



e-FILING REPORT COVER SHEET

Send completed Cover Sheet and the Report in an email addressed to: PUC.FilingCenter@state.or.us

REPORT NAME: Annual Results of Operations Report, Earnings Review for the Twelve Months Ended December 31, 2016

COMPANY NAME: NW Natural

DOES REPORT CONTAIN CONFIDENTIAL INFORMATION? No Yes

If yes, please submit only the cover letter electronically. Submit confidential information as directed in OAR 860-001-0070 or the terms of an applicable protective order.

If known, please select designation: RE (Electric) RG (Gas) RW (Water) RO (Other)

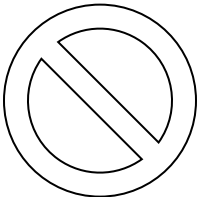
Report is required by: OAR 860-022-0070
Statute
Order
Other

Is this report associated with a specific docket/case? No Yes

If yes, enter docket number: RG 40

List applicable Key Words for this report to facilitate electronic search:
Earning Review for the Twelve Months Ended December 31, 2016, Annual Results of Operations Report, RG 40

DO NOT electronically file with the PUC Filing Center:



- Annual Fee Statement form and payment remittance or
- OUS or RSPF Surcharge form or surcharge remittance or
- Any other Telecommunications Reporting or
- Any daily safety or safety incident reports or
- Accident reports required by ORS 654.715

Please file the above reports according to their individual instructions.

Kyle Walker, CPA
Rates Analyst
Tel: 503.226.4211 ext. 5858
Fax: 503.721.2516
Email: kyle.walker@nwnatural.com



May 1, 2017

Oregon Public Utility Commission
Attention: Filing Center
201 High Street SE Suite 100
Post Office Box 1088
Salem, Oregon 97308-1088

**RE: RG 40: NW Natural's Earnings Review without Workpapers
for the Twelve Months Ended December 31, 2016**

Pursuant to OAR 860-022-0070, Northwest Natural Gas Company, dba NW Natural ("NW Natural" or "Company"), files herewith its Earnings Review without workpapers for the twelve months ended December 31, 2016. Per order No. 15-049, please see the second page of the earnings review that incorporates the Asset Management Agreement Optimization (AMA) revenues. NW Natural's Earnings Review return on equity results are as follows:

- **Traditional Review: 8.84%**
- **Traditional Including AMA: 9.08%**

Please feel free to call if you have any questions.

Sincerely,

/s/ Kyle Walker, CPA

Kyle Walker, CPA
Rates Analyst



OPUC REPORT: RG 40

NW Natural's
ANNUAL EARNINGS REVIEW
WITHOUT WORKPAPERS

(For the twelve months ended December 31, 2016)

DATED: May 1, 2017

OREGON EARNINGS TEST REVIEW

Line No.	Test Year	TYPE I	Results	Gas Reserves	Results Excl.	TYPE II	Results
	Results	Adjustments	after Type I	Adjustment ⁽¹⁾	Gas Reserves ⁽¹⁾	Adjustments	after Type II
	(a)	(b)	(c)	(d)	(e)	(f)	(g) = (c) + (f)
Operating Revenues							
1	\$568,444	\$66,097	\$634,542		\$634,542	\$0	\$634,542
2	18,407	(18,407)	0		0	0	0
3	(10,802)	0	(10,802)		(10,802)	0	(10,802)
4	9,937	(9,937)	0		0	0	0
5	17,664	0	17,664		17,664	0	17,664
6	3,561	192	3,753		3,753	0	3,753
7	607,210	37,946	645,156	0	645,156	0	645,156
Operating Revenue Deductions							
8	237,684	36,073	273,757	7,840	281,597	0	273,757
9	1,114	(229)	885		885	0	885
10	134,981	(2,560)	132,421		132,421	0	132,421
11	373,779	33,285	407,063	7,840	414,903	0	407,063
12	30,252	1,475	31,727	(1,891)	29,836	0	31,727
13	7,186	346	7,532	0	7,532	0	7,532
14	19,638	76	19,714		19,714	0	19,714
15	21,676	1,292	22,968		22,968	0	22,968
16	68,435	0	68,435		68,435	0	68,435
17	520,966	36,474	557,439	5,949	563,388	0	557,439
18	\$86,244	\$1,473	\$87,717	(\$5,949)	\$81,768	\$0	\$87,717
Average Rate Base							
19	\$2,674,352	(\$1,093)	\$2,673,259	(187,541)	\$2,485,718	\$0	\$2,673,259
20	(1,164,585)	0	(1,164,585)	63,626	(1,100,959)	0	(1,164,585)
21	1,509,767	(1,093)	1,508,674	(123,916)	1,384,759	0	1,508,674
22	(3,075)	0	(3,075)		(3,075)	0	(3,075)
23	(4,621)	0	(4,621)		(4,621)	0	(4,621)
24	73,730	0	73,730		73,730	0	73,730
25	523	0	523		523	0	523
26	(408,462)	0	(408,462)	27,254	(381,208)	0	(408,462)
27	\$1,167,861	(\$1,093)	\$1,166,769	(\$96,661)	\$1,070,107	\$0	\$1,166,769
28	7.38%		7.52%	6.15%	7.64%		7.52%
29	8.57%		8.84%	6.16%	9.08%		8.84%

Notes: ⁽¹⁾Columns (d) and (e) added in accordance with Order No. 11-176 pertaining to Encana.

