

BEFORE THE  
WASHINGTON UTILITIES & TRANSPORTATION COMMISSION

UG-\_\_  
GENERAL RATE APPLICATION  
OF  
NORTHWEST NATURAL GAS COMPANY

December 31, 2018

**Direct Exhibit of Ronald J. Amen**

**COST OF SERVICE STUDY**

**Exh. RJA-4**

Northwest Natural Gas Company  
12 Months Ended September 30, 2018  
Analysis of Revenue by Detailed Tariff Schedule

Line	Rate Schedule	TY Normal Billing Units		Existing Rates						Proposed Rates						Change in Margin	
		Customers	Volumes	Customer Charge	Transport. Charge	Distribution Capacity	Storage Charge	Volumetric Charge	Margin Revenue	Customer Charge	Transport. Charge	Distribution Capacity	Storage Charge	Volumetric Charge	Margin Revenue	Amount	Percent
1	<b>Schedule 1 - General Sales Service</b>																
2	Residential	860	195,500	\$ 3.47				\$ 0.68448	\$ 169,640	\$ 7.00				\$ 0.91221	\$ 250,605	\$ 80,965	47.7%
3	Commercial	37	45,533	\$ 3.47				\$ 0.68407	\$ 32,685	\$ 7.00				\$ 0.91221	\$ 44,637	\$ 11,952	36.6%
4	<i>Revenue Sensitive Tax</i>																
									\$ 3,348						\$ 3,348	\$ -	0.0%
5	Total Schedule 1 - General Sales Service																
									\$ 205,673						\$ 298,590	\$ 92,917	45.2%
6	<b>Schedule 2 - Residential Sales Service</b>																
7	Residential	74,644	50,173,169	\$ 7.00				\$ 0.41454	\$ 27,068,867	\$ 9.00				\$ 0.49358	\$ 32,826,007	\$ 5,757,139	21.3%
8	<i>Revenue Sensitive Tax</i>																
									\$ 696,947						\$ 696,947	\$ -	0.0%
9	Total Schedule 2 - Residential Sales Service																
									\$ 27,765,814						\$ 33,522,954	\$ 5,757,139	20.7%
10	<b>Schedule 3 - Basic Firm Sales Service</b>																
11	Commercial	6,007	16,892,375	\$ 15.00				\$ 0.41858	\$ 8,152,085	\$ 22.00				\$ 0.47885	\$ 9,674,784	\$ 1,522,698	18.7%
12	Industrial	27	478,558	\$ 15.00				\$ 0.41845	\$ 205,173	\$ 22.00				\$ 0.47885	\$ 236,374	\$ 31,201	15.2%
13	<i>Revenue Sensitive Tax</i>																
									\$ 241,297						\$ 241,297	\$ -	0.0%
14	Total Schedule 3 - Basic Firm Sales Service																
									\$ 8,598,555						\$ 10,152,454	\$ 1,553,899	18.1%
15	<b>Schedule 27 - Residential Heating Dry Out</b>																
16	Commercial	787	517,111	\$ 6.00				\$ 0.25420	\$ 188,078	\$ 9.00				\$ 0.38899	\$ 286,093	\$ 98,015	52.1%
17	<i>Revenue Sensitive Tax</i>																
									\$ 7,183						\$ 7,183	\$ -	0.0%
18	Total Schedule 27 - Residential Heating Dry Out																
									\$ 195,261						\$ 293,276	\$ 98,015	50.2%
19	<b>Schedule 41 - Non-Res Sales &amp; Transport</b>																
20	Commercial	88		\$ 250.00					\$ 265,000	\$ 250.00					\$ 265,000	\$ -	0.0%
21	Block 1		1,845,370					\$ 0.30164	\$ 556,637					\$ 0.37312	\$ 688,544	\$ 131,907	23.7%
22	Block 2		1,822,270					\$ 0.26579	\$ 484,341					\$ 0.32871	\$ 598,999	\$ 114,657	23.7%
23	<i>Revenue Sensitive Tax</i>																
									\$ 50,947						\$ 50,947	\$ -	0.0%
24	Total Commercial																
									\$ 1,356,925						\$ 1,603,490	\$ 246,564	18.2%
25	Industrial	15		\$ 250.00					\$ 44,750	\$ 250.00					\$ 44,750	\$ -	0.0%
26	Block 1		322,108					\$ 0.30168	\$ 97,173					\$ 0.37312	\$ 120,185	\$ 23,011	23.7%
27	Block 2		346,567					\$ 0.26582	\$ 92,124					\$ 0.32871	\$ 113,920	\$ 21,796	23.7%
28	<i>Revenue Sensitive Tax</i>																
									\$ 9,288						\$ 9,288	\$ -	0.0%
29	Total Industrial																
									\$ 243,336						\$ 288,143	\$ 44,807	18.4%
30	Interruptible	-		\$ 250.00					\$ -	\$ 250.00					\$ -	\$ -	n/a
31	Block 1							\$ 0.30141	\$ -					\$ 0.37312	\$ -	\$ -	n/a
32	Block 2							\$ 0.26556	\$ -					\$ 0.32871	\$ -	\$ -	n/a
33	Total Interruptible																
									\$ -						\$ -	\$ -	n/a
34	Comm. Trans	17		\$ 250.00	\$ 250.00				\$ 101,000	\$ 250.00	\$ 250.00				\$ 101,000	\$ -	0.0%
35	Block 1		373,284					\$ 0.30077	\$ 112,273					\$ 0.37312	\$ 139,280	\$ 27,007	24.1%
36	Block 2		590,151					\$ 0.26500	\$ 156,390					\$ 0.32871	\$ 193,989	\$ 37,599	24.0%
37	Total Comm. Trans																
									\$ 369,663						\$ 434,268	\$ 64,606	17.5%
38	Ind. Trans	-		\$ 250.00	\$ 250.00				\$ -	\$ 250.00	\$ 250.00				\$ -	\$ -	n/a
39	Block 1							\$ 0.30077	\$ -					\$ 0.37312	\$ -	\$ -	n/a
40	Block 2							\$ 0.26500	\$ -					\$ 0.32871	\$ -	\$ -	n/a
41	Total Ind. Trans																
									\$ -						\$ -	\$ -	n/a
42	<b>Total Schedule 41</b>																
									\$ 1,969,924						\$ 2,325,901	\$ 355,977	18.1%

