

BEFORE THE
WASHINGTON UTILITIES & TRANSPORTATION COMMISSION

UG-__
GENERAL RATE APPLICATION
OF
NORTHWEST NATURAL GAS COMPANY

December 31, 2018

Direct Exhibit of Kevin S. McVay

REVENUE REQUIREMENT

Exh. KSM-4

NW Natural
Washington Rate Case
Test Year Based on Twelve Months Ended September 30, 2018

Line No.	Washington Allocated Results					
	Test Year Results	Adjustments	Test Year Adjusted	Proposed Rate Increase	Test Year at 10.30% Equity Return	
	(a)	(b)	(c)	(d)	(e)	
Operating Revenues						
1	Sale of Gas	\$67,314,413	(\$3,593,725)	\$63,720,688	\$8,312,044	\$72,032,732
2	Transportation	2,370,981	(9,877)	2,361,104	0	2,361,104
3	Miscellaneous Revenues	(2,048,364)	2,287,568	239,204	0	239,204
4	Total Operating Revenues	67,637,030	(1,316,034)	66,320,996	8,312,044	74,633,040
Operating Revenue Deductions						
5	Gas Purchased	25,772,083	(1,327,405)	24,444,678	0	24,444,678
6	Uncollectible Accrual for Gas Sales	58,166	17,476	75,642	8,774	84,416
7	Other Operating & Maintenance Expenses	17,639,305	419,002	18,058,307	0	18,058,307
8	Total Operating & Maintenance Expense	43,469,553	(890,926)	42,578,627	8,774	42,587,401
9	Federal Income Tax	1,360,922	(286,902)	1,074,020	1,672,958	2,746,978
10	Property Taxes	1,268,490	228,144	1,496,634	0	1,496,634
11	Other Taxes	3,687,322	(12,115)	3,675,207	336,804	4,012,011
12	Depreciation & Amortization	9,434,311	129,240	9,563,551	0	9,563,551
13	Total Operating Revenue Deductions	59,220,599	(832,559)	58,388,040	2,018,536	60,406,575
14	Net Operating Revenues	<u>\$8,416,431</u>	<u>(\$483,475)</u>	<u>\$7,932,956</u>	<u>\$6,293,509</u>	<u>\$14,226,465</u>
15	Total Rate Base	<u>\$162,928,776</u>	<u>\$23,550,167</u>	<u>\$186,478,943</u>	<u>\$0</u>	<u>\$186,478,943</u>
16	Rate of Return	<u>5.17%</u>		<u>4.25%</u>		<u>7.63%</u>
17	Return on Common Equity	<u>5.33%</u>		<u>3.48%</u>		<u>10.30%</u>

NW Natural
Adjustments to Test Period
Test Year Based on Twelve Months Ended September 30, 2018