SHARING THRESHOLD	11.06%	11.06%
Over Threshold - ROE		-2.22%
Over Threshold - After Tax Operating Rev		-13,241
Over Threshold - Before Tax Operating Rev		-22,047
Amount Shared to Customers		0

TRADITIONAL SHARING CALCULATION	
Threshold ROE	11.06%
Equity as a % of Total Capital	51.11%
Weighted Average Cost of Long Term Debt	3.00%
Return on Rate Base needed for threshold ROE	8.65%
Rate Base	\$1,166,769
Operating Income needed for threshold ROE	\$100,958
2016 Actual Operating Income after Type I Adjustments	\$87,717
Operating Revenue exceeding authorized ROE (after tax)	(\$13,241)
Operating Revenue exceeding authorized ROE (before tax)	(\$22,047)
Amount Shared to Customers	\$0

2016 OREGON EARNINGS TEST REVIEW

Line No.	Test Year	TYPE I	Results	TYPE II	Results	Results	
	Results	Adjustments	after Type I	Adjustments	after Type II	AMA	
	(a)	(b)	(c)	(f)	(g) = (c) + (f)	(d)	
						Results after AMA (e)	
Operating Revenues							
1	Sale of Gas	\$568,444	\$66,097	\$634,542	\$0	\$634,542	\$634,542
2	WARM Revenues	18,407	(18,407)	0	0	0	0
3	Revenue & Technical Adjustments	(10,802)	0	(10,802)	0	(10,802)	(10,802)
4	Decoupling Adjustments	9,937	(9,937)	0	0	0	0
5	Transportation	17,664	0	17,664	0	17,664	17,664
6	Miscellaneous Revenues	3,561	192	3,753	0	3,753	2,416
7	Total Operating Revenues	607,210	37,946	645,156	0	645,156	2,416
Operating Revenue Deductions							
8	Gas Purchased	237,684	36,073	273,757	0	273,757	273,757
9	Uncollectible Accrual for Gas Sales	1,114	(229)	885	0	885	885
10	Other Operating & Maintenance Expenses	134,981	(2,560)	132,421	0	132,421	132,421
11	Total Operating & Maintenance Exp.	373,779	33,285	407,063	0	407,063	407,063
12	Federal Income Tax	30,252	1,475	31,727	0	31,727	781
13	State Excise	7,186	346	7,532	0	7,532	184
14	Property Taxes	19,638	76	19,714	0	19,714	19,714
15	Other Taxes	21,676	1,292	22,968	0	22,968	22,968
16	Depreciation & Amortization	68,435	0	68,435	0	68,435	68,435
17	Total Operating Revenue Deductions	520,966	36,474	557,439	0	557,439	965
18	Net Operating Revenues	\$86,244	\$1,473	\$87,717	\$0	\$87,717	\$1,451
Average Rate Base							
19	Utility Plant in Service	\$2,674,352	(\$1,093)	\$2,673,259	\$0	\$2,673,259	\$2,673,259
20	Accumulated Depreciation	(1,164,585)	0	(1,164,585)	0	(1,164,585)	(1,164,585)
21	Net Utility Plant	1,509,767	(1,093)	1,508,674	0	1,508,674	0
22	Aid in Advance of Construction	(3,075)	0	(3,075)	0	(3,075)	(3,075)
23	Customer Deposits	(4,621)	0	(4,621)	0	(4,621)	(4,621)
24	Materials & Supplies	73,730	0	73,730	0	73,730	73,730
25	Leasehold Improvements	523	0	523	0	523	523
26	Accumulated Deferred Income Taxes	(408,462)	0	(408,462)	0	(408,462)	(408,462)
27	Total Rate Base	\$1,167,861	(\$1,093)	\$1,166,769	\$0	\$1,166,769	\$0
28	Rate of Return	7.38%		7.52%		7.52%	7.64%
29	Return on Common Equity	8.57%		8.84%		8.84%	9.08%

Notes: ⁽¹⁾Columns (d) and (e) added in accordance with Order No. 11-176 pertaining to Encana.

AUTHORIZED ROE	9.50%	9.50%
Over Authorized - ROE		-0.42%
Over Authorized - After Tax Operating Rev		(\$3,938)
Over Authorized - Before Tax Operating Rev		(\$6,695)
Amount Subject to Disallowance		\$0

ENVIRONMENTAL DISALLOWANCE CALCULATION	
Authorized ROE	9.50%
Equity as a % of Total Capital	51.11%
Weighted Average Cost of Long Term Debt	3.00%
Return on Rate Base needed for authorized ROE	7.86%
Rate Base	\$1,166,769
Operating Income needed for authorized ROE	\$91,655
Actual Operating Income after Type I Adjustments	\$87,717
Operating Revenue exceeding authorized ROE (after tax)	(\$3,938)
Operating Revenue exceeding authorized ROE (before tax)	(\$6,695)
Amount Shared to Customers	\$0



Rates & Regulatory Affairs

**ANNUAL EARNINGS REVIEW
For the Twelve Months Ended December 31, 2016**

Description of TYPE I Adjustments

This report was developed in a manner consistent with the earnings review directives adopted in UM 903. The determination of the various adjustments included in this report reflect those typical and routinely developed adjustments as were also adopted in the Company's 2011 general rate filing (UG 221), and continue to be appropriate.