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43	<b>Schedule 42 - Lg Vol Non-Res Sales &amp; Trans.</b>																
44	<b>SALES</b>																
45	Commercial	6	6,781	\$ 1,300.00		\$ 0.15748	\$ 0.20415		\$ 119,127	\$ 1,300.00		\$ 0.30078	\$ 0.19082		\$ 129,702	\$ 10,576	8.9%
46	Block 1		375,026					\$ 0.11877	\$ 44,542					\$ 0.14399	\$ 54,000	\$ 9,458	21.2%
47	Block 2		296,469					\$ 0.10632	\$ 31,521					\$ 0.12882	\$ 38,191	\$ 6,671	21.2%
48	Block 3		74,327					\$ 0.08154	\$ 6,061					\$ 0.09869	\$ 7,335	\$ 1,275	21.0%
49	Block 4		1,197					\$ 0.06523	\$ 78					\$ 0.07891	\$ 94	\$ 16	21.0%
50	Block 5		-					\$ 0.04348	\$ -					\$ 0.05261	\$ -	\$ -	n/a
51	Block 6		-					\$ 0.01630	\$ -					\$ 0.01630	\$ -	\$ -	n/a
52	Revenue Sensitive Tax								\$ 10,377						\$ 10,377	\$ -	0.0%
53	Total Commercial								\$ 211,704						\$ 239,700	\$ 27,996	13.2%
54	Industrial	12	11,213	\$ 1,300.00		\$ 0.15748	\$ 0.20415		\$ 233,259	\$ 1,300.00		\$ 0.30078	\$ 0.19082		\$ 250,748	\$ 17,488	7.5%
55	Block 1		1,116,842					\$ 0.11871	\$ 132,580					\$ 0.14399	\$ 160,814	\$ 28,234	21.3%
56	Block 2		718,679					\$ 0.10626	\$ 76,367					\$ 0.12882	\$ 92,580	\$ 16,213	21.2%
57	Block 3		82,149					\$ 0.08149	\$ 6,694					\$ 0.09869	\$ 8,107	\$ 1,413	21.1%
58	Block 4		-					\$ 0.06519	\$ -					\$ 0.07891	\$ -	\$ -	n/a
59	Block 5		-					\$ 0.04347	\$ -					\$ 0.05261	\$ -	\$ -	n/a
60	Block 6		-					\$ 0.01629	\$ -					\$ 0.01630	\$ -	\$ -	n/a
61	Revenue Sensitive Tax								\$ 26,638						\$ 26,638	\$ -	0.0%
62	Total Industrial								\$ 475,539						\$ 538,887	\$ 63,348	13.3%
63	Interruptible	4	7,673	\$ 1,300.00			\$ 0.10208		\$ 71,799	\$ 1,300.00			\$ 0.09541		\$ 71,185	\$ (614)	-0.9%
64	Block 1		412,020					\$ 0.11870	\$ 48,907					\$ 0.14399	\$ 59,327	\$ 10,420	21.3%
65	Block 2		608,155					\$ 0.10625	\$ 64,616					\$ 0.12882	\$ 78,343	\$ 13,726	21.2%
66	Block 3		247,080					\$ 0.08148	\$ 20,132					\$ 0.09869	\$ 24,384	\$ 4,252	21.1%
67	Block 4		51,943					\$ 0.06518	\$ 3,386					\$ 0.07891	\$ 4,099	\$ 713	21.1%
68	Block 5		-					\$ 0.04345	\$ -					\$ 0.05261	\$ -	\$ -	n/a
69	Block 6		-					\$ 0.01630	\$ -					\$ 0.01630	\$ -	\$ -	n/a
70	Revenue Sensitive Tax								\$ 14,362						\$ 14,362	\$ -	0.0%
71	Total Interruptible								\$ 223,202						\$ 251,699	\$ 28,497	12.8%

