

NW Natural's ECRM Annual Tariff Adjustment Filing
and 2022 Annual Report

Exhibit C

REPLACEMENT Rates Calculation Schedules –
replacing pages 1-2 of original July 14, 2023 filing

September 18, 2023

NW Natural
 Rates & Regulatory Affairs
 2023-2024 ERM Filing - Washington
 Calculation of Increments Allocated on the EQUAL PERCENTAGE OF MARGIN BASIS

Line	Schedule	Block	PGA Volumes	Current Billing Rate 11/1/2022	Current WACOG & Demand Rate 11/1/2022	Current Temporary Rate 11/1/2022	MARGIN Rate	Volumetric Margin	Customer Charge	Customers	Total Margin	ECRM		
												Proposed Amount:	\$27,140	Allocated to Rate Schedules
												Revenue Sensitive Multiplier:	4.357%	add revenue sensitive factor
												Amount to Amortize:	\$28,377	All Customers
												Multiplier	Allocation to RS	Increment
												S	T	U
												I = (G*H*12)÷F		
6	1R	n/a	318,916	\$ 1,591.90	\$ 0.55668	\$ 0.19500	\$ 0.84022	\$ 267,960	\$ 5.50	1,679	\$378,774	1.0	\$176	0.00055
7	1C	n/a	22,569	\$ 1.60601	\$ 0.55668	\$ 0.18173	\$ 0.86760	\$ 19,581	\$ 7.00	37	\$22,689	1.0	\$11	0.00049
8	2R	n/a	60,471,175	\$ 1.28016	\$ 0.55668	\$ 0.16172	\$ 0.56176	\$ 39,970,287	\$ 8.00	87,552	\$42,375,279	1.0	\$19,718	0.00033
9	3 CFS	n/a	19,986,400	\$ 1.25038	\$ 0.55668	\$ 0.15700	\$ 0.53670	\$ 10,726,701	\$ 22.00	6,684	\$12,491,277	1.0	\$5,812	0.00029
10	3 FS	n/a	27,642	\$ 1.22899	\$ 0.55668	\$ 0.12557	\$ 0.54674	\$ 151,798	\$ 22.00	19	\$156,814	1.0	\$73	0.00026
11	2TR	n/a	80,870	\$ 1.02062	\$ 0.55668	\$ 0.14933	\$ 0.21461	\$ 25,442	\$ 9.00	295	\$57,302	1.0	\$27	0.00033
12	41C Firm Sales	Block 1	1,570,103	\$ 1.03667	\$ 0.46972	\$ 0.14834	\$ 0.41861	\$ 1,441,762	\$ 250.00	83	\$1,690,762	1.0	\$787	0.00023
13		Block 2	2,126,827	\$ 0.98320	\$ 0.46972	\$ 0.14462	\$ 0.36886					1.0		0.00020
14	41I Firm Sales	Block 1	405,389	\$ 0.96687	\$ 0.46972	\$ 0.12513	\$ 0.37202	\$ 414,086	\$ 250.00	22	\$480,086	1.0	\$223	0.00020
15		Block 2	803,153	\$ 0.92170	\$ 0.46972	\$ 0.12418	\$ 0.32780					1.0		0.00018
16	41C Interr Sales	Block 1	-	\$ 1.01490	\$ 0.46972	\$ 0.14696	\$ 0.39822	\$ -	\$ 250.00	-	\$0	1.0	\$0	0.00013
17		Block 2	-	\$ 0.96393	\$ 0.46972	\$ 0.14335	\$ 0.35086					1.0		0.00020
18	41I Interr Sales	Block 1	-	\$ 0.95740	\$ 0.46972	\$ 0.12428	\$ 0.36340	\$ -	\$ 250.00	-	\$0	1.0	\$0	0.00021
19		Block 2	-	\$ 0.91323	\$ 0.46972	\$ 0.12334	\$ 0.32017					1.0		0.00018