Weather Normalization and Gas Costs [Column 2(a)]:

This adjustment approximates the volumetric effects of weather on sales and gas costs. Core market volumes have been weather normalized; however, no industrial volumes have been adjusted. The adjustment also reflects the removal of the effects of the WARM mechanism pursuant to Order No. 03-507.

Miscellaneous Revenue Adjustment [Column 2(b)]:

This adjustment reflects the normalization of other tariffed utility fees and revenues to a historical three-year average. The adjustment also reflects the removal of the effect of the Decoupling mechanism pursuant to Order No. 03-507 and the removal of the effect of deferrals related to SB408.

Commission-Required Advertising Disallowance [Column 2(c)]:

This adjustment reduces the Company's recorded expenses for advertising consistent with the methodology stipulated to in UG 221.

Membership and Dues Adjustment [Column 2(d)]:

Removes the promotional portion of industry associated expenses, consistent with the methodology adopted in the Company's 1998 general rate case (UG 132). The adjustment also reflects the removal of certain costs charged to operational and maintenance expense related to promotional and other activities.

Normalization of Property Tax Expense [Column 2(e)]:

Removes the expense accruals for the year and reflects the actual cash payments made during the test period.

Uncollectible Accounts [Column 2(f)]:

This adjustment normalizes the test year accrual for Uncollectible expense to a three-year average of "actual net bad debt write-offs."

Capital Stock Expense [Column 2(g)]:

The three-year average approach adopted in this adjustment is consistent with both company experience and Commission policy adopted in the Company's 1998 general rate case.

Performance-Based Compensation [Column 2(h)]:

This adjustment depicts the disallowance of performance-based compensation as stipulated to in the Company's 2011 general rate case (UG 221 methodology).

Description of TYPE II Adjustments:

The Company has no Type II adjustments for 2016.

NW Natural
Test year Normalizing Adjustments: TYPE I ADJUSTMENTS
2016 Oregon Earnings Review
(\$000)

Line No.	Column A from Page 1	Weather Normalization & Gas Costs Adjustment (2a)	Miscellaneous Revenue Adjustment (2b)	Advertising & Promotional Adjustment (2c)	Memberships and Dues Adjustment (2d)	Property Taxes Adjustment (2e)	Uncollectible Accounts Adjustment (2f)	Stock Issuance Adjustment (2g)	Bonus Adjustment (2h)	Rate Case Expense Adjustment (2i)	Total Type I Adjustments	Column C from Page 1
	worksheet #:	(2a)	(2b)	(2c)	(2d)	(2e)	(2f)	(2g)	(2h)	(2i)		
Operating Revenues												
1	Sale of Gas	\$568,444	\$66,097								\$66,097	\$634,542
2	WARM Revenue	18,407	(18,005)	(402)							(18,407)	
3	Revenue & Technical Adjustments	(10,802)		0							0	(10,802)
4	Decoupling Adjustment	9,937		(9,937)							(9,937)	0
5	Transportation	17,664									0	17,664
6	Miscellaneous Revenues	3,561		192							192	3,753
7	Total Operating Revenues	607,210	48,093	(10,146)	0	0	0	0	0	0	37,946	645,156
Operating Revenue Deductions												
8	Gas Purchased	237,684	36,073								36,073	273,757
9	Uncollectible Accrual	1,114	91	0	0	0	(320)		0		(229)	885
10	Other Operating & Maintenance Expenses	134,981			(647)	(778)		1,236	(2,521)	150	(2,560)	132,421
11	Total Operating & Maintenance Exp.	373,779	36,164	0	(647)	(778)	0	(320)	1,236	(2,521)	33,285	407,063
12	Federal Income Tax	30,252	3,438	(3,279)	209	252	(25)	103	0	826	(49)	1,475
13	State Excise	7,186	808	(771)	49	59	(6)	24	0	194	(11)	346
14	Property Taxes	19,638					76		0			76
15	Other Taxes	21,676	1,298	(6)	0	0	0	0	0	0	0	1,292
16	Depreciation & Amortization	68,435							0	0	0	68,435
17	Total Operating Revenue Deductions	520,966	41,707	(4,056)	(389)	(467)	45	(193)	1,236	(1,501)	90	36,474
18	Net Operating Revenues	86,244	6,385	(6,091)	389	467	(45)	193	(1,236)	1,501	(90)	1,473
Average Rate Base												
19	Utility Plant in Service	2,674,352								(1,093)	(1,093)	2,673,259
20	Accumulated Depreciation Materials & Supplies	(1,164,585)								0	0	(1,164,585)
21	Net Utility Plant	1,509,767	0	0	0	0	0	0	(1,093)	0	(1,093)	1,508,674
22	Aid in Advance of Construction	(3,075)									0	(3,075)
23	Customer Deposits	(4,621)									0	(4,621)
24	Materials & Supplies	73,730									0	73,730
25	Leasehold Improvements	523									0	523
26	Accumulated Deferred Income Taxes	(408,462)									0	(408,462)
27	Total Rate Base	\$1,167,861	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$1,093)	\$0	(\$1,093)
28	Interest Coordination		0	0	0	0	0	0	(33)	0	(33)	(33)