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72	<b>TRANSPORTATION</b>																
73	Comm. Trans	4	8,533	\$ 1,300.00	\$ 250.00	\$ 0.15748		\$ 90,525	\$ 1,300.00	\$ 250.00	\$ 0.30078		\$ 105,199	\$ 14,673	16.2%		
74	Block 1		480,000					\$ 0.11818	\$ 56,726				\$ 0.14399	\$ 69,115	\$ 12,389	21.8%	
75	Block 2		772,316					\$ 0.10579	\$ 81,703				\$ 0.12882	\$ 99,490	\$ 17,786	21.8%	
76	Block 3		435,081					\$ 0.08112	\$ 35,294				\$ 0.09869	\$ 42,938	\$ 7,644	21.7%	
77	Block 4		370,572					\$ 0.06490	\$ 24,050				\$ 0.07891	\$ 29,242	\$ 5,192	21.6%	
78	Block 5		-					\$ 0.04327	\$ -				\$ 0.05261	\$ -	\$ -	n/a	
79	Block 6		-					\$ 0.01622	\$ -				\$ 0.01630	\$ -	\$ -	n/a	
80	Total Comm. Trans							\$ 288,299					\$ 345,984	\$ 57,685	20.0%		
81	Industrial Trans	8	17,543	\$ 1,300.00	\$ 250.00	\$ 0.15748		\$ 178,852	\$ 1,300.00	\$ 250.00	\$ 0.30078		\$ 209,019	\$ 30,167	16.9%		
82	Block 1		835,575					\$ 0.11818	\$ 98,748				\$ 0.14399	\$ 120,314	\$ 21,566	21.8%	
83	Block 2		847,995					\$ 0.10579	\$ 89,709				\$ 0.12882	\$ 109,239	\$ 19,529	21.8%	
84	Block 3		712,276					\$ 0.08112	\$ 57,780				\$ 0.09869	\$ 70,295	\$ 12,515	21.7%	
85	Block 4		1,293,228					\$ 0.06490	\$ 83,930				\$ 0.07891	\$ 102,049	\$ 18,118	21.6%	
86	Block 5		355,242					\$ 0.04327	\$ 15,371				\$ 0.05261	\$ 18,689	\$ 3,318	21.6%	
87	Block 6		-					\$ 0.01622	\$ -				\$ 0.01630	\$ -	\$ -	n/a	
88	Total Industrial Trans							\$ 524,391					\$ 629,605	\$ 105,213	20.1%		
89	Interrupt. Trans	8		\$ 1,300.00	\$ 250.00			\$ 147,250	\$ 1,300.00	\$ 250.00			\$ 147,250	\$ -	0.0%		
90	Block 1		924,358					\$ 0.11818	\$ 109,241				\$ 0.14399	\$ 133,098	\$ 23,858	21.8%	
91	Block 2		1,661,182					\$ 0.10579	\$ 175,736				\$ 0.12882	\$ 213,993	\$ 38,257	21.8%	
92	Block 3		1,395,939					\$ 0.08112	\$ 113,239				\$ 0.09869	\$ 137,765	\$ 24,527	21.7%	
93	Block 4		4,342,579					\$ 0.06490	\$ 281,833				\$ 0.07891	\$ 342,673	\$ 60,840	21.6%	
94	Block 5		2,584,324					\$ 0.04327	\$ 111,824				\$ 0.05261	\$ 135,961	\$ 24,138	21.6%	
95	Block 6		-					\$ 0.01622	\$ -				\$ 0.01630	\$ -	\$ -	n/a	
96	Total Interrupt. Trans							\$ 939,123					\$ 1,110,741	\$ 171,618	18.3%		
97	<b>Total Schedule 42</b>							\$ 2,662,258					\$ 3,116,616	\$ 454,358	17.1%		
98	<b>Schedule 43 - High-Vol. Non-Res. Transport</b>																
99	Total		-					\$ -					\$ -	\$ -			
100	<b>Schedule 61&amp;62 - Special Contracts</b>																
101	Total	1	2,813,155	Negotiated				\$ 239,628					\$ 239,628	\$ -	0.0%		
102	<b>Total NW Natural Margin</b>							\$ 41,637,113					\$ 49,949,419	\$ 8,312,305	20.0%		