

NW Natural's ECRM Annual Tariff Adjustment Filing
and 2021 Annual Report

Exhibit C

Rates Calculation Schedules and Deferral Workpapers

July 15, 2022

NW Natural
Rates & Regulatory Affairs
2021-2022 ECRM Filing - Washington
Effects on Average Bill by Rate Schedule
Calculation of Effect on Customer Average Bill by Rate Schedule [1]

		PGA Volumes	Therms in Block	Normal Therms Monthly Average Use	Minimum Monthly Charge	Current Billing Rate 11/1/2021	Current Average Bill 11/1/2021	Current 11/1/2021 ECRM Rates	Proposed 11/1/2022 ECRM Rates	Proposed 11/1/2022 ECRM Average Bill	Proposed 11/1/2022 ECRM % Bill Change
	Schedule	A	B	C	D	E	F=D+(C * E)	[2]	T = D+(C*G)	I=(K-I)/I	
	Block							G	H	I	
7	1R	271,851	N/A	16.0	\$ 5.50	\$1.34747	\$27.06	\$0.00870	\$1.35521	\$27.18	0.5%
8	1C	26,572	N/A	63.0	\$ 7.00	\$1.36829	\$93.20	\$0.00734	\$1.37461	\$93.60	0.4%
9	2R	59,318,083	N/A	58.0	\$ 8.00	\$1.05147	\$68.99	\$0.00559	\$1.05560	\$69.22	0.3%
10	3 CFS	18,493,933	N/A	242.0	\$ 22.00	\$1.02282	\$269.52	\$0.00498	\$1.02658	\$270.43	0.3%
11	3 IFS	275,987	N/A	1,353.0	\$ 22.00	\$0.97858	\$1,346.02	\$0.00444	\$0.98197	\$1,350.61	0.3%
12	27	220,342	N/A	47.0	\$ 9.00	\$0.78957	\$46.11	\$0.00361	\$0.79299	\$46.27	0.3%
13	41C Firm Sales	Block 1	1,709,203	2,000	3,629.0	\$ 250.00	\$0.79066	\$0.00389	\$0.79362		
14		Block 2	2,035,966	all additional			\$0.73819	\$0.00343	\$0.74079		
15		TOTAL					\$3,033.83		\$3,043.99		0.3%
16	41I Firm Sales	Block 1	402,738	2,000	4,819.0	\$ 250.00	\$0.71891	\$0.00374	\$0.72062		
17		Block 2	695,909	all additional			\$0.67496	\$0.00329	\$0.67777		
18		TOTAL					\$3,590.53		\$3,601.87		0.3%
16	41C Interr Sales	Block 1	657	2,000	0.0	\$ 250.00	\$0.81381	\$0.00411	\$0.81597		
17		Block 2	0	all additional			\$0.76287	\$0.00362	\$0.76478		
17		TOTAL					\$250.00		\$250.00		0.0%
18	41I Interr Sales	Block 1	0	2,000	0.0	\$ 250.00	\$0.74958	\$0.00411	\$0.75178		
19		Block 2	0	all additional			\$0.70628	\$0.00362	\$0.70901		
20		TOTAL					\$250.00		\$250.00		0.0%
21	41C Firm Transp	Block 1	163,493	2,000	4,629.0	\$ 500.00	\$0.37100	\$0.00435	\$0.36776		