Line No.	Restating	Restating	Restating	Restating	Restating	Restating	Restating	Restating	Restating	Restating	Total Restating	Pro Forma	
	Weather Normalized Gas Sales & Purchases (a)	Misc Revenues Adjustment (b)	Bonus Adjustment (c)	Property Tax Adjustment (d)	Uncollectible Accounts Adjustment (e)	Working Capital Adjustment (f)	Marketing and Cust. Comm. Adjustment (g)	Claims Adjustment (h)	Rate Case Adjustment (i)	Clearing Adjustment (j)	Total Restating Adjustments (k)	Pavroll Adjustment (l)	
Operating Revenues													
1	Sale of Gas	(3,593,725)									(3,593,725)		
2	Transportation	(9,877)									(9,877)		
3	Miscellaneous Revenues		2,287,568								2,287,568		
4	Total Operating Revenues	(3,603,602)	2,287,568	0	0	0	0	0	0	0	(1,316,034)	0	
Operating Revenue Deductions													
5	Gas Purchased	(1,327,405)									(1,327,405)		
6	Uncollectible Accrual	(3,804)			21,280						17,476		
7	Other Operating & Maintenance Expenses			(160,538)			(287,523)	35,323	137,833	16,363	(258,543)	538,699	
8	Total Operating & Maintenance Expense	(1,331,208)	0	(160,538)	21,280	0	(287,523)	35,323	137,833	16,363	(1,568,471)	538,699	
9	Federal Income Tax	(446,539)	460,924	34,540	(47,910)	(4,469)	(67,568)	60,380	(7,402)	(28,945)	(4,777)	(51,766)	(113,127)
10	Property Taxes				228,144							228,144	
11	Other Taxes	(146,018)	92,692									(53,326)	
12	Depreciation & Amortization											0	
13	Total Operating Revenue Deductions	(1,923,765)	553,616	(125,998)	180,234	16,811	(67,568)	(227,143)	27,921	108,888	11,586	(1,445,419)	425,572
14	Net Operating Revenues	(1,679,837)	1,733,952	125,998	(180,234)	(16,811)	67,568	227,143	(27,921)	(108,888)	(11,586)	129,385	(425,572)
Average Rate Base													
15	Utility Plant in Service			(155,750)			12,717,540		(2,895)		252,298	12,811,193	
16	Accumulated Depreciation											0	
17	Net Utility Plant	0	0	(155,750)	0	0	12,717,540	0	(2,895)	0	252,298	12,811,193	0
18	Storage Gas											0	
19	Aid in Advance of Construction											0	
20	Leasehold Improvements											0	
21	Accumulated Deferred Income Taxes											0	
22	Total Rate Base	0	0	(155,750)	0	0	12,717,540	0	(2,895)	0	252,298	12,811,193	0
23	Interest Coordination	0	0	(3,940)	0	0	321,754	0	(73)	0	6,383	324,123	0

NW Natural
Adjustments to Test Period
Test Year Based on Twelve Months Ended September 31

Page 2

Line No.	Pro Forma	Pro Forma	Pro Forma	Pro Forma	Pro Forma	Pro Forma	Total Pro Forma	Total
	Payroll Overhead Adjustment (m)	Depreciation Adjustment (n)	Post Test Year Capital Adjustment (o)	EDIT Amortization Adjustment (p)	Holdco Adjustment (q)	Director Adjustment (r)	Total Pro Forma Adjustments (s)	Total Adjustments (t)
Operating Revenues								
1							0	(3,593,725)
2							0	(9,877)
3							0	2,287,568
4		0	0	0	0	0	0	(1,316,034)
Operating Revenue Deductions								
5							0	(1,327,405)
6							0	17,476
7	157,153				(37,467)	19,160	677,545	419,002
8	157,153	0	0	0	(37,467)	19,160	677,545	(890,926)
9	(41,656)	35,583	(116,861)	(2,919)	7,868	(4,024)	(235,136)	(286,902)
10							0	228,144
11	41,210						41,210	(12,115)
12		(169,444)	298,684	0			129,240	129,240
13	156,708	(133,861)	181,823	(2,919)	(29,599)	15,136	612,860	(832,559)
14	(156,708)	133,861	(181,823)	2,919	29,599	(15,136)	(612,860)	(483,475)
Average Rate Base								
15			10,189,608	0			10,189,608	23,000,801
16							0	0
17	0	0	10,189,608	0	0	0	10,189,608	23,000,801
18							0	0
19							0	0
20							0	0
21				549,366			549,366	549,366
22	0	0	10,189,608	549,366	0	0	10,738,974	23,550,167
23	0	0	257,797	13,899	0	0	271,696	317,741

Northwest Natural Gas Company
Adjustments to Test Period
Test Year Based on Twelve Months Ended September 30, 2018
(\$000)