Northwest Natural Gas Company
Test year Normalizing Adjustments: TYPE I ADJUSTMENTS
2016 Oregon Earnings Review
(\$000)

Income Tax Calculations

Line No.		Weather Normalization & Repricing Adjustment (2a)	Other Revenue Adjustment (2b)	Advertising Adjustment (2c)	Memberships and Dues Adjustment (2d)	Property Taxes Adjustment (2e)	Uncollectible Accounts Adjustment (2f)	Stock Issuance Adjustment (2g)	Accrued Bonus Adjustment (2h)	Rate Case Expense Adjustment	Total Adjustments (2i)
1	Book Revenues	48,093	(10,146)	0	0	0	0	0	0	0	37,946
2	Book Expenses before Deprec. & Int.	37,461	(6)	(647)	(778)	76	(320)	0	(2,521)	150	33,417
3	State Tax Depreciation	0	0	0	0	0	0	0	0	0	0
4	Interest Expense (Income)	0	0	0	0	0	0	0	(33)	0	(33)
5	Book/Tax Differences (Sched. M)	0	0	0	0	0	0	0	0	0	0
6	State Taxable Income	10,631	(10,141)	647	778	(76)	320	0	2,554	(150)	4,562
7	Operating Income needed for threshold ROE	808	(771)	49	59	(6)	24	0	194	(11)	346
8	State Tax Credit	0	0	0	0	0	0	0	0	0	0
9	Net State Income Tax	808	(771)	49	59	(6)	24	0	194	(11)	346
10	Excess Book(Tax) Deprec.	0	0	0	0	0	0	0	0	0	0
11	Other Sched. M Differences	0	0	0	0	0	0	0	0	0	0
12	Federal Taxable Income	9,823	(9,370)	598	719	(70)	296	0	2,360	(139)	4,216
13	Federal Income Tax [2]	3,438	(3,279)	209	252	(25)	103	0	826	(49)	1,475
14	ITC	0	0	0	0	0	0	0	0	0	0
15	Current Federal Tax	3,438	(3,279)	209	252	(25)	103	0	826	(49)	1,475
16	Deferred Income Tax - Federal	0	0	0	0	0	0	0	0	0	0
17	Deferred Income Tax - State	0	0	0	0	0	0	0	0	0	0
18	ITC Restored (Deferred)	0	0	0	0	0	0	0	0	0	0
19	Total Federal Tax	3,438	(3,279)	209	252	(25)	103	0	826	(49)	1,475
20	Total State Tax	808	(771)	49	59	(6)	24	0	194	(11)	346

[1] Statutory State Excise Tax Rate: 7.60%
[2] Statutory Federal Income Tax Rate: 35.00%

NW Natural
 Test year Normalizing Adjustments: TYPE II ADJUSTMENTS
 2016 Oregon Earnings Review
 (\$000)

Line No.	No Adjustments	No Adjustments	No Adjustments	No Adjustments	No Adjustments	No Adjustments	No Adjustments	No Adjustments	No Adjustments	Total Type II Adjustments
<u>Operating Revenues</u>										
1										\$0
2										0
3										0
4										0
5										0
6										0
7	0	0	0	0	0	0	0	0	0	0
<u>Operating Revenue Deductions</u>										
8	0									0
9										0
10										0
11	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0
14										0
15	0	0	0	0	0	0	0	0	0	0
16								0	0	0
17	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0
<u>Average Rate Base</u>										
19										0
20									0	0
21	0	0	0	0	0	0	0	0	0	0
22										0
23										0
24										0
25										0
26										0
27	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
28	0	0	0	0	0	0	0	0	0	0

Northwest Natural Gas Company
 Test year Normalizing Adjustments: TYPE II ADJ Income Tax Calculations
 2016 Oregon Earnings Review
 (\$000)

