NW Natural
Determination of Cost of Service
Schedule 10 Rates Effective November 1 2021 per UG 200994

Cost of Capital	% of Capital	Cost	Weighted Cost
Debt	[redacted]		
Preferred Equity			
Common Equity			
	100.000%		6.814% -> Per UG-200994.
State ax Rate			0.000%
Federal ax Rate			21.000%
Revenue Sensitive Rate (held to franchise rate reg com fee)			4.050%
Depreciation Rate			4.762% -> 21 yea dep ec ot on ate pe account ng
Property ax Rate			0.000%
Incremental O&M			0.0
Inflation Rate			0.000%
Bonus ax Depreciation toggled (1 = yes 2 = no)			2
Investment		250	$ 237.09

Model	Cost	Rate
250	$ 237.09	$ 1.98
630	$ 676.45	$ 5.64
1000	$ 1 161.02	$ 9.69
1.5M175/15C175	$ 3 117.15	$ 26.01
3M175	$ 3 364.32	$ 28.07
5M175	$ 3 785.98	$ 31.59
7M175	$ 3 889.41	$ 32.45
11M175	$ 6 025.73	$ 50.28
16M175	$ 7 809.05	$ 65.15
23M175	$ 21 697.32	$ 181.03
38M175	$ 28 736.80	$ 239.76

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21
1	Depreciation	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
2	O&M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Property axes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	axes on Equity Return																					
4	State	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Federal	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	0	0	0	0
6	otal axes	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	0	0	0	0
	Return on Rate Base																					
7	Debt	5	5	5	4	4	4	4	3	3	3	3	2	2	2	2	1	1	1	1	0	0
8	Preferred Equity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Common Equity	11	10	9	9	8	8	7	7	6	6	5	5	4	4	3	3	2	2	1	1	0
10	otal Return	16	15	14	13	13	12	11	10	9	9	8	7	6	6	5	4	3	3	2	1	0
11	Subtotal Cost of Service	30	29	28	27	26	25	24	23	22	21	21	20	19	18	17	16	15	14	13	13	12
12	Revenue Sensitive Items	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
13	otal Cost of Service	$31	$30	$29	$28	$27	$26	$25	$24	$23	$22	$21	$21	$20	$19	$18	$17	$16	$15	$14	$13	$12
	otal COS NPV	$261.11																				
	Annual Payment (Rental)	($23.74)																				
	Monthly Payment (Rental Rate)	($1.98)																				
14	Annual Cost of Service as % of Investment	13.14%	12.73%	12.29%	11.86%	11.44%	11.03%	10.63%	10.23%	9.84%	9.44%	9.05%	8.66%	8.27%	7.87%	7.48%	7.09%	6.69%	6.30%	5.91%	5.51%	5.14%
	Rate Base net of deprec & def tax	$232	$220	$208	$196	$184	$172	$161	$149	$138	$127	$116	$105	$94	$82	$71	$60	$49	$38	$27	$16	$5
	Income axes																					
	Gross up of Equity Return	13	13	12	11	11	0	9	9	8	7	7	6	5	5	4	3	3	2	2	1	0
	Less: State tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Federal axable Income	13	13	12	11	11	0	9	9	8	7	7	6	5	5	4	3	3	2	2	1	0
	Less: Federal ax	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	0	0	0	0
	Return	11	10	9	9	8	8	7	7	6	6	5	5	4	4	3	3	2	2	1	1	0
	Deferred axes																					
	Book Depreciation	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
	ax Depreciation	9	17	16	15	14	13	12	11	11	11	11	11	11	11	11	11	11	11	11	11	5
	Book ax Difference	(2)	6	5	3	2	1	0	( )	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(6)
	ax Effect	(1)	1	1	1	0	0	0	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)
	MACRS Depreciation 20	3.75%	7 22%	6.68%	6.18%	5.71%	5.29%	.89%	.52%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	2.23%
		$231 <-- CHECK																				
	Property ax Base	$231	$220	$209	$198	$186	$175	$164	$152	$141	$130	$119	$107	$96	$85	$73	$62	$51	$40	$28	$17	$6
	ax Calculation Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MACRS Depreciation 20	3.75%	7 22%	6.68%	6.18%	5.71%	5.29%	.89%	.52%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	. 6%	2.23%
	MACRS Depreciation 20 BONUS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

