

EXHIBIT A

BEFORE THE  
WASHINGTON UTILITIES & TRANSPORTATION COMMISSION

NW NATURAL  
SUPPORTING MATERIALS

Annual Purchased Gas Cost and  
Deferred Gas Cost Amortization Adjustments

NWN WUTC Advice No. 21-08 / UG-\_\_\_\_\_

September 13, 2021

# NW NATURAL

## EXHIBIT A

### Supporting Materials

#### Annual Purchased Gas Cost and Deferred Gas Cost Amortization Adjustments

NWN WUTC ADVICE NO. 21-08 / UG-\_\_\_\_\_

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NW Natural  
 Rates & Regulatory Affairs  
 2021-2022 PGA Filing - Washington: September Filing  
 Summary of TEMPORARY Increments

		REMOVE	REMOVE	ADD	ADD	ADD	Total	Net Effect of
		Current	PGA Current	WACOG	Demand	Demand	Proposed PGA	PGA Temps
		Temporaries	Temporaries	Deferral	Deferral FIRM	Deferral INTERR	Temporaries	
		F = C+D+E						G = F-B
Schedule	Block	A	B	C	D	E	F	G
1R		0.11126	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
1C		0.09306	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
2R		0.06658	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
3 CFS		0.05848	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
3 IFS		(0.00009)	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
27		0.03871	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
41C Firm Sales	Block 1	0.04343	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
	Block 2	0.03717	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
41C Interr Sales	Block 1	0.05319	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
	Block 2	0.04699	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
41 Firm Trans	Block 1	0.00155	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 2	0.00136	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
41I Firm Sales	Block 1	(0.00172)	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
	Block 2	(0.00262)	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
41I Interr Sales	Block 1	0.00875	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
	Block 2	0.00784	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
42C Firm Sales	Block 1	0.01956	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
	Block 2	0.01654	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
	Block 3	0.01052	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
	Block 4	0.00655	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
	Block 5	0.00124	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
	Block 6	(0.00535)	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
42I Firm Sales	Block 1	(0.00461)	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
	Block 2	(0.00511)	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
	Block 3	(0.00607)	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
	Block 4	(0.00673)	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
	Block 5	(0.00759)	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
	Block 6	(0.00867)	(0.00931)	0.05696	(0.05655)	0.00000	0.00041	0.00972
42C Firm Trans	Block 1	0.00060	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 2	0.00053	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 3	0.00041	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 4	0.00032	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 5	0.00021	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 6	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
42I Firm Trans	Block 1	0.00059	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 2	0.00052	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 3	0.00041	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 4	0.00032	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 5	0.00021	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 6	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
42C Interr Sales	Block 1	0.02334	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
	Block 2	0.02100	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
	Block 3	0.01637	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
	Block 4	0.01334	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
	Block 5	0.00927	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
	Block 6	0.00420	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
42I Interr Sales	Block 1	0.00697	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
	Block 2	0.00635	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
	Block 3	0.00514	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
	Block 4	0.00435	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
	Block 5	0.00330	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
	Block 6	0.00195	0.00116	0.05696	0.00000	(0.02022)	0.03674	0.03558
42 Inter Trans	Block 1	0.00057	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 2	0.00051	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 3	0.00038	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 4	0.00031	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 5	0.00021	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Block 6	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
43 Firm Trans		0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
43 Interr Trans		0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

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Sources:

Direct Inputs	20-21 PGA+EE	20-21 PGA+EE
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Equal \$ per therm		Column H	Column K	Column N	
Equal % of margin					

Tariff Schedules:

Schedule #		Sched 201	Sched 201	Sched 201	N/A	N/A
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NW Natural  
 Rates & Regulatory Affairs  
 2021-2022 PGA Filing - Washington: September Filing  
 PGA Effects on Average Bill by Rate Schedule  
 Calculation of Effect on Customer Average Bill by Rate Schedule [1]