20	41C Firm Transp	Block 1	148,853	\$ 0.38083	\$ -	\$ 0.00194	\$ 0.37889	\$ 156,160	\$ 500.00	8	\$204,160	1.0	\$95	0.00023
21		Block 2	298,848	\$ 0.33522	\$ -	\$ 0.00170	\$ 0.32382					1.0		0.00020
22	41I Firm Transp	Block 1	-	\$ 0.37098	\$ -	\$ 0.00317	\$ 0.36781	\$ -	\$ 500.00	-	\$0	1.0	\$0	0.00021
23		Block 2	-	\$ 0.32687	\$ -	\$ 0.00281	\$ 0.32406					1.0		0.00019
24	42C Firm Sales	Block 1	701,175	\$ 0.80750	\$ 0.46972	\$ 0.12969	\$ 0.20809	\$ 311,591	\$ 1,300.00	8	\$436,391	1.0	\$203	0.00014
25		Block 2	698,884	\$ 0.78434	\$ 0.46972	\$ 0.12836	\$ 0.18626					1.0		0.00012
26		Block 3	213,654	\$ 0.71831	\$ 0.46972	\$ 0.12573	\$ 0.14286					1.0		0.00009
27		Block 4	43,634	\$ 0.70801	\$ 0.46972	\$ 0.12401	\$ 0.11428					1.0		0.00007
28		Block 5	-	\$ 0.66761	\$ 0.46972	\$ 0.12171	\$ 0.07618					1.0		0.00005
29		Block 6	-	\$ 0.61709	\$ 0.46972	\$ 0.11881	\$ 0.02856					1.0		0.00002
30	42I Firm Sales	Block 1	1,266,148	\$ 0.75461	\$ 0.46972	\$ 0.11807	\$ 0.16682	\$ 359,183	\$ 1,300.00	10	\$515,183	1.0	\$240	0.00011
31		Block 2	871,827	\$ 0.73700	\$ 0.46972	\$ 0.11795	\$ 0.14913					1.0		0.00010
32		Block 3	146,523	\$ 0.70198	\$ 0.46972	\$ 0.11775	\$ 0.11451					1.0		0.00008
33		Block 4	10,867	\$ 0.67895	\$ 0.46972	\$ 0.11762	\$ 0.09161					1.0		0.00006
34		Block 5	-	\$ 0.64824	\$ 0.46972	\$ 0.11743	\$ 0.06109					1.0		0.00004
35		Block 6	-	\$ 0.60982	\$ 0.46972	\$ 0.11721	\$ 0.02289					1.0		0.00002
36	42C Firm Transp	Block 1	217,853	\$ 0.15376	\$ -	\$ (0.00130)	\$ 0.15506	\$ 197,297	\$ 1,550.00	2	\$234,497	1.0	\$109	0.00009
37		Block 2	435,705	\$ 0.13764	\$ -	\$ (0.00116)	\$ 0.13880					1.0		0.00008
38		Block 3	435,705	\$ 0.10553	\$ -	\$ (0.00090)	\$ 0.10643					1.0		0.00006
39		Block 4	665,436	\$ 0.08445	\$ -	\$ (0.00071)	\$ 0.08516					1.0		0.00005
40		Block 5	-	\$ 0.05629	\$ -	\$ (0.00048)	\$ 0.05677					1.0		0.00003
41		Block 6	-	\$ 0.02111	\$ -	\$ (0.00017)	\$ 0.02128					1.0		0.00001
42	42I Firm Transp	Block 1	840,318	\$ 0.15086	\$ -	\$ (0.00118)	\$ 0.15204	\$ 650,073	\$ 1,550.00	8	\$798,873	1.0	\$372	0.00009
43		Block 2	1,062,417	\$ 0.13503	\$ -	\$ (0.00106)	\$ 0.13609					1.0		0.00008
44		Block 3	936,547	\$ 0.10354	\$ -	\$ (0.00082)	\$ 0.10436					1.0		0.00006
45		Block 4	2,527,103	\$ 0.08283	\$ -	\$ (0.00066)	\$ 0.08349					1.0		0.00005
46		Block 5	1,239,686	\$ 0.05523	\$ -	\$ (0.00043)	\$ 0.05566					1.0		0.00003
47		Block 6	-	\$ 0.02071	\$ -	\$ (0.00016)	\$ 0.02087					1.0		0.00001