Line No.	Income Tax Calculations	Weather Normalized Gas Sales & Purchases (a)	Misc Revenues Adjustment (b)	Bonus Adjustment (c)	Property Tax Adjustment (d)	Uncollectible Accounts Adjustment (e)	Working Capital Adjustment (f)	Marketing and Cust. Comm. Adjustment (g)	Claims Adjustment (h)	Rate Case Adjustment (i)	Clearing Adjustment (j)	Total Restating Adjustments (k)	Payroll Adjustment (l)
1	Book Revenues	(3,603,602)	2,287,568	0	0	0	0	0	0	0	0		0
2	Book Expenses before Deprec. & Interest	(1,477,226)	92,692	(160,538)	228,144	21,280	0	(287,523)	35,323	137,833	16,363		538,699
3	State Tax Depreciation	0	0	0	0	0	0	0	0	0	0		0
4	Interest Expense (Income)	0	0	(3,940)	0	0	321,754	0	(73)	0	6,383		0
5	Book/Tax Differences (Sched. M)	0	0	0	0	0	0	0	0	0	0		0
6	Federal Taxable Income	(2,126,376)	2,194,876	164,478	(228,144)	(21,280)	(321,754)	287,523	(35,250)	(137,833)	(22,746)		(538,699)
7	Federal Income Tax [1]	(446,539)	460,924	34,540	(47,910)	(4,469)	(67,568)	60,380	(7,402)	(28,945)	(4,777)		(113,127)
8	ITC	0	0	0	0	0	0	0	0	0	0		0
9	Current Federal Tax	(446,539)	460,924	34,540	(47,910)	(4,469)	(67,568)	60,380	(7,402)	(28,945)	(4,777)		(113,127)
10	Deferred Income Tax - Federal	0	0	0	0	0	0	0	0	0	0		0
11	Deferred Income Tax - State	0	0	0	0	0	0	0	0	0	0		0
12	ITC Restored (Deferred)	0	0	0	0	0	0	0	0	0	0		0
13	Total Federal Tax	(446,539)	460,924	34,540	(47,910)	(4,469)	(67,568)	60,380	(7,402)	(28,945)	(4,777)		(113,127)

Northwest Natural Gas Company
Adjustments to Test Period
Test Year Based on Twelve Months Ended September 30, 20
(\$000)

Line No.	Income Tax Calculations	Payroll Overhead Adjustment (m)	Depreciation Adjustment (n)	Post Test Year Capital Adjustment (o)	EDIT Amortization Adjustment (p)	Washington Hedging Adjustment (q)	Washington Hedging Adjustment (r)	Total Pro Forma Adjustments (s)	Total Adjustments (t)
1	Book Revenues	0	0	0	0	0	0		
2	Book Expenses before Deprec. & Interest	198,364	0	0	0	(37,467)	19,160		
3	State Tax Depreciation	0	(169,444)	298,684	0	0	0		
4	Interest Expense (Income)	0	0	257,797	13,899	0	0		
5	Book/Tax Differences (Sched. M)	0	0	0	0	0	0		
6	Federal Taxable Income	(198,364)	169,444	(556,481)	(13,899)	37,467	(19,160)		
7	Federal Income Tax [1]	(41,656)	35,583	(116,861)	(2,919)	7,868	(4,024)		
8	ITC	0	0	0	0	0	0		
9	Current Federal Tax	(41,656)	35,583	(116,861)	(2,919)	7,868	(4,024)		
10	Deferred Income Tax - Federal	0	0	0	0	0	0		
11	Deferred Income Tax - State	0	0	0	0	0	0		
12	ITC Restored (Deferred)	0	0	0	0	0	0		
13	Total Federal Tax	(41,656)	35,583	(116,861)	(2,919)	7,868	(4,024)		

NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Weather Normalized Gas Sales and Purchases Adjustment