	Washington PGA Normalized Volumes page, Column D	Therms in Block	Normal Therms Monthly Average use	Minimum Monthly Charge	Current 11/1/2020 Billing Rates	11/1/2020 Current Average Bill	Proposed 11/1/2021 PGA Effects Rates	Proposed 11/1/2021 PGA Effects Average Bill	Proposed 11/1/2021 PGA Effects % Bill Change
	A	B	C	D	E	F=D+(C * E)	V	X=D+(C*V)	Y
6	Schedule	Block							
7	1R								
8	1C								
9	2R								
10	3 CFS								
11	3 IFS								
12	27								
13	41C Firm Sales	Block 1							
14		Block 2							
15		TOTAL							
16	41C Interr Sales	Block 1							
17		Block 2							
18		TOTAL							
19	41 Firm Trans	Block 1							
20		Block 2							
21		TOTAL							
22	41I Firm Sales	Block 1							
23		Block 2							
24		TOTAL							
25	41I Interr Sales	Block 1							
26		Block 2							
27		TOTAL							
28	42C Firm Sales	Block 1							
29		Block 2							
30		Block 3							
31		Block 4							
32		Block 5							
33		Block 6							
34		TOTAL							
35	42I Firm Sales	Block 1							
36		Block 2							
37		Block 3							
38		Block 4							
39		Block 5							
40		Block 6							
41		TOTAL							
42	42C Firm Trans	Block 1							
43		Block 2							
44		Block 3							
45		Block 4							
46		Block 5							
47		Block 6							
48		TOTAL							
49	42I Firm Trans	Block 1							
50		Block 2							
51		Block 3							
52		Block 4							
53		Block 5							
54		Block 6							
55		TOTAL							
56	42C Interr Sales	Block 1							
57		Block 2							
58		Block 3							
59		Block 4							
60		Block 5							
61		Block 6							
62		TOTAL							
63	42I Interr Sales	Block 1							
64		Block 2							
65		Block 3							
66		Block 4							
67		Block 5							
68		Block 6							
69		TOTAL							
70	42 Inter Trans	Block 1							
71		Block 2							
72		Block 3							
73		Block 4							
74		Block 5							
75		Block 6							
76		TOTAL							
77	43 Firm Trans								
78	43 Interr Trans								
79	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.

Sources:

Direct Inputs	per Tariff	per Tariff
Rates in summary	Column A	

**NW Natural  
 Rates & Regulatory Affairs  
 2021-2022 PGA Filing - Washington: September Filing  
 Summary of Deferred Accounts**

Account A	Balance 8/31/2021 B	Sep-Oct Estimated Activity C	Sep-Oct Interest D	Estimated Balance 10/31/2021 E	Estimated Interest During Amortization F	Total Estimated Amount for (Refund) or Collection G	Amounts Excluded from PGA Filing H	Amounts Included in PGA Filing I
				E = sum B thru D	3.25%	G = E + F Excl. Rev Sens		
<b>Gas Cost Deferrals and Amortizations</b>								
191420 WACOG - ACCRUAL WA	4,141,064	0	22,461	4,163,526				
191421 AMORT OF WACOG - WA	489,280	(52,079)	2,654	439,854				
	4,630,344	(52,079)	25,115	4,603,380	81,440	4,684,820		4,684,820
191430 DEMAND ACCRUAL - WA	303,134	0	1,644	304,779				
191431 AMORT OF DEMAND WA	(1,835,849)	121,584	(9,958)	(1,724,223)				
254302 MARGIN SHARING - WA	(3,107,395)	0	0	(3,107,395)				
	(4,640,110)	121,584	(8,313)	(4,526,840)	(80,086)	(4,606,926)		(4,606,926)

13 Notes

14 Please refer to NWN workpapers or electronic file "NWN 2020-21 Washington PGA rate development file September filing.xls" for application of revenue sensitive effect and calculation of rate increments.

Company: Northwest Natural Gas Company  
 State: Washington  
 Description: Washington WACOG Deferral  
 Account Number: 191420  
 Program under Schedule P  
 Temp Increment under Schedule 203

1 Debit (Credit)  
 2  
 3

4	Month/Year	Note	Accumulation	Transfers	Interest Rate	Interest	Activity	Balance
5	(a)	(b)	(c)	(d)	(e1)	(e2)	(f)	(g)
6								
178	Nov-20	<b>1</b>	191,723.22	(271,881.18)	3.25%	669.18	(79,488.78)	343,612.24
179	Dec-20		56,623.83		3.25%	1,007.29	57,631.12	401,243.36
180	Jan-21		47,600.12		3.25%	1,151.16	48,751.28	449,994.64
181	Feb-21		3,152,891.72		3.25%	5,488.28	3,158,380.00	3,608,374.64
182	Mar-21		173,675.69		3.25%	10,007.87	183,683.56	3,792,058.20
183	Apr-21		(117,151.50)		3.25%	10,111.51	(107,039.99)	3,685,018.21
184	May-21		1,767.23		3.25%	9,982.65	11,749.88	3,696,768.09
185	Jun-21		54,300.44		3.25%	10,085.61	64,386.05	3,761,154.14
186	Jul-21		160,746.53		3.25%	10,404.14	171,150.67	3,932,304.81
187	Aug-21		197,841.65		3.25%	10,917.90	208,759.55	4,141,064.37
188	Sep-21				3.25%	11,215.38	11,215.38	4,152,279.75
189	Oct-21				3.25%	11,245.76	11,245.76	4,163,525.51