Line No.	Income Tax Calculations	No Adjustments	No Adjustments	No Adjustments	No Adjustments	No Adjustments	No Adjustments	No Adjustments	No Adjustments	Total Adjustments
1	Book Revenues	0	0	0	0	0	0	0	0	0
2	Book Expenses before Deprec. & Int.	0	0	0	0	0	0	0	0	0
3	State Tax Depreciation	0	0	0	0	0	0	0	0	0
4	Interest Expense (Income)	0	0	0	0	0	0	0	0	0
5	Book/Tax Differences (Sched. M)	0	0	0	0	0	0	0	0	0
6	State Taxable Income	0	0	0	0	0	0	0	0	0
7	Operating Income needed for threshold RO	0	0	0	0	0	0	0	0	0
8	State Tax Credit	0	0	0	0	0	0	0	0	0
9	Net State Income Tax	0	0	0	0	0	0	0	0	0
10	Excess Book(Tax) Deprec.	0	0	0	0	0	0	0	0	0
11	Other Sched. M Differences	0	0	0	0	0	0	0	0	0
12	Federal Taxable Income	0	0	0	0	0	0	0	0	0
13	Federal Income Tax [2]	0	0	0	0	0	0	0	0	0
14	ITC	0	0	0	0	0	0	0	0	0
15	Current Federal Tax	0	0	0	0	0	0	0	0	0
16	Deferred Income Tax - Federal	0	0	0	0	0	0	0	0	0
17	Deferred Income Tax - State	0	0	0	0	0	0	0	0	0
18	ITC Restored (Deferred)	0	0	0	0	0	0	0	0	0
19	Total Federal Tax	0	0	0	0	0	0	0	0	0
20	Total State Tax	0	0	0	0	0	0	0	0	0

[1] Statutory State Excise Tax Rate: 7.60%
 [2] Statutory Federal Income Tax Rate: 35.00%

NW Natural
Tax Provision - Historic
2016 Oregon Earnings Review
(\$000)

Line No.	State Taxes	Federal Taxes
1 Operating Revenues	\$607,210	\$607,210
2 Operating Revenue Deductions	373,779	373,779
3 Property & Other Taxes	41,314	41,314
4 Book Depreciation	68,435	68,435
5 Interest (Rate Base * Cost of Debt)	35,036	35,036
6 State Tax Deduction	-	7,186
7 Subtotal	88,647	\$81,461
8 Permanent Differences	5,905	5,080
9 Taxable Income	94,552	\$86,540
10 Tax Rate	7.60%	35.00%
11 Tax Before Credits and Adjustments	7,186	30,289
12 Credits & Adjustments	0	(37)
13 Total Tax	\$7,186	\$30,252

NW Natural
12 Months Ended December 31, 2016
Input Assumptions
Proforma Cost of Capital

Line No.		13-month averages		
		% of Total Capital	Average Cost	Average Weighted Cost
		(a)	(b)	(c)
1	Long Term Debt	48.89%	6.130%	3.00%
2	Preferred Stock	0.00%	0.000%	0.00%
3	Common Stock	51.11%	9.500%	4.86%
4	Total	<u>100.00%</u>		<u>7.86%</u>
Revenue Sensitive Costs				
5	Gas Sales	98.35%		
6	Transportation	2.74%		
7	Other	-1.09%		
8	Subtotal	<u>100.00%</u>		
9	O & M - Uncollectible	0.14%		
10	Franchise Taxes at	2.42%		
11	OPUC Fee	0.28%		
12	State Taxable Income	<u>97.17%</u>		
13	State Income Tax	7.38%		
14	Federal Taxable Income	89.78%		
15	Federal Income Tax	31.42%		
16	Total Income Taxes	<u>38.81%</u>		
17	Total Revenue Sensitive Costs	41.64%		
18	Utility Operating Income	<u>58.36%</u>		
19	Materials & Supplies	171.36%		
20	Interest Coordination Factor	3.00%		
21	Rate of Return	9.50%		
22	Federal tax rate	35.000%		
23	State tax rate	7.600%		
24	Franchise Fees	2.423%		
25	Uncollectible Accounts	0.14%		
26	Regulatory fees	0.275%		