Revenues	Actual			Normalized			Adjustment
	Therm Deliveries	Average Class Price Per Therm	Revenues and Margin	Therm Deliveries	Average Class Price Per Therm	Revenues and Margin	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
Sales Volumes and Revenues							
1 Residential	50,068,986	0.93166	\$46,647,052	50,368,669	0.87489	\$44,067,223	
2 Commercial	21,738,480	0.83207	\$18,087,986	21,869,677	0.78588	\$17,187,046	
3 Industrial Firm	3,052,386	0.64441	\$1,966,975	3,064,902	0.62388	\$1,912,138	
4 Interruptible	1,319,198	0.41212	\$543,668	1,319,198	0.42016	\$554,280	
5 Total Sales of Gas Revenues	76,179,050		\$67,245,682	76,622,447		\$63,720,688	(\$3,524,994)
6 Unbilled amounts	117,158		\$68,731				(\$68,731)
7 Unaccounted For Gas	228,702						
Transportation Volumes and Revenues							
8 Firm	7,065,720	0.16811	\$1,187,790	7,065,720	0.16734	\$1,182,353	
9 Interruptible	10,909,907	0.08649	\$943,569	10,908,382	0.08609	\$939,123	
10 Special Contracts - Firm	2,813,155	0.08518	\$239,621	2,813,155	0.08518	\$239,628	
11 Total Transportation	20,788,782		\$2,370,981	20,787,257		\$2,361,104	(\$9,877)
12 Total Deliveries and Revenues	97,313,692		\$69,685,394	97,409,704		\$66,081,791	(\$3,603,602)
Gas Costs							
13 Demand Charges (Net of Deferral)			\$8,770,697			\$8,063,564	
14 Commodity Charges (Net of Deferral)			19,856,051			16,381,114	
15 Commodity and Demand Amortizations			(2,854,665)			0	
16 Total Cost of Gas			\$25,772,083			\$24,444,678	(\$1,327,405)
17 Total Margin			\$43,913,311			\$41,637,113	

NW Natural
Washington Rate Case
Test Year Based on Twelve Months Ended September 30, 2018
Adjustments to Miscellaneous Revenues

Worksheet b

<u>Line No.</u>		<u>Actual</u>	<u>Normalized</u>	<u>Adjustment</u>
		(a)	(b)	(c)
Revenue & Technical Adjustments				
1	DSM - Amortization	(\$2,032,720)	\$0	\$2,032,720
2	WA GREAT, WA-LIEE	(\$304,443)	\$0	\$304,443
3	Subtotal	(\$2,337,162)	\$0	\$2,337,162
Other Miscellaneous Revenues				
4	FORFEITED DISCOUNTS-LATE PAYMENT CHARGE	\$89,244	\$90,177	\$933
5	MISC SERVICE REVENUES-AUTOMATED PAYMENT	\$5,723	\$5,951	\$228
6	MISC SERVICE REVENUES-DELINQ RECONN FEE	\$1,500	\$1,500	\$0
7	MISC SERVICE REVENUES-FIELD COLLECTION C	\$33,220	\$33,220	\$0
8	MISC SERVICE REVENUES-GAS DIVERSIONS	\$1,383	\$1,383	\$0
9	MISC SERVICE REVENUES-RECONN CHG-CR-AFTE	\$34,700	\$34,433	(\$267)
10	MISC SERVICE REVENUES-RECONN CHG-CR-DURI	\$15,900	\$15,900	\$0
11	MISC SERVICE REVENUES-RECONN CHG-SEAS-AF	\$1,200	\$1,717	\$517
12	MISC SERVICE REVENUES-RECONN CHG-SEAS-DU	\$550	\$550	\$0
13	MISC SERVICE REVENUES-RETURNED CHECK CHA	\$11,658	\$11,658	\$0
14	MISC SERVICE REVENUES-SEAS RECONN FEE	\$300	\$300	\$0
15	MISC SERVICE REVENUES-SUMMARY BILL SVCS	\$0	(\$8)	(\$8)
16	OTHER GAS REVENUES-METER RENTALS	\$18,356	\$19,365	\$1,008
17	OTHER GAS REV-LNG SALES & OTHER MISC REV	\$600	\$1,370	\$770
18	RENT FROM GAS PROPERTY-RENT - UTILITY PR	\$74,465	\$21,689	(\$52,776)
13	Subtotal	\$288,798	\$239,204	(\$49,594)
14	Total	(\$2,048,364)	\$239,204	\$2,287,568

Northwest Natural Gas Company
Test Year Based on Twelve Months Ended September 30, 2018
Bonus Adjustment