22		Block 2	280,928	all additional			\$0.32688	\$0.00384	\$0.32403		
23		TOTAL					\$2,101.37		\$2,087.39		-0.7%
24	41I Firm Transp	Block 1	0	2,000	0.0	\$ 500.00	\$0.36337	\$0.00435	\$0.35963		
25		Block 2	0	all additional			\$0.32015	\$0.00384	\$0.31672		
26		TOTAL					\$500.00		\$500.00		0.0%
27	42C Firm Sales	Block 1	671,791	10,000	18,962.0	\$ 1,300.00	\$0.56289	\$0.00218	\$0.56205		
28		Block 2	720,753	20,000			\$0.54046	\$0.00195	\$0.53971		
29		Block 3	191,809	20,000			\$0.49586	\$0.00149	\$0.49529		
30		Block 4	8,495	100,000			\$0.46651	\$0.00119	\$0.46606		
31		Block 5	0	600,000			\$0.42739	\$0.00080	\$0.42708		
32		Block 6	0	all additional			\$0.37846	\$0.00030	\$0.37834		
33		TOTAL					\$11,772.50		\$11,757.38		-0.1%
34	42I Firm Sales	Block 1	992,663	10,000	15,324.0	\$ 1,300.00	\$0.51347	\$0.00224	\$0.51160		
35		Block 2	693,866	20,000			\$0.49624	\$0.00201	\$0.49451		
36		Block 3	142,957	20,000			\$0.46194	\$0.00154	\$0.46063		
37		Block 4	9,413	100,000			\$0.43938	\$0.00123	\$0.43830		
38		Block 5	0	600,000			\$0.40932	\$0.00082	\$0.40856		
39		Block 6	0	all additional			\$0.37170	\$0.00031	\$0.37191		
40		TOTAL					\$9,076.68		\$9,048.77		-0.3%
41	42C Firm Trans	Block 1	240,000	10,000	74,536.0	\$ 1,550.00	\$0.14961	\$0.00152	\$0.14844		
42		Block 2	480,000	20,000			\$0.13392	\$0.00136	\$0.13284		
43		Block 3	463,625	20,000			\$0.10270	\$0.00104	\$0.10185		
44		Block 4	605,238	100,000			\$0.08217	\$0.00084	\$0.08140		
45		Block 5	0	600,000			\$0.05479	\$0.00056	\$0.05509		
46		Block 6	0	all additional			\$0.02054	\$0.00021	\$0.02110		
47		TOTAL					\$9,794.62		\$9,725.43		-0.7%
48	42I Firm Trans	Block 1	831,868	10,000	69,138.0	\$ 1,550.00	\$0.14867	\$0.00162	\$0.14752		
49		Block 2	1,048,771	20,000			\$0.13307	\$0.00145	\$0.13194		
50		Block 3	923,544	20,000			\$0.10205	\$0.00111	\$0.10106		
51		Block 4	2,446,349	100,000			\$0.08165	\$0.00089	\$0.08177		
52		Block 5	1,386,714	600,000			\$0.05443	\$0.00059	\$0.05474		
53		Block 6	0	all additional			\$0.02041	\$0.00022	\$0.02088		
54		TOTAL					\$9,301.72		\$9,250.11		-0.6%