21.0% -> Combined weighted State / Fed tax rate.
79.0%

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Input Capital Costs and Rates

Cost of Capital	% of Capital	Cost	Weighted Cost	
Debt	[redacted]			
Preferred Equity				
Common Equity				
	100.000%		6.814%	-> Per UG-200994.
State Tax Rate			0.000%	
Federal Tax Rate			21.000%	
Revenue Sensitive Rate (held to franchise rate/reg com fee)			4.050%	
Depreciation Rate			6.667%	-> 15 yea dep ec at on ate pe account ng dep ec at on fo mete sets
Property Tax Rate			0.000%	
Incremental O&M			0.0	
Inflation Rate			0.000%	
Bonus Tax Depreciation toggled (1 yes, 2 no)			2	
Investment			$ 3,060.20	

	Cost	Rate	
AAMR Capital	$ 3 060	$ 30.05	Meter Only
AAMR Communication	n/a	$ 18.00	Cellular Data Plan (per Mo)
		$ 48.05	**Total AAMR Monthly Tariff Charge**

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
1	Depreciation	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204
2	O&M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Property Taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Taxes on Equity Return															
4	State	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Federal	36	33	31	28	26	23	21	18	16	14	11	9	6	4	1
6	Total Taxes	36	33	31	28	26	23	21	18	16	14	11	9	6	4	1
	Return on Rate Base															
7	Debt	67	62	57	52	48	43	38	34	30	25	21	16	12	7	3
8	Preferred Equity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Common Equity	135	126	116	106	96	87	78	69	60	51	42	33	24	14	5
10	Total Return	202	188	173	158	144	130	117	103	89	76	62	49	35	22	8
11	Subtotal Cost of Service	442	425	408	391	374	357	341	325	309	293	277	261	245	230	214
12	Revenue Sensitive tems	19	18	17	16	16	15	14	14	13	12	12	11	10	10	9
13	Total Cost of Service	$461	$443	$425	$407	$390	$373	$356	$339	$322	$306	$289	$273	$256	$239	$223
	Total COS NPV	$3 322.90														
	Annual Payment (Rental)	($360.56)														
	Monthly Payment (Rental Rate)	($30.05)														
14	Annual Cost of Service as % of Investment	15.05%	14.48%	13.88%	13.30%	12.73%	12.17%	11.63%	11.08%	10.54%	9.99%	9.45%	8.91%	8.36%	7.82%	7.27%
	Rate Base net of deprec. & def. tax	$2 964	$2 756	$2 537	$2 323	$2 115	$1 912	$1 711	$1 512	$1 313	$1 114	$915	$716	$517	$318	$119
	Income Taxes															
	Gross up of Equity Return	171	159	147	134	122	110	99	87	76	64	53	41	30	18	7
	Less: State tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Federal Taxable Income	171	159	147	134	122	110	99	87	76	64	53	41	30	18	7
	Less: Federal Tax	36	33	31	28	26	23	21	18	16	14	11	9	6	4	1
	Return	135	126	116	106	97	87	78	69	60	51	42	33	24	15	5
	Deferred Taxes															
	Book Depreciation	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204
	Tax Depreciation	153	291	262	236	212	191	181	181	181	181	181	181	181	181	181
	Book Tax Difference	(51)	87	58	32	8	(13)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)
	Tax Effect	(11)	18	12	7	2	(3)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
	MACRS Depreciation 15	5.00%	9.50%	8.55%	7.70%	6.93%	6.23%	5.90%	5.90%	5.91%	5.90%	5.91%	5.90%	5.91%	5.90%	5.91%
		$2 958 <-- CHECK														
	Property Tax Base	$2 958	$2 754	$2 550	$2 346	$2 142	$1 938	$1 734	$1 530	$1 326	$1 122	$918	$714	$510	$306	$102
	Tax Calculation Check	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MACRS Depreciation 15	5.00%	9.50%	8.55%	7.70%	6.93%	6.23%	5.90%	5.90%	5.91%	5.90%	5.91%	5.90%	5.91%	5.90%	5.91%
	MACRS Depreciation 15 Bonus	52.50%	4.75%	4.28%	3.85%	3.47%	3.12%	2.95%	2.95%	2.96%	2.95%	2.96%	2.95%	2.96%	2.95%	2.96%

21.0% -> Combined weighted State / Fed tax rate.
79.0%