<u>Line No.</u>	<u>2015 paid in 2016</u>	<u>2016 paid in 2017</u>	<u>2017 paid in 2018</u>	<u>Three Year Average</u>	<u>Test Year Accrual</u>	<u>Adjustment</u>	
	(a)	(b)	(c)	(d)	(e)	(f)=(d)-(e)	
<hr/> Officers/Exempt <hr/>							
1	Performance Bonus - O & M	\$6,213,593	\$5,597,391	\$6,107,412	\$5,972,799	\$6,572,483	(\$599,685)
2	Performance Bonus - Construction	2,580,181	2,594,415	2,952,686	2,709,094	3,587,548	(878,454)
<hr/> Clerical/Hourly <hr/>							
3	Key Goals Bonus - O & M	0	597,200	1,105,922	567,707	1,400,378	(832,671)
4	Key Goals Bonus - Construction	0	358,883	534,668	297,850	764,387	(466,537)
5	Total	<u>8,793,774</u>	<u>9,147,889</u>	<u>10,700,688</u>	<u>9,547,450</u>	<u>12,324,796</u>	<u>(2,777,346)</u>
6	Total Adjusted O & M (line 3 + line 9)						(\$1,432,355)
7	Washington Allocation Factor				Employee Cost		<u>11.21%</u>
8	Adjustment to Washington - O&M						<u>(\$160,538)</u>
9	Total Adjusted Construction (line 6 + line 12)						(\$1,344,991)
10	Washington Allocation Factor				Gross Plant		<u>11.58%</u>
11	Adjustment to Washington - Rate Base						<u>(\$155,750)</u>

Adjustment takes expense from test period accrual to 3 year paid average

NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Property Tax Adjustment

Worksheet d

<u>Line</u> <u>No.</u>	<u>Expense</u> <u>(a)</u>
1 Property Taxes - Test Period Expense	\$1,268,490
2 Property Taxes - Paid During 2018	1,509,613
3 Property Taxes - Capitalized	<u>12,979</u>
4 Adjustment	<u><u>\$228,144</u></u>

NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Uncollectible Accounts Adjustments

Worksheet e

Line No.	2016 - 2018 Total	12 Months Ended September			
		2018 Actual	2017 Actual	2016 Actual	
		(a)	(b)	(c)	(d)
Gas Revenues					
1	Residential	\$1,279,892,130	\$422,699,759	\$454,168,194	\$403,024,176
2	Commercial	636,944,211	208,617,626	227,807,903	200,518,682
3	Industrial	65,643,595	21,527,710	22,807,945	21,307,940
4	Interruptible	62,809,074	20,395,258	22,239,876	20,173,941
5	Total	2,045,289,010	673,240,352	727,023,918	645,024,739
Net Write-Offs					
6	Residential	1,732,214	430,995	694,701	606,517
7	Commercial	275,086	86,089	95,298	93,699
8	Industrial	151,544	2,307	27,123	122,114
9	Interruptible	0	0	0	0
10	Total	2,158,844	519,392	817,122	822,330
Write-Off % - 3-Year Average					
11	Residential	0.135%	0.102%	0.153%	0.150%
12	Commercial	0.043%	0.041%	0.042%	0.047%
13	Industrial	0.231%	0.011%	0.119%	0.573%
14	Interruptible	0.000%	0.000%	0.000%	0.000%
15	Weighted Total [1]	0.106%	0.077%	0.112%	0.127%
Normalized Uncollectible					
16	Residential	\$572,084			
17	Commercial	90,099			
18	Industrial	49,699			
19	Interruptible	0			
20	Total	\$711,882			
21	Allocation Factor (Customers - All)	11.16%			
22	Washington Normalized Amount	\$79,446			
23	Washington Allocation of Accrued Amount	\$58,166			
24	Adjustment (Normalized less Accrued)	\$21,280			

[1] Weighted uncollectible rate of

0.106% is used on page 1, column (b)