55	42C Interr Sales	Block 1	237,125	10,000	26,041.0	\$ 1,300.00	\$0.56372	\$0.00163	\$0.56246		
56		Block 2	443,654	20,000			\$0.54503	\$0.00145	\$0.54372		
57		Block 3	192,831	20,000			\$0.50781	\$0.00112	\$0.50914		
58		Block 4	63,862	100,000			\$0.48334	\$0.00089	\$0.48464		
59		Block 5	0	600,000			\$0.45073	\$0.00059	\$0.44651		
60		Block 6	0	all additional			\$0.40995	\$0.00022	\$0.41107		
61		TOTAL					\$15,680.03		\$15,646.41		-0.2%
62	42I Interr Sales	Block 1	138,925	10,000	19,871.0	\$ 1,300.00	\$0.54885	\$0.00282	\$0.54637		
63		Block 2	99,523	20,000			\$0.53172	\$0.00252	\$0.52969		
64		Block 3	0	20,000			\$0.49762	\$0.00193	\$0.49613		
65		Block 4	0	100,000			\$0.47520	\$0.00155	\$0.47399		
66		Block 5	0	600,000			\$0.44528	\$0.00103	\$0.44452		
67		Block 6	0	all additional			\$0.40790	\$0.00039	\$0.40769		
68		TOTAL					\$12,037.11		\$11,992.27		-0.4%
69	42C Inter Trans	Block 1	0	10,000	0.0	\$ 1,550.00	\$0.13990	\$0.00160	\$0.13921		
70		Block 2	0	20,000			\$0.12524	\$0.00143	\$0.12415		
71		Block 3	0	20,000			\$0.09604	\$0.00110	\$0.09494		
72		Block 4	0	100,000			\$0.07684	\$0.00088	\$0.07596		
73		Block 5	0	600,000			\$0.05124	\$0.00059	\$0.05065		
74		Block 6	0	all additional			\$0.01920	\$0.00022	\$0.01898		
75		TOTAL					\$1,550.00		\$1,550.00		0.0%
76	42I Inter Trans	Block 1	762,322	10,000	72,682.0	\$ 1,550.00	\$0.14206	\$0.00160	\$0.14046		
77		Block 2	1,416,561	20,000			\$0.12716	\$0.00143	\$0.12573		
78		Block 3	1,182,116	20,000			\$0.09751	\$0.00110	\$0.09641		
79		Block 4	3,080,777	100,000			\$0.07802	\$0.00088	\$0.07714		
80		Block 5	1,407,909	600,000			\$0.05202	\$0.00059	\$0.05143		
81		Block 6	0	all additional			\$0.01950	\$0.00022	\$0.01928		
82		TOTAL					\$9,233.65		\$9,147.09		-0.9%
76	43 Firm Trans	0	N/A	0.0	\$38,000.00	\$0.00492	\$38,000.00	\$0.00006	\$0.00486	\$38,000.00	0.0%
77	43 Interr Trans	0	N/A	0.0	\$38,000.00	\$0.00492	\$38,000.00	\$0.00006	\$0.00486	\$38,000.00	0.0%
78	Intentionally blank										
79	41 and 42										
80											
81	[2] Proposed new										
82	Sources:										
83	Direct Inputs		per Tariff		per Tariff						

