amortization	3,312	-	3,312
11	Taxes	16,568	-	16,568
12	Total Production & Transmission	259,562	(156,093)	103,469
Distribution				
13	Operating Expenses	22,477	-	22,477
14	Depreciation/Amortization	27,739	-	27,739
15	Regulatory Amortization	-	-	-
16	Taxes	27,784	(\$3,575)	24,209
17	Total Distribution	78,000	(\$3,575)	74,425
18	Customer Accounting	13,294	(\$611)	12,683
19	Customer Service & Information	1,430	\$0	1,430
20	Sales Expenses	-	\$0	-
Administrative & General				
21	Operating Expenses	50,828	(\$186)	50,642
22	Depreciation/Amortization	26,174	-	26,174
23	Taxes	-	-	-
24	Total Admin. & General	77,002	(186)	76,816
25	Total Electric Expenses	429,288	(160,465)	268,823
26	OPERATING INCOME BEFORE FIT	133,471	0	133,471
FEDERAL INCOME TAX				
27	Current Accrual	(33,395)	0	(33,395)
28	Debt Interest	(277)	-	(277)
29	Deferred Income Taxes	67,191	-	67,191
30	Amortized ITC - Noxon	(326)	-	(326)
31	NET OPERATING INCOME	100,278	0	100,278
RATE BASE				
PLANT IN SERVICE				
32	Intangible	\$166,376	\$0	\$166,376
33	Production	839,722	-	839,722
34	Transmission	430,613	-	430,613
35	Distribution	997,664	-	997,664
36	General	233,266	-	233,266
37	Total Plant in Service	2,667,641	-	2,667,641
ACCUMULATED DEPRECIATION/AMORT				
38	Intangible	(32,006)	-	(32,006)
39	Production	(\$351,720)	-	(\$351,720)
40	Transmission	(135,624)	-	(135,624)
41	Distribution	(295,710)	-	(295,710)
42	General	(80,093)	-	(80,093)
43	Total Accumulated Depreciation	(895,153)	-	(895,153)
44	NET PLANT	1,772,488	-	1,772,488
45	DEFERRED TAXES	(361,893)	-	(361,893)
46	Net Plant After DFIT	1,410,595	-	1,410,595
47	DEFERRED DEBITS AND CREDITS & OTHER	(778)	-	(778)
48	WORKING CAPITAL	62,474	-	62,474
49	TOTAL RATE BASE	1,472,291	\$0	1,472,291
50	RATE OF RETURN			
51	REVENUE REQUIREMENT	20,892	(0)	20,892
		Pro Forma Non-Energy		Ttl Pro Forma w/ PS

Authorized ROR

Component	Capital Structure	Cost	Weighted Cost	Tax	Tax on equity return
Total Debt	51.5%	5.20%	2.68%		
Common	48.5%	9.50%	4.61%	53.85%	2.48%
Total	100.00%		7.29%		
			2.48%		
			9.77%		

	Revenue on CB Less PS*	Portion of Total	2013-2016 Growth Rate	2018-2020 Growth Rate
Depreciation	78,373	20.05%	9.13%	
O&M	139,675	35.74%	2.84%	2.56%
Taxes OTI	38,366	9.82%	4.53%	
Net Plant After ADFIT	1,410,595	34.40%	4.81%	3.04%
(RB*9.77%)		100.00%		

Non PS Revenue \$ 390,850 Non-ERM revenues (1)

*includes revenue related expenses

Revenues Growth: (Per Adj. 18.06 w/ps - 2.333 years from 2016 to 04.30.2019)

	Annual
\$ 9,356	\$ 4,010

	Rate Year 1 K-Factor 2017-2018	Rate Years 2 & 3 K-Factor 2019-2020
Depreciation	1.83%	1.83%
O&M	1.01%	0.91%
Taxes OTI	0.44%	0.44%
Net Plant After ADFIT	1.65%	1.05%
Revenues	-1.03%	-1.03%
	3.92%	3.21%

	3.92%	3.92%	3.21%	3.21%	
	K-Factor	K-Factor (1/3)	K-Factor	K-Factor	
	2018	1/3 2019	5/1/2018	5/1/2019	5/1/2020
	16,135	5,583	42,610	13,907	14,353
					70,871

PS Pro Form \$16,609
\$87,480

1 **Exh. EMA-4 – Electric K-Factor Study**

2 **Q. Please explain the purpose of the electric K-Factor Study.**

3 A. The Company's electric K-Factor Study was produced to provide additional
4 evidence demonstrating Avista's need for rate relief during the Three-Year Rate Plan. The
5 electric K-Factor Study includes the results of determining Avista's revenue requirement
6 need over the Three-Year Rate Plan, based on 2016 restated Commission Basis results and
7 applying an annual revenue escalator (K-Factor) for a multi-year period to determine the
8 revenue adjustments. The results of this Study for Rate Year 1 is \$58.1 million, effective
9 May 1, 2018; \$13.9 million for Rate Year 2, effective May 1, 2019; and \$14.3 million for
10 Rate Year 3, effective May 1, 2020.