48	42C Interr Sales	Block 1	226,932	\$ 0.76839	\$ 0.46972	\$ 0.12880	\$ 0.16987	\$ 134,629	\$ 1,300.00	2	\$165,829	1.0	\$77	0.00010
49		Block 2	425,616	\$ 0.74928	\$ 0.46972	\$ 0.12750	\$ 0.15206					1.0		0.00009
50		Block 3	194,048	\$ 0.71125	\$ 0.46972	\$ 0.12494	\$ 0.11659					1.0		0.00007
51		Block 4	93,667	\$ 0.68621	\$ 0.46972	\$ 0.12322	\$ 0.09217					1.0		0.00005
52		Block 5	-	\$ 0.65288	\$ 0.46972	\$ 0.12096	\$ 0.06220					1.0		0.00004
53		Block 6	-	\$ 0.61118	\$ 0.46972	\$ 0.11813	\$ 0.02333					1.0		0.00001
54	42I Interr Sales	Block 1	128,853	\$ 0.75105	\$ 0.46972	\$ 0.11742	\$ 0.16391	\$ 34,484	\$ 1,300.00	1	\$50,084	1.0	\$23	0.00011
55		Block 2	91,079	\$ 0.73376	\$ 0.46972	\$ 0.11731	\$ 0.14673					1.0		0.00010
56		Block 3	-	\$ 0.69956	\$ 0.46972	\$ 0.11712	\$ 0.11252					1.0		0.00008
57		Block 4	-	\$ 0.67671	\$ 0.46972	\$ 0.11697	\$ 0.09002					1.0		0.00006
58		Block 5	-	\$ 0.64652	\$ 0.46972	\$ 0.11680	\$ 0.06000					1.0		0.00004
59		Block 6	-	\$ 0.60879	\$ 0.46972	\$ 0.11657	\$ 0.02250					1.0		0.00002
60	42C Interr Transp	Block 1	-	\$ 0.14295	\$ -	\$ 0.00126	\$ 0.14169	\$ -	\$ 1,550.00	-	\$0	1.0	\$0	0.00008
61		Block 2	-	\$ 0.12797	\$ -	\$ 0.00112	\$ 0.12685					1.0		0.00007
62		Block 3	-	\$ 0.09813	\$ -	\$ 0.00086	\$ 0.09727					1.0		0.00006
63		Block 4	-	\$ 0.07851	\$ -	\$ 0.00069	\$ 0.07782					1.0		0.00004
64		Block 5	-	\$ 0.05235	\$ -	\$ 0.00046	\$ 0.05189					1.0		0.00003
65		Block 6	-	\$ 0.02191	\$ -	\$ 0.00017	\$ 0.02194					1.0		0.00001
66	42I Interr Transp	Block 1	830,413	\$ 0.14372	\$ -	\$ (0.00094)	\$ 0.14466	\$ 739,329	\$ 1,550.00	10	\$925,329	1.0	\$431	0.00008
67		Block 2	1,522,701	\$ 0.12865	\$ -	\$ (0.00084)	\$ 0.12949					1.0		0.00008
68		Block 3	1,166,628	\$ 0.09865	\$ -	\$ (0.00064)	\$ 0.09929					1.0		0.00006
69		Block 4	2,984,749	\$ 0.07894	\$ -	\$ (0.00051)	\$ 0.07945					1.0		0.00005
70		Block 5	1,303,638	\$ 0.05263	\$ -	\$ (0.00034)	\$ 0.05297					1.0		0.00003
71		Block 6	-	\$ 0.01973	\$ -	\$ (0.00019)	\$ 0.01986					1.0		0.00001
72	43 Firm Transp	n/a	-	0	-	0	-	38,000	-	-	\$0	1.0	\$0	0.00003
73	43 Interr Transp	n/a	-	0	-	0	-	38,000	-	-	\$0	1.0	\$0	0.00001
74	Special Contract	n/a	-	-	-	-	-	-	-	-	-	-	-	-
75														
76														
77	Intentionally blank													
78														
79	Totals		107,792,550					\$49,600,363			\$60,983,329		\$28,377	
80														
81	Tariff Schedules:													
82	Schedule #												Sched 303	
83														
84	Note:													