Northwest Natural Gas Company

**Summary of Deferred Environmental Costs and Insurance Application
For the period of January 1, 2021 through December 31, 2021**

	<u>Total</u>
Deferred costs allocated to Washington	583,118 (1)
Amortization of insurance proceeds	193,801
Estimated residual 2021-22 amort. balance	<u>(21,163)</u>
Remaining deferred costs for amortization	<u>\$ 755,756</u>

(1) Includes an adjustment of \$133.20 related to employee expenses that are not recoverable per Docket UG-110199

**System and Washington Allocated Environmental Remediation Payments and Insurance
 ECRM (Docket Docket UG-181053, Order 06)**

Note - Update from JE 23

1	Debit (Credit)									
2										
3										
4	Month/Year	Note	GASCO	HARBOR	SILTRONIC	FRONT (PGM)	CENTRAL	OR STEEL	INSURANCE RECOVERY	Total
5	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
6										
7										
8	Jan-20		1,755,730.58	87,166.50	-	229,207.86	-	-	-	2,072,104.94
9	Feb-20		520,195.92	157,819.65	-	29,926.65	-	-	(121,831.54)	586,110.68
10	Mar-20		1,583,794.82	163,631.62	-	108,215.52	-	-	(18,850.88)	1,836,791.08
11	Apr-20		1,643,111.07	125,372.50	-	67,016.41	-	-	-	1,835,499.98
12	May-20		2,024,987.41	117,666.50	-	85,942.40	-	-	-	2,228,596.31
13	Jun-20		1,627,524.26	93,202.00	-	177,178.05	-	-	(5,815.60)	1,892,088.71
14	Jul-20		1,463,817.31	55,596.25	-	1,832,967.95	-	-	-	3,352,381.51
15	Aug-20		1,132,714.93	87,114.75	-	284,033.42	-	-	-	1,503,863.10
16	Sep-20		1,652,651.97	79,467.15	-	243,955.39	-	-	(10,483.07)	1,965,591.44
17	Oct-20		1,188,899.41	141,857.63	-	1,433,214.92	-	-	-	2,763,971.96
18	Nov-20		619,055.34	107,376.17	-	3,215,162.50	-	-	-	3,941,594.01
19	Dec-20		2,628,465.96	63,112.44	-	2,276,518.60	-	-	(8,914.73)	4,959,182.27
20	Jan-21		2,073,161.13	58,464.00	-	910,770.49	-	-	-	3,042,395.62
21	Feb-21		1,446,106.39	102,443.75	-	37,716.58	-	-	-	1,586,266.72
22	Mar-21		513,478.93	129,863.94	-	13,063.70	-	-	(4,066.28)	652,340.29
23	Apr-21		1,986,232.86	120,163.50	-	32,760.75	-	-	-	2,139,157.11
24	May-21		1,693,098.15	187,507.04	-	30,051.95	-	-	-	1,910,657.14
25	Jun-21		1,185,534.28	94,438.78	-	41,266.36	-	-	(2,586.38)	1,318,653.04
26	Jul-21		1,892,743.38	91,132.34	-	59,041.63	-	-	-	2,042,917.35
27	Aug-21		535,525.85	196,779.62	-	5,462.68	-	-	-	737,768.15
28	Sep-21		1,855,854.11	214,596.29	-	232,409.31	-	-	(4,012.71)	2,298,847.00
29	Oct-21		986,448.18	152,970.66	-	36,189.38	-	-	149.82	1,175,758.04
30	Nov-21		633,400.21	177,798.50	-	935.00	-	-	-	812,133.71
31	Dec-21		1,062,241.61	177,837.50	-	21,717.31	-	-	(595.60)	1,261,200.82

3.32%					
WASHINGTON Allocated					
GASCO	HARBOR	SILTRONIC	CENTRAL	OR STEEL	INSURANCE RECOVERY COSTS
(k)	(l)	(m)	(n)	(o)	(p)
58,290.26	2,893.93	-	-	-	-
17,270.50	5,239.61	-	-	-	(4,044.81)
52,581.99	5,432.57	-	-	-	(625.85)
54,551.29	4,162.37	-	-	-	-
67,229.58	3,906.53	-	-	-	-
54,033.81	3,094.31	-	-	-	(193.08)
48,598.73	1,845.80	-	-	-	-
37,606.14	2,892.21	-	-	-	-
54,868.05	2,638.31	-	-	-	(348.04)
39,471.46	4,709.67	-	-	-	-
20,552.64	3,564.89	-	-	-	-
87,265.07	2,095.33	-	-	-	(295.97)
68,828.95	1,941.00	-	-	-	-
48,010.73	3,401.13	-	-	-	-
17,047.50	4,311.48	-	-	-	(135.00)
65,942.93	3,989.43	-	-	-	-
56,210.86	6,225.23	-	-	-	-
39,359.74	3,135.37	-	-	-	(85.87)
62,839.08	3,025.59	-	-	-	-
17,779.46	6,533.08	-	-	-	-
61,614.36	7,124.60	-	-	-	(133.22)
32,750.08	5,078.63	-	-	-	4.97
21,028.89	5,902.91	-	-	-	-
35,266.42	5,904.21	-	-	-	(19.77)

Company: Northwest Natural Gas Company
 State: Washington
 Description: Gasco & Litigation Deferral
 Account Number: 186175

Debit (Credit)