NW Natural
Washington Rate Case
Working Capital Calculation

Worksheet f

		<u>AMA</u>
	Average Invested Capital	
1	Common Equity	776,767,236
2	Preferred Stock	-
3	Miscellaneous Debt	813,733,020
4	Deferred ITC	322
5	Deferred Liabilities	16,505,113
6	Total Invested Capital	<u>1,607,005,690</u>
	Average Investments	
	Utility Operating Investments	
7	Plant in Service	2,981,614,839
8	Accumulated Depreciation	(1,327,857,300)
9	Deferred Income Taxes	(362,148,977)
10	Gas Stored Underground - Cushion Gas	18,056,545
11	Property Held for Future Use	960,295
12	Customer Advances	(5,072,451)
13	Contributions in Aid of Construction	(4,207,252)
14	Investment in Gas Reserves	114,848,596
15	Total Operating Investments	<u>1,416,194,296</u>
	Other Investments	
16	Construction Work In Process	186,480,461
17	Non-Utility Property	52,659,384
18	Accumulated Depreciation - non utility	(19,054,381)
19	Deferred Income Tax - non-utility & Oregon	(130,058,467)
20	Investments in Subsidiary Companies	58,304,491
21	Temporary Cash Investments	3,298,275
22	Deferred Gas Costs	(21,270,245)
23	Other Deferred Debits	113,293,024
24	Total Other Investments	<u>243,652,542</u>
25	Total Average Investments (In 15 + In 24)	1,659,846,838
26	Less CWIP (In 16)	(186,480,461)
27	Less Deferred Gas Costs (In 22)	21,270,245
28	Total Base Investment - System	<u>1,494,636,622</u>
29	Investor Supplied Working Capital (In 6 - In 28)	\$ 112,369,069
30	Less Working Gas Inventory	34,231,890
31	Allowable Working Capital - System	<u>\$ 78,137,179</u>
32	Working Capital Percentage Allowable (In 31 / In 28)	5.27%
33	Washington Rate Base (excludes WC - includes adjustments)	\$173,761,403
34	Allowable Investor Supplied Working Capital (In 33 X In 32)	\$ 9,150,577
35	Working Gas Inventory	\$ 34,231,890
36	Inventory allocation % - firm delivered	10.42%
37	Washington Gas Inventory (In 35 X In 36)	<u>\$ 3,566,963</u>
38	Total Working Capital Allowance (In 37 + In 34)	<u>\$ 12,717,540</u>
	Washington Rate Base (excludes WC - includes adjustments)	\$173,761,403

Worksheet g

NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Marketing and Customer Communications Adjustment

Line No.	Marketing	Washington Allocated Amount (a)	Disallowance Percent (b)	Disallowed Amount (c)
1	Marketing Expenses - Account 912	<u>\$236,575</u>	100%	<u>(\$236,575)</u>
	Advertising	System Expensed Amount (a)	Allocation Factor (Residential Customers) (b)	Disallowed Washington Allocated Amount (c)
2	Expenses not qualifying under 480-90-223	<u>\$452,073</u>	11.27%	<u>(\$50,949)</u>
	<u>Total Marketing and Advertising</u>			
3	Total Adjustment for Marketing & Communications			<u>(\$287,523)</u>

NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Claims Expense Adjustment

Worksheet h

<u>Line No.</u>	<u>O&M Expense</u> (a)	<u>Construction</u> (b)
1 Expensed during Test period	\$112,509	\$145,967
Normalized Expenses		
2 Actual Claims - Ordinary (Paid)	186,612	120,967
3 3-Year Average Claims - Extraordinary 1/	240,998	0
4 Subtotal	<u>427,610</u>	<u>120,967</u>
5 Adjustment - System (line 4 - line 1)	315,101	(25,000)
6 Allocation to Washington (O&M on 3-factor, const on gross plant)	<u>11.21%</u>	<u>11.58%</u>
7 Adjustment	<u><u>\$35,323</u></u>	<u><u>(\$2,895)</u></u>

1/ Extraordinary Claims	<u>TME December</u>
TME 9/30/16	298,383
TME 9/30/17	358,715
TME 9/30/18	<u>65,897</u>
3-Year Average	240,998

**NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Rate Case Expense Adjustment**

Worksheet i

<u>Line No.</u>	<u>O&M Expense (a)</u>
1 Outside Services - Washington Rate Case	<u>\$413,500</u>
2 3-Year Average for rate case frequency	<u>\$137,833</u>
Return on Equity Consultant	83,500
Cost of Service / Rate Design Consultant	130,000
Outside Legal	<u>200,000</u>
Total	413,500

NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Elimination of Clearing Account Balances

Worksheet j

<u>Line</u> <u>No.</u>		<u>Amount</u>
1	Adjustment to O&M	\$16,363
2	Adjustment to Construction	\$252,298

Northwest Natural Gas Company
 Test Year Based on Twelve Months Ended September 30, 2018
 Payroll Adjustment - Excluding Bonuses

Line No.	Total 1/ (a)	Officers 2/ (b)	NBU (c)	BU (d)
1 12 Months Payroll - 9/30/2018	103,089,048	3,681,313	51,335,877	48,071,858
2 Payroll - Annualized 3/	104,449,105	3,620,846	51,757,006	49,071,253
3 Annualized 2018 Wage Increases (5 months) NBU	791,392		791,392	
4 Annualized 2019 Wage Increases (12 months) NBU	2,101,936		2,101,936	
5 Annualized 2017 Wage Increases (2 months) BU	278,137			278,137
6 Adjust 2018 Wage Increases (12 months) BU	1,727,229			1,727,229
7 Adjust 2019 Wage Increases (12 months) BU	1,787,682			1,787,682
8 Payroll - Normalized	111,135,479	3,620,846	54,650,334	52,864,300
9 O&M Payroll Factor	63.1%	72.5%	64.7%	60.8%
10 O&M Payroll - Normalized	70,125,373	2,625,113	35,358,766	32,141,494
11 O&M Payroll - Actual	65,110,954	2,668,952	33,214,312	29,227,690
12 Adjustment to O & M Payroll - System	5,014,419	(43,839)	2,144,454	2,913,804
13 Washington Allocation for O&M Payroll	10.74%			
14 Adjustment to O & M Payroll - Washington	\$538,699			

Notes:

2017 BU Salary Adjustment December 1, 2017	3.50%
2018 NBU Adjustment March 1, 2018	3.75%
2018 BU Salary Adjustment December 1, 2018	3.50%
2019 NBU Adjustment March 1, 2019	4.00%
2019 BU Salary Adjustment December 1, 2019	3.50%

- 1/ Total and Officer columns included to determine company O&M % for some adjustments
 2/ Normalized to test year average pay per executive times ending 12 Officers
 3/ Amounts reflect average salaries at end of period count.

Northwest Natural Gas Company
Test Year Based on Twelve Months Ended September 30, 2018
Payroll Adjustment - Excluding Bonuses
Annualized Wages and Salaries

Worksheet I (2)

<u>Line No.</u>	<u>Officers</u>	<u>NBU</u>	<u>BU</u>
	(a)	(b)	(c)
1 Adjusted Employee Count - Year-end 1/	12.0	508.3	630.2
2 Average Employee Count - Test Period	12.2	504.2	617.4
3 Test Year Payroll	\$3,681,313	\$51,335,877	\$48,071,858
4 Average Payroll per Employee (line 3 / line 2)	\$301,737	\$101,816	\$77,865
5 Payroll Based on Year-end Employees (line 4 * line 1)	<u>\$3,620,846</u>	<u>\$51,757,006</u>	<u>\$49,071,253</u>
	<u>Officers</u>	<u>NBU</u>	<u>BU</u>
2017 October	12.0	489.5	596.4
2017 November	12.0	494.6	604.4
2017 December	11.9	499.7	612.3
2018 January	12.0	501.3	617.6
2018 February	12.0	505.5	611.8
2018 March	12.5	506.0	619.2
2018 April	12.0	507.5	620.5
2018 May	12.0	510.0	619.4
2018 June	12.0	510.2	622.2
2018 July	12.0	508.7	621.4
2018 August	13.0	509.1	633.0
2018 September	13.0	508.3	630.2
Average	<u>12.2</u>	<u>504.2</u>	<u>617.4</u>