190  
 191

192 **History truncated for ease of viewing**

193

194 **Notes**

195 **1** - Transferred authorized balance to account 191421 for amortization.

Company: Northwest Natural Gas Company  
 State: Washington  
 Description: Washington Amortization of WACOG  
 Account Number: 191421  
 Program under Schedule P  
 Temp Increment under Schedule 203

1 Debit (Credit)

2  
 3

4	Month/Year	Note	Amortization	Transfers	Interest Rate	Interest	Activity	Balance
5	(a)	(b)	(c)	(d)	(e1)	(e2)	(f)	(g)
191	Nov-20	new <b>(1)</b>	(20,535.81)		3.25%	1,289.77	1,289.77	477,513.56
192	Dec-20		(78,261.58)		3.25%	1,293.27	1,293.27	478,806.83
193	Jan-21		(79,009.59)		3.25%	1,296.77	1,296.77	480,103.60
194	Feb-21		(81,582.69)		3.25%	1,300.28	1,300.28	481,403.88
195	Mar-21		(73,134.13)		3.25%	1,303.80	1,303.80	482,707.68
196	Apr-21		(53,204.79)		3.25%	1,307.33	1,307.33	484,015.01
197	May-21		(28,852.68)		3.25%	1,310.87	1,310.87	485,325.88
198	Jun-21		(22,919.67)		3.25%	1,314.42	1,314.42	486,640.30
199	Jul-21		(15,322.35)		3.25%	1,317.98	1,317.98	487,958.28
200	Aug-21		(14,211.07)		3.25%	1,321.55	1,321.55	489,279.83
201	Sep-21	forecast	(17,362.15)		3.25%	1,325.13	1,325.13	473,242.81
202	Oct-21	forecast	(34,717.11)		3.25%	1,328.72	1,328.72	439,854.42

203

204 **History truncated for ease of viewing**

205

206 **Notes**

207 **1** - Transfer in amounts from account 191420 approved for amortization.



Company: Northwest Natural Gas Company  
 State: Washington  
 Description: Washington Demand Accrual  
 Account Number: 191430  
 Program under Schedule P  
 Temp Increment under Schedule 203

1 Debit (Credit)

2  
 3  
 4  
 5  
 6

Month/Year	Note	Accumulation	Transfers	Interest Rate	Interest	Activity	Balance
(a)	(b)	(c)	(d)	(e1)	(e2)	(f)	(g)
7 Beginning Balance							
178	Nov-20	(287,152.29)	364.74	3.25%	1,165.91	(285,621.64)	288,078.12
179	Dec-20	(429,155.06)		3.25%	199.06	(428,956.00)	(140,877.88)
180	Jan-21	(461,123.28)		3.25%	(1,070.71)	(462,193.99)	(603,071.87)
181	Feb-21	(548,236.15)		3.25%	(2,375.72)	(550,611.87)	(1,153,683.74)
182	Mar-21	(306,864.10)		3.25%	(3,540.11)	(310,404.21)	(1,464,087.95)
183	Apr-21	118,666.88		3.25%	(3,804.54)	114,862.34	(1,349,225.61)
184	May-21	323,432.33		3.25%	(3,216.17)	320,216.16	(1,029,009.45)
185	Jun-21	413,242.78		3.25%	(2,227.30)	411,015.48	(617,993.97)
186	Jul-21	461,589.43		3.25%	(1,048.66)	460,540.77	(157,453.20)
187	Aug-21	460,390.69		3.25%	197.01	460,587.70	303,134.50
188	Sep-21			3.25%	820.99	820.99	303,955.49
189	Oct-21			3.25%	823.21	823.21	304,778.70

190

191 **History truncated for ease of viewing**

192

193 **Notes**

194 **1** - Transferred authorized balance to account 191431 for amortization.