Month/Year	Note	Deferral	Transfers	TOTAL Activity	TOTAL Balance
1	Beginning Balance				2,953,098.63
14	Oct-20	1 39,471.46	7.14	39,478.60	1,009,722.53
15	Nov-20	2 20,552.64	(525,220.50)	(504,667.86)	505,054.67
16	Dec-20	3 87,265.07	(131.07)	87,134.00	592,188.67
17	Jan-21	68,828.95		68,828.95	661,017.62
18	Feb-21	48,010.73		48,010.73	709,028.35
19	Mar-21	17,047.50		17,047.50	726,075.85
20	Apr-21	65,942.93		65,942.93	792,018.78
21	May-21	56,210.86		56,210.86	848,229.64
22	Jun-21	39,359.74		39,359.74	887,589.38
23	Jul-21	62,839.08		62,839.08	950,428.46
24	Aug-21	17,779.46		17,779.46	968,207.92
25	Sep-21	61,614.36		61,614.36	1,029,822.28
26	Oct-21	1 32,750.08	95.56	32,845.64	1,062,667.92
27	Nov-21	2 21,028.89	(592,188.67)	(571,159.78)	491,508.13
28	Dec-21	3 35,266.42	(133.20)	35,133.22	526,641.35

31 **History is truncated for ease of viewing**

32 **Notes:**

34 **1** - Transfer represents a true-up to the GL.

35 **2** - As approved in Docket UG-200649, Order 01, applied insurance against costs deferred costs and
 36 transferred the remainder to the ECRM amortization

37 **3** - December adjustments represent the reversal of any employee expenses recorded during the year. Per Docket UG-110199
 38 these costs are not recoverable through the environmental deferrals.

Company: Northwest Natural Gas Company
 State: Washington
 Description: Central Deferral
 Account Number: 186176

Debit (Credit)

Month/Year	Note	Deferral	Transfers	TOTAL Activity	TOTAL Balance
1	Beginning Balance				23,148.82
5	Jan-20	0.00		0.00	328.72
6	Feb-20	0.00		0.00	328.72
7	Mar-20	0.00		0.00	328.72
8	Apr-20	0.00		0.00	328.72
9	May-20	0.00		0.00	328.72
10	Jun-20	0.00		0.00	328.72
11	Jul-20	0.00		0.00	328.72
12	Aug-20	0.00		0.00	328.72
13	Sep-20	0.00		0.00	328.72
14	Oct-20	0.00		0.00	328.72
15	Nov-20	1	(328.72)	(328.72)	0.00
16	Dec-20	0.00		0.00	0.00

History is truncated for ease of viewing

Notes:

1 - As approved in Docket UG-200649, Order 01, applied insurance against costs deferred costs and transferred the remainder to the ECRM amortization

Company: Northwest Natural Gas Company
 State: Washington
 Description: Harbor Deferral
 Account Number: 186178

Debit (Credit)

Month/Year	Note	Deferral	Transfers	TOTAL Activity	TOTAL Balance
1	Beginning Balance				350,177.22
14	Oct-20	4,709.67		4,709.67	79,433.73
15	Nov-20	1 3,564.89	(42,618.43)	(39,053.54)	40,380.19
16	Dec-20	2,095.33		2,095.33	42,475.52
17	Jan-21	1,941.00		1,941.00	44,416.53
18	Feb-21	3,401.13		3,401.13	47,817.66
19	Mar-21	4,311.48		4,311.48	52,129.14
20	Apr-21	3,989.43		3,989.43	56,118.57
21	May-21	6,225.23		6,225.23	62,343.80
22	Jun-21	3,135.37		3,135.37	65,479.17
23	Jul-21	3,025.59		3,025.59	68,504.76
24	Aug-21	6,533.08		6,533.08	75,037.85
25	Sep-21	7,124.60		7,124.60	82,162.44
26	Oct-21	5,078.63		5,078.63	87,241.07
27	Nov-21	1 5,902.91	(42,475.52)	(36,572.61)	50,668.46
28	Dec-21	5,904.21		5,904.21	56,572.66

17
 18 **History is truncated for ease of viewing**

19
 20 **Notes:**
 21 **1** - As approved in Docket UG-200649, Order 01, applied insurance against costs deferred costs and
 22 transferred the remainder to the ECRM amortization