1/ Reflects expected retirement of HR executive

NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Payroll Overhead Adjustment

Worksheet m

<u>Line No.</u>	<u>System Adjustment Amount</u> (a)	<u>Washington Allocation Factor 1/</u> (b)	<u>Washington Adjustment Amount</u> (c)
<u>Health and Life Insurance Adjustment</u>			
1	Health and Life O&M Costs - Actual Test Period O&M	11,830,300	
2	Health and Life O&M Costs - Current Cost	<u>12,199,939</u>	
3	Total Adjustment	<u>\$369,639</u>	10.74% 39,710
<u>Pension Adjustment - Washington Allocated Costs</u>			
4	Pension Costs - Test Period Actual O&M	1,844,666	
5	Pension Costs - Current Cost (Calendar 2018)	<u>1,962,109</u>	
6	Total Adjustment	<u>\$117,443</u>	100.00% <u>117,443</u>
7	Total O&M Adjustment		<u>157,153</u>
Note: Pension administrative costs and Western States not normalized			
<u>Payroll Tax Adjustment</u>			
8	Adjusted Payroll - O&M	70,125,373	
9	Test Period Payroll - O&M	<u>65,110,954</u>	
10	Incremental Payroll	5,014,419	
11	FICA Tax Rate	<u>7.65%</u>	
12	Incremental Payroll Taxes	<u>\$383,603</u>	10.74% <u>41,210</u>

1/ Payroll Cost Allocation Factor

NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Depreciation Adjustment

Worksheet n

<u>Line</u> <u>No.</u>		<u>Expense</u> <u>(a)</u>
1	Depreciation Expense - Test Year Actual	9,434,311
2	Depreciation Expense - New Rates	<u>9,264,867</u>
3	Depreciation Expense Adjustment	<u><u>(169,444)</u></u>

NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Washington Post Test-Year Capital Projects

Worksheet o

<u>Line No.</u>		<u>Amount</u> (a)
1	Addition to Rate Base	10,189,608
2	Addition to Depreciation Expense	298,684

NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Excess Deferred Tax Amortization

Worksheet p

<u>Line No.</u>	<u>Expense (a)</u>
1 Plant Related Excess Deferred Taxes	400,000
2 Non-Plant Related Excess Deferred Taxes	(33,756)
3 Riders external to Rate Case Revenue Requirement	<u>366,244</u>
4 Reduction of Deferred Taxes - Rate Base (3-Year Ave)	<u>549,366</u>

NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Holdco Adjustment

Worksheet q

Washington

<u>Line No.</u>	<u>O&M Expense (a)</u>		
1	425,738	42014	SEC REPORTING 13
2	<u>(14,475)</u>	42014	SEC REPORTING 303
		42014	SEC REPORTING 72,806
3	229,915	44010	FIN PLANNING & BUDGE 113,861
4	<u>(22,991)</u>	46010	CORP SECRETARY -
		46010	CORP SECRETARY (433)
		46010	CORP SECRETARY 42
		46010	CORP SECRETARY 19,763
		46020	SHAREHOLDER SVCS 1,276
		46020	SHAREHOLDER SVCS 2,466
		46020	SHAREHOLDER SVCS 16,594
		46020	SHAREHOLDER SVCS 23,300
		46030	CORP ETHICS & COMPL 18,380
		48010	INVESTOR RELATIONS 45,293
		72500	INTERNAL AUDITING 105,976
5	<u>(37,467)</u>	73600	VP & CORPORATE SECTY <u>6,100</u>
			Subject to Allocation (3.4) 425,738
		46010	CORP SECRETARY <u>229,915</u>
			Subject to Allocation (10.0) 229,915

NW Natural
Test Year Based on Twelve Months Ended September 30, 2018
Director Adjustment

Worksheet r

<u>Line No.</u>		<u>O&M Expense</u> (a)
1	Washington Allocated Director Expense	229,915
2	Cost per Director (12 Directors)	19,160
3	Adjustment for Additional Director	<u>19,160</u>