84 Note: Allocation to rate schedules or blocks with zero volumes is calculated on an overall margin percentage change basis.

NW Natural
 Rates & Regulatory Affairs
 2023-2024 ECRM Filing - Washington
 Effects on Average Bill by Rate Schedule
 Calculation of Effect on Customer Average Bill by Rate Schedule [1]

		PGA	Therms in	Normal	Minimum	Current	Current	Current	Proposed	Proposed	Proposed	
		Volumes	Block	Therms	Monthly	Billing	Average	11/1/2022	11/1/2023	11/1/2023	11/1/2023	
				Monthly	Charge	Rate	Bill	ECRM	Total	ECRM	ECRM	
				Average Use		11/1/2022	11/1/2022	Rates	Rates	Average Bill	% Bill Change	
							F=D+(C * E)			[2]	T = D+(C*G)	I=(K-I)/I
	Schedule	Block	A	B	C	D	E	F	G	H	J	
7	1R		318,916	N/A	16.0	\$ 5.50	\$1,59190	\$30.97	\$0.01644	\$1,57601	\$30.72	-0.8%
8	1C		22,569	N/A	51.0	\$ 7.00	\$1,60601	\$88.91	\$0.01366	\$1,59284	\$88.23	-0.8%
9	2R		60,471,175	N/A	58.0	\$ 8.00	\$1,28016	\$82.25	\$0.00972	\$1,27077	\$81.70	-0.7%
10	3 CFS		19,986,400	N/A	249.0	\$ 22.00	\$1,25038	\$333.34	\$0.00874	\$1,24193	\$331.24	-0.6%
11	3 IFS		277,642	N/A	1,218.0	\$ 22.00	\$1,22899	\$1,518.91	\$0.00783	\$1,22142	\$1,509.69	-0.6%
12	27		80,870	N/A	23.0	\$ 9.00	\$1,02062	\$32.47	\$0.00703	\$1,01392	\$32.32	-0.5%
13	41C Firm Sales	Block 1	1,570,103	2,000	3,712.0	\$ 250.00	\$1,03667		\$0.00685	\$1,03005		
14		Block 2	2,126,827	all additional			\$0.98320		\$0.00603	\$0.97737		
15		TOTAL						\$4,006.58			\$3,983.36	-0.6%
16	41I Firm Sales	Block 1	405,389	2,000	4,578.0	\$ 250.00	\$0.96687		\$0.00618	\$0.96089		
17		Block 2	803,153	all additional			\$0.92170		\$0.00545	\$0.91643		
18		TOTAL						\$4,559.88			\$4,534.34	-0.6%
16	41C Interr Sales	Block 1	0	2,000	0.0	\$ 250.00	\$1,01490		\$0.00610	\$1,00903		
17		Block 2	0	all additional			\$0.96393		\$0.00537	\$0.95876		
17		TOTAL						\$250.00			\$250.00	0.0%
18	41I Interr Sales	Block 1	0	2,000	0.0	\$ 250.00	\$0.95740		\$0.00627	\$0.95134		
19		Block 2	0	all additional			\$0.91323		\$0.00553	\$0.90788		
20		TOTAL						\$250.00			\$250.00	0.0%
21	41C Firm Transp	Block 1	148,853	2,000	4,664.0	\$ 500.00	\$0.38083		\$0.00716	\$0.37390		
22		Block 2	298,848	all additional			\$0.33552		\$0.00631	\$0.32941		
23		TOTAL						\$2,155.49			\$2,125.35	-1.4%
24	41I Firm Transp	Block 1	0	2,000	0.0	\$ 500.00	\$0.37098		\$0.00635	\$0.36484		
25		Block 2	0	all additional			\$0.32687		\$0.00560	\$0.32146		
26		TOTAL						\$500.00			\$500.00	0.0%
27	42C Firm Sales	Block 1	701,175	10,000	17,264.0	\$ 1,300.00	\$0.80750		\$0.00111	\$0.80653		
28		Block 2	698,884	20,000			\$0.78434		\$0.00099	\$0.78347		
29		Block 3	213,654	20,000			\$0.73831		\$0.00076	\$0.73764		
30		Block 4	43,634	100,000			\$0.70801		\$0.00061	\$0.70747		
31		Block 5	0	600,000			\$0.66761		\$0.00041	\$0.66725		
32		Block 6	0	all additional			\$0.61709		\$0.00015	\$0.61696		
33		TOTAL						\$15,072.45			\$15,056.43	-0.1%
34	42I Firm Sales	Block 1	1,266,148	10,000	19,128.0	\$ 1,300.00	\$0.75461		\$0.00134	\$0.75338		
35		Block 2	871,827	20,000			\$0.73700		\$0.00120	\$0.73590		
36		Block 3	146,523	20,000			\$0.70198		\$0.00092	\$0.70114		
37		Block 4	10,867	100,000			\$0.67895		\$0.00074	\$0.67827		
38		Block 5	0	600,000			\$0.64824		\$0.00049	\$0.64779		
39		Block 6	0	all additional			\$0.60982		\$0.00018	\$0.60966		
40		TOTAL						\$15,573.44			\$15,551.10	-0.1%