11 This Study also provides the calculation of the K-Factor used to determine the
12 revenue requirement requested in this case for Years 2 and 3, as discussed in Exh. EMA-
13 1T.

14 **Q. Please explain what is shown on page 1 of Exh. EMA-4.**

15 A. Page 1 of Exh. EMA-4, lines 1-3, column (a), first shows the revenue
16 requirement per the restated 2016 Commission Basis (CB) results¹ of \$4,330,000 and the
17 associated base increase of 0.88%. Column (b) shows the K-Factor Adjustments, in
18 addition to the restated CB adjustment, totaling \$37,112,000 (7.54%). Column (c) is the
19 total of columns (a) and (b), of \$41,442,000, reflecting the base revenue increase beginning
20 May 1, 2018 per the K-Factor Study, or 8.42%. This balance does not include the Pro Forma
21 Power Supply increase of \$16,609,000 (3.37%), shown in column (d). Column (e) shows

¹ This level of revenue requirement includes the impact of the K-Factor cost of capital included of 48.5% equity/51.5% debt, cost of debt of 5.62% and overall return of 7.69%.

1 the overall revenue increase total of the CB, K-Factor and Pro Forma Power Supply
2 adjustments, for a total revenue requirement effective May 1, 2018 of \$58,051,000 or
3 11.79% base increase.

4 This page, at lines 6-8, also shows the effect on billed rates, per the K-Factor Study,
5 with the expiration of Schedule 93 (Power Cost Rate Adjustment (PCRA)) totaling \$14.976
6 million, resulting in a bill impact of \$43,075,000, or 8.42% on an overall billed basis (net
7 of the expiration of Schedule 93).²

8 Lastly, page 1, lines 9-12 provides the incremental revenue increases for Rate Years
9 2 and 3. Rate Year 2 revenue increase, effective May 1, 2019 is \$13.9 million or 2.51% on
10 a billed basis. Rate Year 3 revenue increase, effective May 1, 2020 is \$14.3 million or
11 2.52% on a billed basis.

12 **Q. Please explain what is shown on pages 2 and 3 of Exh. EMA-4.**

13 A. Page 2 of Exh, EMA-4, shows the Cost of Capital and Capital Structure
14 included in the K-Factor Study, including: 1) 48.5% Common Equity / 51.5% Debt capital
15 structure; 2) Return on Equity of 9.9%; and 3) cost of debt of 5.62%, resulting in an overall
16 Rate of Return (weighted average cost of capital) of 7.69%. Company witness Mr. Thies
17 discusses the Company's rate of return and the capital structure, while Company witness
18 Mr. McKenzie provides additional testimony related to the appropriate return on equity for
19 Avista.

20 Page 3 of Exh. EMA-4, shows the derivation of the electric net-operating-income-
21 to-gross-revenue conversion factor. The conversion factor takes into account uncollectible

² The overall electric K-Factor revenue requirement includes \$16.6 million of increased power supply costs. If the proposed \$15.0 million Power Supply Rate Adjustment is approved effective September 1, 2017, the total revenue requirement amount would be offset by the \$15.0 million on a billed basis.

1 accounts receivable, Commission fees and Washington State excise taxes. Federal income
2 taxes are reflected at 35%.

3 **Q. Now turning to pages 4 through 6 of Exh. EMA-4, please explain what**
4 **is included on those pages?**

5 A. Page 4 begins with actual operating results and rate base for the twelve-
6 months-ending December 31, 2016 test period on an AMA basis in column (1.00).
7 Individual normalizing and restating adjustments that are standard components of our
8 annual reporting to the Commission begin in column (1.01) on page 4 and continue through
9 column (2.18) on page 6.³ The last column on page 6, labeled “Restated Total” is the
10 subtotal of the previous columns (1.00) through (2.18), and produces the 2016 restated
11 Commission Basis net operating income (NOI), total rate base, and revenue requirement
12 totaling \$4,330,000.

13 **Q. Turning to page 7, please explain the two final columns shown there.**

14 A. The first column on page 7, labeled **Remove Authorized Power Supply**, is
15 the adjustment necessary to remove total current authorized power supply revenues and
16 expenses. Removing this adjustment results in the final column (NE-Total), **Non-Energy**
17 **Restated Total**, representing the total electric normalized 2016 non-ERM restated CB
18 results.