Company: Northwest Natural Gas Company  
 State: Washington  
 Description: Washington Amortization of Demand  
 Account Number: 191431  
 Program under Schedule P  
 Temp Increment under Schedule 203

1 Debit (Credit)  
 2  
 3

4	Month/Year	Note	Amortization	Transfers	Interest Rate	Interest	Activity	Balance
5	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
6								
192	Dec-20 new <b>(1)</b>		184,384.26		3.25%	(1,661.09)	(1,661.09)	(614,985.62)
193	Jan-21		186,137.11	(1,181,567.06)	3.25%	(4,865.66)	(1,186,432.72)	(1,801,418.34)
194	Feb-21		192,385.29		3.25%	(4,878.84)	(4,878.84)	(1,806,297.18)
195	Mar-21		172,301.02		3.25%	(4,892.05)	(4,892.05)	(1,811,189.23)
196	Apr-21		125,269.02		3.25%	(4,905.30)	(4,905.30)	(1,816,094.53)
197	May-21		67,559.29		3.25%	(4,918.59)	(4,918.59)	(1,821,013.12)
198	Jun-21		53,612.43		3.25%	(4,931.91)	(4,931.91)	(1,825,945.03)
199	Jul-21		35,686.88		3.25%	(4,945.27)	(4,945.27)	(1,830,890.30)
200	Aug-21		33,043.14		3.25%	(4,958.66)	(4,958.66)	(1,835,848.96)
201	Sep-21 <i>forecast</i>		40,349.07		3.25%	(4,972.09)	(4,972.09)	(1,800,471.98)
202	Oct-21 <i>forecast</i>		81,234.56		3.25%	(4,985.56)	(4,985.56)	(1,724,222.98)

203  
 204 **History truncated for ease of viewing**

205  
 206 **Notes**

207 **1** - Transfer in amounts from account 191430 approved for amortization.

208 **2** - Transfer in from account 254302 (storage and optimization revenue sharing).

Company: Northwest Natural Gas Company  
 State: Washington  
 Description: Washington Storage Sharing  
 Account Number: 254302  
 Temp Increment under Schedule 220

1	Debit (Credit)					
2						
3						
4	Month/Year	Note	Accumulation	Transfers	Activity	Balance
5	(a)	(b)	(c)	(d)	(e)	(f)
6						
177	Nov-20		(93,924.65)		(93,924.65)	(1,081,815.30)
178	Dec-20		(99,751.76)		(99,751.76)	(1,181,567.06)
179	Jan-21		(2,285.65)		(2,285.65)	(1,183,852.71)
180	Feb-21		(1,100,868.73)		(1,100,868.73)	(2,284,721.44)
181	Mar-21		(110,621.62)		(110,621.62)	(2,395,343.06)
182	Apr-21		(117,459.84)		(117,459.84)	(2,512,802.90)
183	May-21		(140,963.94)		(140,963.94)	(2,653,766.84)
184	Jun-21		(143,329.03)		(143,329.03)	(2,797,095.87)
185	Jul-21		(149,010.67)		(149,010.67)	(2,946,106.54)
186	Aug-21		(161,288.79)		(161,288.79)	(3,107,395.33)
187	Sep-21				0.00	(3,107,395.33)
188	Oct-21				0.00	(3,107,395.33)

189  
 190 **History truncated for ease of viewing**

191  
 192 **Notes**

193 **1** - Transfer December balance to account 191431 for amortization.

194

NW Natural  
 2021-2022 PGA - SYSTEM: September Filing  
 Summary of Total Commodity Cost  
 ALL VOLUMES IN THERMS