NW Natural
2016 Oregon Earnings Review
Rate Base

	2015 Dec	2016 Jan	2016 Feb	2016 Mar	2016 Apr	2016 May	2016 June	2016 July	2016 August	2016 September	2016 October	2016 November	2016 December	Dec 15 - Dec 16 13 month average	
SYSTEM	System 1	System 2	System 3	System 4	System 5	System 6	System 7	System 8	System 9	System 10	System 11	System 12	System 13	System 14	Allocation Method
Gross Plant															
Intangible Software Other	94,125,471	94,150,123	94,383,753	95,009,319	95,549,203	96,051,443	96,178,143	96,326,350	96,299,257	98,060,230	98,084,562	98,448,497	99,590,429	96,283,236	Total Customers
Production	84,795	84,795	84,795	84,795	84,795	84,795	84,795	84,795	84,795	84,795	84,795	84,795	84,795	84,795	Direct
Transmission	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	Direct
Distribution	157,894,271	157,902,571	157,900,867	157,904,504	157,945,722	157,942,489	157,951,559	157,954,980	157,966,541	157,981,795	159,246,793	162,459,838	163,396,889	158,650,270	Direct
General	2,003,154,364	2,007,456,379	2,011,125,594	2,015,322,412	2,019,987,998	2,023,267,539	2,031,787,735	2,039,886,540	2,050,780,172	2,056,789,018	2,064,154,084	2,068,134,916	2,078,201,641	2,035,781,033	Direct
	184,627,304	184,833,597	185,259,716	185,932,041	186,670,218	189,025,834	189,786,053	190,445,355	192,094,368	192,113,138	192,505,148	195,549,261	188,971,283	189,251,169	3-Factor & Direct
Storage and storage transmission CNG and LNG	286,061,584	286,062,802	286,062,797	286,381,673	288,276,231	288,278,716	288,557,331	288,694,802	288,695,236	290,780,507	290,801,883	293,379,007	293,475,195	288,811,615	Firm Delivered Volumes
	3,790,768	3,790,768	3,790,768	3,790,768	3,790,768	3,790,768	3,790,768	3,790,768	3,790,768	3,790,768	3,790,768	3,790,768	3,790,768	3,790,768	3-Factor
Gas Reserves	187,547,253	187,547,254	187,560,065	187,540,555	187,540,555	187,540,688	187,540,688	187,537,953	187,536,465	187,536,465	187,536,465	187,536,465	187,536,465	187,541,290	Direct
Total Gross Plant	2,917,961,008	2,922,503,487	2,926,843,553	2,932,641,267	2,940,520,690	2,946,657,470	2,956,352,271	2,965,396,743	2,977,922,801	2,987,811,916	2,996,879,697	3,010,060,745	3,015,722,664	2,960,869,373	
Accumulated Depreciation															
Intangible	(57,757,395)	(57,974,859)	(58,192,787)	(58,412,259)	(58,633,823)	(58,857,259)	(59,081,824)	(59,306,824)	(59,532,159)	(59,760,549)	(59,992,145)	(60,213,289)	(60,448,256)	(59,088,384)	Total Customers
Production	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	Direct
Transmission	(26,731,852)	(27,126,952)	(27,522,874)	(27,917,982)	(28,313,550)	(28,708,760)	(29,104,381)	(29,499,608)	(29,894,842)	(30,290,515)	(30,687,188)	(31,089,729)	(31,497,222)	(29,105,910)	Direct
Distribution	(921,193,829)	(924,472,661)	(928,170,486)	(931,147,725)	(933,981,265)	(936,351,565)	(939,089,868)	(942,079,217)	(945,046,309)	(948,046,354)	(951,148,841)	(954,468,203)	(958,244,108)	(939,476,788)	Direct
General	(60,630,509)	(61,296,871)	(61,348,455)	(62,016,145)	(62,781,933)	(62,922,649)	(63,705,222)	(64,413,756)	(65,124,297)	(65,098,172)	(65,987,771)	(66,454,124)	(59,083,510)	(63,417,200)	3-Factor
Storage and storage transmission CNG and LNG	(124,216,203)	(124,798,418)	(125,381,447)	(125,964,284)	(126,551,840)	(127,142,706)	(127,734,390)	(128,326,878)	(128,919,285)	(129,382,367)	(129,979,111)	(130,231,150)	(130,835,036)	(127,661,458)	Firm Delivered Volumes
	(2,068,270)	(2,070,915)	(2,073,559)	(2,076,204)	(2,078,848)	(2,081,493)	(2,084,137)	(2,086,781)	(2,089,426)	(2,092,070)	(2,094,715)	(2,097,359)	(2,100,004)	(2,084,137)	3-Factor
Gas Reserves	(55,901,631)	(57,313,382)	(58,622,132)	(59,975,847)	(61,248,826)	(62,426,221)	(63,548,105)	(64,837,800)	(66,080,579)	(67,303,720)	(68,522,067)	(69,965,467)	(71,426,542)	(63,625,686)	Direct
Total Accumulated Depreciation	(1,249,190,724)	(1,255,745,094)	(1,262,002,776)	(1,268,201,481)	(1,274,281,120)	(1,279,181,687)	(1,285,038,963)	(1,291,241,900)	(1,297,377,933)	(1,302,664,783)	(1,309,102,874)	(1,315,210,357)	(1,314,325,713)	(1,285,150,599)	
Storage Gas	78,096,821	70,077,181	65,980,988	65,958,800	69,040,245	72,281,865	72,870,749	73,754,124	74,723,918	75,165,118	75,836,613	75,175,062	59,676,519	71,645,944	Firm Delivered Volumes
Customer Advances	(3,346,865)	(3,379,931)	(3,486,931)	(3,845,966)	(3,614,258)	(3,389,691)	(3,459,492)	(3,556,045)	(3,637,035)	(3,528,587)	(3,605,220)	(3,665,645)	(3,740,828)	(3,559,387)	Direct
Custom Materials & Supplies	(5,367,718)	(5,347,186)	(5,361,803)	(5,420,095)	(5,330,136)	(5,263,937)	(5,259,240)	(5,136,947)	(5,040,037)	(4,965,691)	(4,944,666)	(4,974,290)	(4,959,453)	(5,183,968)	Total Customers
Materials and Supplies	10,691,281	11,032,415	10,746,963	10,708,577	10,674,098	10,773,831	10,544,154	10,831,434	10,864,904	10,747,956	10,771,812	11,111,107	11,026,710	10,805,520	Gross Distribution Plant %
Appliances	(848,966)	(859,901)	(858,580)	(784,547)	(804,500)	(695,852)	(746,688)	(820,564)	(831,897)	(839,424)	(803,705)	(838,918)	(924,116)	(814,260)	Direct
Leasehold Improvements	697,165	676,404	655,643	634,882	614,122	593,361	572,600	551,839	531,849	544,248	516,110	495,240	500,783	582,106	Direct & 3-Factor
Total Rate Base Excluding ADIT	1,748,692,001	1,738,957,375	1,732,517,057	1,731,691,436	1,736,819,141	1,741,775,360	1,745,835,391	1,749,778,683	1,757,156,571	1,762,270,752	1,765,547,766	1,772,152,945	1,762,976,566	1,749,194,730	