19 For Rate Year 1, the normalized 2016 non-ERM revenues are multiplied by the
20 proposed K-Factor (discussed below) for each year between 2016 and Rate Year 1 (from
21 2016 through the first rate year beginning May 1, 2018). For Rate Years 2 & 3, the annual

³ The individual adjustments and descriptions for the restating adjustments as shown in Exh. EMA-4, pages 4-6, are consistent with those described at Exh. EMA-2, and therefore will not be repeated here.

1 K-Factor is applied to the non-ERM revenues at the time Year 2 and Year 3 rate changes
2 go into effect.

3 The calculation of the K-Factor is discussed in Exh. EMA-1T, provided at page 7
4 of Exh. EMA-4, and discussed further below.

5 **Q. Before explaining the calculation of the K-Factor, please explain what**
6 **is shown on pages 8 -9 of Exh. EMA-4.**

7 A. Page 8 provides data from the annual normalized Commission Basis
8 Reports, showing Washington electric expenses and rate base for the periods 2007 through
9 2016. Years 2007 through 2012 are provided for informational purposes. Years 2013
10 through 2016 are used to analyze the K-Factor annual growth rates of the four rate base
11 and expense categories used in the K-Factor revenue escalator.

12 Page 9 shows the development of electric adjusted data and balances for the period
13 2007 through 2016. Again, Years 2007 through 2012 are provided for informational
14 purposes. Years 2013 through 2016 are used to determine of the four rate base and expense
15 categories used in the K-Factor revenue escalator provided on page 9.

16 The K-Factor revenue escalator is applied to non-energy costs only. Therefore it is
17 necessary to remove the energy-related costs and revenues from the historical data. The
18 Washington share of the normalized power supply costs and revenues from each year's
19 Commission Basis Report (CBR) filing are deducted from the O&M in the historical
20 reports. Similarly, adder schedule revenues and related expenses such as the DSM Tariff
21 Rider and the Residential Exchange Credit that were included in the CBRs are also
22 deducted from the historical results to create equivalent values for our trend analysis.

1 Results are presented for the four aggregated K-Factor categories: Operating
2 Expenses; Depreciation Expense; Taxes Other Than Income Tax; and Net Plant After
3 Deferred Income tax.

4 At the bottom of page 9, are the compound growth rates for each K-Factor
5 escalation category, using the growth rates on page 9. The growth change by category for
6 the period 2013 through 2016 is used as the basis for the K-Factor for Rate Year 1.

7 In addition to the compound growth rates shown on page 9, are the percentage
8 proportion of each non-ERM revenue requirement category, based on the 2016 restated
9 commission basis balances, included in the K-Factor calculation. The revenue proportion
10 by category is determined on page 7 of Exh. EMA-4.

11

12 **K-Factor Calculation:**

13 **Q. Returning to Page 7, of Exh. EMA-4, please discuss the data available**
14 **there.**

15 A. Provided on page 7 are the total electric normalized 2016 non-ERM restated
16 Commission Basis (CB) results. These data provide the CB expenses and plant related data
17 grouped in the following categories: 1) net plant after ADFIT; 2) depreciation expense; 3)
18 taxes other than income expense (mainly property taxes); and 4) all other operating
19 expenses, including O&M, customer service, and administrative and general expenses.
20 The proportion of revenue to cover each of these categories is used to determine the
21 percentage or proportion of each category to apply to the individual growth factors of the
22 same category discussed below.

1 Annual Sales Revenues for the period is also provided here, representing the
2 offsetting annual revenue included within the overall K-Factor calculation.

3 **Q. Please discuss the purpose of the K-Factor and the calculation of the K-**
4 **Factor for Rate Year 1.**

5 A. The K-Factor represents a weighted average revenue escalation factor based
6 on the percentage of non-ERM revenue requirements for the four categories discussed
7 above: 1) net plant after ADFIT; 2) depreciation expense; 3) taxes other than income
8 expense; and 4) O&M expense. The result of the weighted average components are then
9 offset by the growth in sales to customers (revenue) between the 2016 test year and Rate
10 Year 1.

11 The calculation of the Rate Year 1 K-Factor is provided below in Table No. 1
12 including: a) individual K-Factor category “Growth Rate” result; b) “Revenue Portion of
13 Category,” providing the proportion of revenue for each category to cover its cost versus
14 the total non-gas cost revenue amount (excluding gas cost related revenues and expenses);
15 and c) “K-Factor %,” which is the calculated K-Factor result for each category determined
16 by multiplying a) times b). Also provided are the “Annual Growth In Sales Revenues,”
17 representing the offsetting annual revenue reducing the K-Factor. The K-Factor percentage
18 result for Rate Year 1 is 3.92%.