Company: Northwest Natural Gas Company
 State: Washington
 Description: Siltronic Deferral
 Account Number: 186179

Debit (Credit)

Month/Year	Note	Deferral	Transfers	TOTAL Activity	TOTAL Balance
1	Beginning Balance				54,275.52
5	Jan-20	-		0.00	0.00
6	Feb-20	-		0.00	0.00
7	Mar-20	-		0.00	0.00
8	Apr-20	-		0.00	0.00
9	May-20	-		0.00	0.00
10	Jun-20	-		0.00	0.00
11	Jul-20	-		0.00	0.00
12	Aug-20	-		0.00	0.00
13	Sep-20	-		0.00	0.00
14	Oct-20	-		0.00	0.00
15	Nov-20	-		0.00	0.00
16	Dec-20	-		0.00	0.00

17
 18 ***History is truncated for ease of viewing***

Company: Northwest Natural Gas Company
 State: Washington
 Description: Insurance Recovery Deferral
 Account Number: 186180

Debit (Credit)

Month/Year	Note	Deferral	Transfers	Adjustments	TOTAL Activity	TOTAL Balance	
1						(3,613,554.43)	<u>Proceeds Running Balance:</u>
15	Jan-20	0.00			0.00	(2,085,739.31)	Remaining balance to be amortized over 10 years (1,738,285)
16	Feb-20	(4,044.81)			(4,044.81)	(2,089,784.12)	Jan 2020 - Dec 2020 additional proceeds received (5,508)
17	Mar-20	(625.85)			(625.85)	(2,090,409.97)	2020 Ending Balance (amortized over 9 remaining years) (1,743,792)
18	Apr-20	0.00			0.00	(2,090,409.97)	
19	May-20	0.00			0.00	(2,090,409.97)	2 Amortization for 2020 193,755
20	Jun-20	(193.08)			(193.08)	(2,090,603.05)	Jan 2021 - Dec 2021 additional proceeds received (369)
21	Jul-20	0.00			0.00	(2,090,603.05)	2021 Ending Balance (amortized over 8 remaining years) (1,550,407)
22	Aug-20	0.00			0.00	(2,090,603.05)	
23	Sep-20	(348.04)			(348.04)	(2,090,951.09)	
24	Oct-20	0.00			0.00	(2,090,951.09)	Amortization for 2021 (193,801)
25	Nov-20	0.00	347,454.59		347,454.59	(1,743,496.50)	
26	Dec-20	(295.97)			(295.97)	(1,743,792.47)	
27	Jan-21	0.00			0.00	(1,743,792.47)	
28	Feb-21	0.00			0.00	(1,743,792.47)	
29	Mar-21	(135.00)			(135.00)	(1,743,927.47)	
30	Apr-21	0.00			0.00	(1,743,927.47)	
31	May-21	0.00			0.00	(1,743,927.47)	
32	Jun-21	(85.87)			(85.87)	(1,744,013.34)	
33	Jul-21	0.00			0.00	(1,744,013.34)	
34	Aug-21	0.00			0.00	(1,744,013.34)	
35	Sep-21	(133.22)			(133.22)	(1,744,146.56)	
36	Oct-21	4.97			4.97	(1,744,141.58)	
37	Nov-21	0.00	193,754.72		193,754.72	(1,550,386.86)	
38	Dec-21	(19.77)	19.78		0.01	(1,550,386.86)	

History is truncated for ease of viewing

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Notes:

- 1** - As approved in Docket UG-200649, Order 01, applied \$260,540 of insurance to Dec. 2018 through Dec. 2019 costs deemed prudent. Also amortized \$86,914 of insurance for the second half of 2019 as required in Docket UG-181053.
- 2** - This is calculated based on 9 remaining years
- 3** - Transfer represents a true-up to the GL.