NW Natural
2016 Oregon Earnings Review
Rate Base

		2015	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	Dec 15 - Dec 16	
<u>OREGON</u>		Dec OREGON	Jan OREGON	Feb OREGON	Mar OREGON	Apr OREGON	May OREGON	June OREGON	July OREGON	August OREGON	September OREGON	October OREGON	November OREGON	December OREGON	13 month average OREGON	Allocation Method
Gross Plant																
Intangible		84,044,633	83,925,420	84,133,676	84,691,307	85,172,560	85,620,256	85,733,197	85,865,309	85,841,158	87,410,889	87,432,579	87,756,990	88,774,909	85,832,759	Total Customers
	Software	84,348	84,348	84,348	84,348	84,348	84,348	84,348	84,348	84,348	84,348	84,348	84,348	84,348	84,348	Direct
	Other	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	675,198	Direct
Production		156,878,782	156,886,702	156,884,928	156,888,491	156,924,653	156,920,744	156,929,732	156,930,400	156,930,400	156,930,579	158,193,909	161,406,186	162,342,094	157,619,764	Direct
Transmission		1,774,081,344	1,776,683,287	1,780,215,450	1,784,104,906	1,788,291,337	1,791,207,948	1,797,988,362	1,805,285,405	1,809,233,291	1,814,463,719	1,820,442,903	1,823,162,060	1,829,990,097	1,799,426,199	Direct
Distribution		170,706,586	170,743,953	171,146,063	171,751,165	172,415,652	174,599,385	175,283,834	175,878,736	177,369,986	177,369,986	177,722,863	180,459,123	174,551,906	174,780,143	3-Factor & Direct
General																
Storage and storage transmission		262,248,489	262,502,655	262,502,651	262,791,840	264,510,014	264,512,268	264,764,943	264,889,616	264,890,010	266,781,142	266,800,528	269,137,722	269,224,955	264,985,009	Firm Delivered Volumes
CNG and LNG		3,413,966	3,406,764	3,406,764	3,406,764	3,406,764	3,406,764	3,406,764	3,406,764	3,406,764	3,406,764	3,406,764	3,406,764	3,406,764	3,407,064	3-Factor
Gas Reserves		187,547,253	187,547,254	187,560,065	187,540,555	187,540,555	187,540,688	187,540,688	187,537,953	187,536,465	187,536,465	187,536,465	187,536,465	187,536,465	187,541,290	Direct
Total Gross Plant		2,639,680,600	2,642,455,580	2,646,609,143	2,651,934,574	2,659,021,081	2,664,567,599	2,672,407,067	2,680,553,728	2,685,959,526	2,694,658,915	2,702,295,557	2,713,624,856	2,716,586,735	2,674,351,774	
Accumulated Depreciation																
Intangible		(51,571,578)	(51,678,789)	(51,873,051)	(52,068,687)	(52,266,190)	(52,465,360)	(52,665,538)	(52,866,103)	(53,066,967)	(53,270,554)	(53,476,998)	(53,674,126)	(53,883,576)	(52,674,995)	Total Customers
	Software	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	(691,036)	Direct
	Other	(26,627,223)	(27,020,588)	(27,414,774)	(27,808,148)	(28,201,975)	(28,595,440)	(28,989,315)	(29,382,795)	(29,776,275)	(30,170,159)	(30,565,034)	(30,965,776)	(31,371,468)	(28,990,802)	Direct
Production		(825,236,387)	(828,071,881)	(831,319,968)	(833,825,645)	(836,210,313)	(838,131,452)	(840,396,452)	(842,958,030)	(845,474,673)	(848,002,441)	(850,595,492)	(853,312,476)	(856,567,367)	(840,766,725)	Direct
Transmission		(55,177,586)	(55,715,934)	(55,769,262)	(56,376,310)	(57,071,522)	(57,205,038)	(57,915,446)	(58,559,318)	(59,204,997)	(59,188,628)	(59,995,213)	(60,421,428)	(53,804,565)	(57,659,514)	3-Factor
Distribution																
General																
Storage and storage transmission		(115,019,652)	(115,674,796)	(116,210,977)	(116,746,972)	(117,287,253)	(117,830,531)	(118,374,556)	(118,919,304)	(119,463,980)	(119,891,375)	(120,439,984)	(120,675,985)	(121,231,070)	(118,303,423)	Firm Delivered Volumes
CNG and LNG		(1,862,684)	(1,861,131)	(1,863,508)	(1,865,884)	(1,868,261)	(1,870,637)	(1,873,014)	(1,875,391)	(1,877,767)	(1,880,144)	(1,882,520)	(1,884,897)	(1,887,273)	(1,873,178)	3-Factor
Gas Reserves		(55,901,631)	(57,313,382)	(58,622,132)	(59,975,847)	(61,248,826)	(62,426,221)	(63,548,105)	(64,837,800)	(66,080,579)	(67,303,720)	(68,522,067)	(69,965,467)	(71,426,542)	(63,625,686)	Direct
Total Accumulated Depreciation		(1,132,087,777)	(1,138,027,537)	(1,143,764,707)	(1,149,358,530)	(1,154,845,376)	(1,159,215,715)	(1,164,453,462)	(1,170,089,777)	(1,175,636,273)	(1,180,398,056)	(1,186,168,345)	(1,191,591,189)	(1,190,862,896)	(1,164,585,359)	
Operating Income needed for threshold ROE																
Storage Gas		70,747,910	63,552,995	59,838,158	59,818,036	62,612,598	65,552,423	66,086,482	66,887,615	67,767,121	68,167,246	68,776,224	68,176,264	54,120,635	64,972,453	Firm Delivered Volumes
Customer Advances		(2,925,250)	(2,953,656)	(3,046,672)	(3,127,972)	(3,146,732)	(2,923,178)	(3,002,663)	(3,096,351)	(3,169,227)	(3,062,372)	(3,121,869)	(3,173,937)	(3,236,500)	(3,075,459)	Direct
Customer Deposits		(4,792,836)	(4,766,482)	(4,779,511)	(4,831,473)	(4,751,283)	(4,692,273)	(4,688,087)	(4,579,075)	(4,492,689)	(4,426,417)	(4,407,675)	(4,454,082)	(4,434,082)	(4,621,324)	Total Customers
Materials and Supplies		9,953,840	9,751,551	9,499,241	9,465,311	9,434,835	9,522,989	9,319,977	9,573,904	9,603,489	9,500,118	9,521,204	9,821,108	9,746,509	9,571,992	Gross Distribution Plant %
Appliances		(848,966)	(859,901)	(858,580)	(874,547)	(804,500)	(695,852)	(746,688)	(820,564)	(831,897)	(839,424)	(803,705)	(838,918)	(924,116)	(814,260)	Direct
Leasehold Improvements		628,215	607,884	589,226	570,568	551,911	533,254	514,596	495,938	477,973	489,116	463,828	445,072	450,054	523,208	Direct & 3-Factor
Total Rate Base Excluding ADIT		1,580,355,737	1,569,760,435	1,564,086,299	1,563,685,968	1,568,072,534	1,572,649,245	1,575,437,222	1,578,925,418	1,579,678,022	1,584,089,126	1,586,555,218	1,592,029,174	1,581,459,565	1,576,323,026	