Table No. 1

K-Factor Calculation - Rate Year 1:	(a)	(b)	(c)
Category	Growth Rate 2013-2016	Revenue Portion of Category	K-Factor % (a) x (b)
Operating Expenses	2.84%	35.74%	1.01%
Depreciation/Amortization⁽¹⁾	9.13%	20.05%	1.83%
Taxes Other than Income	4.53%	9.82%	0.44%
Net Plant After ADFIT	4.81%	<u>34.40%</u>	1.65%
Annual Growth In Sales Revenue		100.00%	-1.02%
Total K-Factor %			3.92%
See Exh. EMA- 4, page 9 for growth rates and page 7 for revenue proportion and annual growth in sales revenue.			
⁽¹⁾ The growth rate in depreciation/amortization expense is primarily driven by shorter-lived assets representing a higher proportion of investment in recent years.			

Q. Please explain the K-Factor calculation for Rate Years 2 and 3.

A. For Rate Years 2 and 3, as explained in Exh. EMA-1T, the company discounted the growth rate for O&M expenses and net plant after ADFIT components to calculate the K-Factor revenue escalator for Rate Years 2 and 3.

For the O&M category, Avista has included an additional 10% “efficiency adjustment,” reducing the electric O&M growth percentage from 2.84% included in the Rate Year 1 K-Factor to 2.55% for the K-Factor used in Rate Years 2 and 3.

For the net plant after ADFIT (Net Plant) category, the Company discounted the growth in Net Plant, reducing the growth rate from 4.81% to 3.04%. During the process of reviewing the Company’s Net Plant included in its electric Rate Year Study, it came to the Company’s attention that a reduction in the growth rate of Net Plant is expected to occur in years 2019 and 2020. This reduction in Net Plant between 2018 and 2020 was

1 determined based on planned transfers to plant and the impacts of A/D and ADFIT, as
 2 explained by Company witness Ms. Schuh.

3 Table No. 2 below shows the discounted K-Factor calculation for Rate Years 2 and
 4 3 of 3.21%.⁴

5 **Table No. 2**

K-Factor Calculation - Rate Year 2 & 3				
	(a)	(b)	(c)	(d)
			Revenue	
Category	Growth Rate 2013-2016	Growth Rate 2018-2020	Portion of Category	K-Factor % (a) x (b)
Operating Expenses*		2.55%	35.74%	0.91%
Depreciation/Amortization	9.13%		20.05%	1.83%
Taxes Other than Income	4.53%		9.82%	0.44%
Net Plant After ADFIT		3.04%	34.40%	1.05%
Annual Growth In Sales Revenue*			100.00%	-1.02%
Total K-Factor %				3.21%
See Exh. EMA- 4, page 9 for growth rates and page 7 for revenue proportion and annual growth in sales revenue.				
Reflects a 10% efficiency adjustment in O&M expenses and decreases in the growth in net plant after ADFIT in 2019 and 2020.				

13 **Q. Please explain the final page, page 10, of Exh. EMA-4.**

14 A. The final page of Exh. EMA-4, page 10 is provided for informational
 15 purposes only. As explained in Exh. EMA-1T, in Order 06 in Dockets UE-160228 and
 16 UG-160229, the Commission stated a Company’s requested rate relief should start with its
 17 Traditional Pro Forma Study results. This page is provided to shows the results of applying
 18 the K-Factors for Years 1 through 3 of the Rate Plan, if the starting point of applying the
 19 K-Factor was to Pro Forma level adjusted revenues, rather than the restated Commission
 20 Basis revenue levels.

⁴ As discussed in Exh. EMA-1T and Exh. EMA- 3, this Year 2 and 3 K-Factor of 3.21% is used within the electric EOP Rate Base Study to determine the revenue requirement requested in Rate Year 2, effective May 1, 2019 and Rate Year 3, effective May 1, 2020.

1 To perform this analysis the Company has included the pro forma level information
2 (prior to including pro forma power supply costs – column “Non-Energy Pro Forma Sub-
3 total”) from page 8 of Exh. EMA-2 (electric Traditional Pro Forma Study). Authorized
4 Power Supply revenues and expenses were excluded, producing “Pro Forma Excluding PS
5 Total” results. The K-Factors are then applied to the pro forma revenue results to determine
6 Rate Years 1 – 3, similar to that discussed using the Commission Basis level of revenues.

7 Because the Traditional Pro Forma Study already pro forms some costs beyond the
8 2016 historical test period to 2017 and others to 2018, certain costs in Rate Year 1 would
9 be understated, while other costs may be overstated. Using the Traditional Pro Forma
10 results as the starting point to apply the K-Factor does not provide a “matching of revenues
11 and costs,” and is therefore, not the “proper” starting place in which to apply the K-Factor.
12 Whereas, annual Commission Basis results do provide a matching of revenues with costs
13 as a starting point.