WASHINGTON COSTS															
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
			November	December	January	February	March	April	May	June	July	August	September	October	TOTAL
			1	2	3	4	5	6	7	8	9	10	11	12	
4	<b>COSTS</b>														
5	<b>Commodity Cost from Supply</b>		\$ 3,259,480	\$3,653,766	\$4,229,715	\$3,143,115	\$2,924,900	\$1,967,458	\$1,161,662	\$890,140	\$827,674	\$760,655	\$774,339	\$1,504,240	\$25,097,144
6	tab commodity cost from supply, column cd, lines 93-104 plus gen input line 80; and														
7	tab commodity cost from gas reserve, column q, lines 59-70														
8	<b>Volumetric Pipeline Chgs</b>		\$10,015	\$10,738	\$12,322	\$9,109	\$10,016	\$7,516	\$4,732	\$3,390	\$2,878	\$2,625	\$2,828	\$5,964	\$82,133
9	tab commodity cost from vol pipe, column e, line 78-89														
10	<b>Commodity Cost from Storage</b>		\$141,435	\$1,023,998	\$901,927	\$897,755	\$423,916	\$5,207	\$3,639	\$3,521	\$3,639	\$3,639	\$3,521	\$89,559	\$3,501,756
11	tab Commodity Cost from Storage, column k, line 61-72														
14	<b>Commodity Cost from RNG</b>		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	tab Commodity Cost from RNG, column i, line 61-72														
18	<b>Total Commodity Cost</b>		\$3,410,930	\$4,688,502	\$5,143,964	\$4,049,979	\$3,358,832	\$1,980,181	\$1,170,033	\$897,051	\$834,191	\$766,919	\$780,688	\$1,599,763	\$28,681,033
19															
20	<b>VOLUMES</b>														
21	Commodity Volumes at Receipt Points		9,410,866	9,837,492	11,126,106	8,594,698	9,207,678	7,182,687	4,469,656	3,315,032	2,808,081	2,535,918	2,763,626	5,479,228	76,731,071
22	Pipeline Fuel Use		239,876	230,891	263,926	201,978	223,399	186,935	112,487	77,472	63,374	56,456	62,504	143,066	1,862,363
23	Gas Arriving at City Gate		9,170,990	9,606,601	10,862,180	8,392,720	8,984,280	6,995,752	4,357,170	3,237,560	2,744,707	2,479,463	2,701,123	5,336,162	74,868,708
24															
25	RNG and Storage Gas Withdrawals		493,871	3,571,704	2,838,970	3,131,385	1,133,699	19,187	13,344	12,914	13,344	13,344	12,914	285,574	11,540,250
26	Pipeline Fuel Use for Off-site Storage		0	0	4,093	0	4,605	0	0	0	0	0	0	365	9,063
27	Storage Gas Deliveries at City Gate		493,871	3,571,704	2,834,877	3,131,385	1,129,094	19,187	13,344	12,914	13,344	13,344	12,914	285,209	11,531,187
28															
29	Total Gas At City Gate (Storage and Commodity)		9,664,861	13,178,305	13,697,057	11,524,105	10,113,374	7,014,939	4,370,514	3,250,474	2,758,052	2,492,807	2,714,036	5,621,371	86,399,895
30															
31	Unaccounted for Gas		71,968	75,386	85,239	65,860	70,503	54,898	34,192	25,406	21,539	19,457	21,197	41,875	587,519
32															
33	Load Served		9,592,893	13,102,919	13,611,818	11,458,244	10,042,871	6,960,041	4,336,322	3,225,068	2,736,513	2,473,350	2,692,840	5,579,497	85,812,376
	(0)														

NW Natural  
 2021-2022 PGA - SYSTEM: September Filing  
 Summary of Total Commodity Cost  
 ALL VOLUMES IN THERMS

WASHINGTON COSTS		(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
1	(a) (b)	November	December	January	February	March	April	May	June	July	August	September	October	TOTAL
2		1	2	3	4	5	6	7	8	9	10	11	12	
3														
WACOG Calculations														
38	<b>Total Load Served</b>													
39	Washington	9,592,893	13,102,919	13,611,818	11,458,244	10,042,871	6,960,041	4,336,322	3,225,068	2,736,513	2,473,350	2,692,840	5,579,497	85,812,376
40	Total (same as line 25 +/- rounding)	9,592,893	13,102,919	13,611,818	11,458,244	10,042,871	6,960,041	4,336,322	3,225,068	2,736,513	2,473,350	2,692,840	5,579,497	85,812,376
41														
42	<b>Washington WACOG Calculation</b>													
43														
44	Total Washington commodity cost	\$3,410,930	\$4,688,502	\$5,143,964	\$4,049,979	\$3,358,832	\$1,980,181	\$1,170,033	\$897,051	\$834,191	\$766,919	\$780,688	\$1,599,763	\$28,681,033
45	Total commodity cost for Washington	\$3,410,930	\$4,688,502	\$5,143,964	\$4,049,979	\$3,358,832	\$1,980,181	\$1,170,033	\$897,051	\$834,191	\$766,919	\$780,688	\$1,599,763	\$28,681,033
46														
47	<b>Washington Sales WACOG (line 45 + line 39)</b>	\$0.35557	\$0.35782	\$0.37790	\$0.35346	\$0.33445	\$0.28451	\$0.26982	\$0.27815	\$0.30484	\$0.31007	\$0.28991	\$0.28672	\$0.33423
48														
49	<b>WASHINGTON BILLING WACOG</b>	\$0.37100	\$0.37334	\$0.39429	\$0.36879	\$0.34896	\$0.29685	\$0.28153	\$0.29022	\$0.31807	\$0.32352	\$0.30249	\$0.29916	\$0.34873