41	42C Firm Trans	Block 1	217,853	10,000	73,112.0	\$ 1,550.00	\$0.15376		\$0.00042	\$0.15343		
42		Block 2	435,705	20,000			\$0.13764		\$0.00037	\$0.13735		
43		Block 3	435,705	20,000			\$0.10553		\$0.00028	\$0.10531		
44		Block 4	665,436	100,000			\$0.08445		\$0.00023	\$0.08427		
45		Block 5	0	600,000			\$0.05629		\$0.00015	\$0.05617		
46		Block 6	0	all additional			\$0.02111		\$0.00006	\$0.02106		
47		TOTAL						\$9,902.81			\$9,885.15	-0.2%
48	42I Firm Trans	Block 1	840,318	10,000	68,813.0	\$ 1,550.00	\$0.15086		\$0.00052	\$0.15043		
49		Block 2	1,062,417	20,000			\$0.13503		\$0.00046	\$0.13465		
50		Block 3	936,547	20,000			\$0.10354		\$0.00035	\$0.10325		
51		Block 4	2,527,103	100,000			\$0.08283		\$0.00028	\$0.08260		
52		Block 5	1,239,686	600,000			\$0.05523		\$0.00019	\$0.05507		
53		Block 6	0	all additional			\$0.02071		\$0.00007	\$0.02065		
54		TOTAL						\$9,388.28			\$9,366.25	-0.2%
55	42C Interr Sales	Block 1	226,932	10,000	39,178.0	\$ 1,300.00	\$0.76839		\$0.00086	\$0.76763		
56		Block 2	425,616	20,000			\$0.74928		\$0.00077	\$0.74860		
57		Block 3	194,048	20,000			\$0.71125		\$0.00059	\$0.71073		
58		Block 4	93,667	100,000			\$0.68621		\$0.00047	\$0.68579		
59		Block 5	0	600,000			\$0.65288		\$0.00032	\$0.65260		
60		Block 6	0	all additional			\$0.61118		\$0.00012	\$0.61107		
61		TOTAL						\$30,497.35			\$30,471.38	-0.1%
62	42I Interr Sales	Block 1	128,853	10,000	18,328.0	\$ 1,300.00	\$0.75105		\$0.00101	\$0.75015		
63		Block 2	91,079	20,000			\$0.73376		\$0.00090	\$0.73296		
64		Block 3	0	20,000			\$0.69936		\$0.00069	\$0.69875		
65		Block 4	0	100,000			\$0.67671		\$0.00055	\$0.67622		
66		Block 5	0	600,000			\$0.64652		\$0.00037	\$0.64619		
67		Block 6	0	all additional			\$0.60879		\$0.00014	\$0.60867		
68		TOTAL						\$14,921.25			\$14,905.59	-0.1%
69	42C Inter Trans	Block 1	0	10,000	0.0	\$ 1,550.00	\$0.14295		\$0.00245	\$0.14058		
70		Block 2	0	20,000			\$0.12797		\$0.00219	\$0.12585		
71		Block 3	0	20,000			\$0.09813		\$0.00168	\$0.09651		
72		Block 4	0	100,000			\$0.07851		\$0.00134	\$0.07721		
73		Block 5	0	600,000			\$0.05235		\$0.00090	\$0.05148		
74		Block 6	0	all additional			\$0.01961		\$0.00034	\$0.01928		
75		TOTAL						\$1,550.00			\$1,550.00	0.0%
76	42I Inter Trans	Block 1	830,413	10,000	65,068.0	\$ 1,550.00	\$0.14372		\$0.00049	\$0.14331		
77		Block 2	1,522,701	20,000			\$0.12865		\$0.00044	\$0.12829		
78		Block 3	1,166,628	20,000			\$0.09865		\$0.00034	\$0.09837		
79		Block 4	2,984,749	100,000			\$0.07894		\$0.00027	\$0.07872		
80		Block 5	1,303,638	600,000			\$0.05263		\$0.00018	\$0.05248		
81		Block 6	0	all additional			\$0.01973		\$0.00007	\$0.01967		
82		TOTAL						\$8,722.67			\$8,702.45	-0.2%
76	43 Firm Trans		0	N/A	0.0	\$38,000.00	\$0.00492	\$38,000.00	\$0.00091	\$0.00404	\$38,000.00	0.0%
77	43 Interr Trans		0	N/A	0.0	\$38,000.00	\$0.00492	\$38,000.00	\$0.00034	\$0.00459	\$38,000.00	0.0%
78	Intentionally blank											

[1] Rate Schedule 41 and 42 customers may choose demand charges at a volumetric rate or based on MDDV. For convenience of presentation, demand charges are not included in the calculations for those schedules.

[2] Proposed new ECRM rates is equal to Current Billing Rate plus New ECRM rates less Current ECRM rates.

Sources:

Direct Inputs	per Tariff	per Tariff
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