NW Natural  
 2021-2022 PGA - SYSTEM: September Filing  
 Derivation of Washington per therm Non-Commodity Charges  
 ALL VOLUMES IN THERMS

**Washington Derivation of Demand Increments**

		Without Revenue Sensitive (c)	WITH Revenue Sensitive (d)
1			
2			
3	(a)	(b)	
4	System Demand	\$78,585,993	
5	Washington Allocation Factor 1/	11.08%	
6	Washington Demand	\$8,707,328	
7			
8	Washington Firm Sales Forecasted Normal Volumes	84,554,292	
9	Washington Interruptible Sales Forecasted Normal Volumes	1,258,084	
10			
11			
12	Proposed Firm Demand Per Therm 2/	\$0.10245	\$0.10689
13	Proposed Interruptible Demand 2/	\$0.03579	\$0.03734
14	Proposed MDDV Demand Charge	\$1.53	\$1.60
15			
16	Current Firm Demand Per Therm	\$0.09719	\$0.10141
17	Current Interruptible Demand	\$0.03395	\$0.03542
18	Current MDDV Demand Charge	\$1.45	\$1.51
19			
20	Percent Change in Firm Demand	5.41%	
21			
22			
23	1/Allocation Factor: 2019-20 PGA forecast firm sales volumes:		
24		<u>Washington</u>	<u>Oregon</u>
25	Firm Sales	84,554,292	678,343,465
26		11.08%	88.92%
27			<u>System</u>
28	2/Calculation of Proposed Demand Rates:		
29			
30	Demand change factor	1.054	
31			
32	Firm Demand (line 16 * line 30)	\$0.10245	\$8,662,306
33	Interruptible Demand (line 17 * line 30)	\$0.03579	\$45,022
34			<hr/> \$8,707,328
35			\$0

**NW Natural**

**2021-2022 PGA - SYSTEM: September Filing**

Calculation of Winter WACOG

Prices are per therm

1	Forecast price for AECO gas:		
2			
3		<u>AECO/NIT</u>	
4			
5	November	\$0.33277	
6	December	\$0.33846	
7	January	\$0.34053	
8	February	\$0.33825	
9	March	\$0.30610	
10	April	\$0.25013	
11	May	\$0.23819	
12	June	\$0.23796	
13	July	\$0.23640	
14	August	\$0.23773	
15	September	\$0.23889	
16	October	\$0.24673	
17			
18			
19	Average price, November-March	\$0.33122	average lines 5-9
20			
21	Annual average price, November-October	\$0.27851	average lines 5-16
22			
23	Ratio of winter to annual	1.18926	line 19 ÷ line 21
24			
25		Without Rev	WITH Rev
26		<u>Sensitive</u>	<u>Sensitive</u>
WA	Washington Annual WACOG	\$0.33423	\$0.34873
WA	Washington Winter WACOG	\$0.39749	\$0.41473
		line 23 * \$0.33423	



**NW Natural  
 Rates & Regulatory Affairs  
 2021-22 PGA - Washington: September Filing  
 Tariff Advice 21-08: PGA Effects on Revenue**

	<u>Amount</u>	<u>Reference</u>
1		
2		
3		
4		
5		
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**Purchased Gas Cost Adjustment (PGA)**

Gas Cost Change	\$7,328,376	NWN 2021-22 PGA Gas Cost Development_September Filing_WA
Capacity Cost Change	<u>1,160,348</u>	NWN 2021-22 PGA Gas Cost Development_September Filing_WA
<b>Total PGA Change</b>	<u>8,488,724</u>	

**Temporary Rate Adjustments**

Proposed PGA Temporary Increments	81,273	NWN 2021-22 PGA WA Rate Development_September Filing
Removal of PGA Current Temporary Increments	<u>767,511</u>	NWN 2020-21 PGA WA Rate Development_September Filing
<b>Total Net Temporary Rate Adjustment</b>	<u>848,784</u>	

**TOTAL OF ALL COMPONENTS OF ALL RATE CHANGES \$9,337,508**

**2020 Washington CBR Normalized Total Revenues \$75,074,541**

**Effect of this filing, as a percentage change 12.44%**