NW Natural
2016 Oregon Earnings Review
Rate Base

		2015	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	Dec 15 - Dec 16
WASHINGTON		Dec	Jan	Feb	Mar	Apr	May	June	July	August	September	October	November	December	13 month average
Gross Plant		WASHINGTON	WASHINGTON	WASHINGTON	WASHINGTON	WASHINGTON	WASHINGTON	WASHINGTON	WASHINGTON	WASHINGTON	WASHINGTON	WASHINGTON	WASHINGTON	WASHINGTON	WASHINGTON
Intangible	Software	10,080,838	10,224,703	10,250,075	10,318,012	10,376,643	10,431,187	10,444,946	10,461,042	10,458,099	10,649,341	10,651,983	10,691,507	10,815,521	10,450,477
	Other	447	447	447	447	447	447	447	447	447	447	447	447	447	447
Production															
Transmission		1,015,489	1,015,868	1,015,938	1,016,012	1,021,069	1,021,745	1,021,827	1,024,581	1,035,962	1,051,391	1,052,884	1,053,651	1,054,795	1,030,506
Distribution		231,807,252	230,773,092	230,910,143	231,217,506	231,696,661	232,059,591	233,799,373	234,601,135	241,546,881	242,325,299	243,711,181	244,974,856	248,211,544	236,468,760
General		11,186,487	14,089,644	14,113,653	14,180,876	14,254,567	14,426,448	14,502,218	14,566,619	14,732,655	14,743,152	14,782,285	15,090,138	14,419,376	14,357,099
Storage and storage transmission		23,813,095	23,560,147	23,560,146	23,589,834	23,766,217	23,766,449	23,792,387	23,805,186	23,805,226	23,999,365	24,001,355	24,241,286	24,250,241	23,826,606
CNG and LNG		376,802	384,005	384,005	384,005	384,005	384,005	384,005	384,005	384,005	384,005	384,005	384,005	384,005	383,705
Total Gross Plant		278,280,410	280,047,907	280,234,408	280,706,693	281,499,609	282,089,871	283,945,205	284,843,015	291,963,276	293,153,001	294,584,140	296,435,889	299,135,928	286,517,599
Accumulated Depreciation															
Intangible		(6,185,817)	(6,296,070)	(6,319,737)	(6,343,571)	(6,367,633)	(6,391,898)	(6,416,286)	(6,440,721)	(6,465,192)	(6,489,996)	(6,515,147)	(6,539,163)	(6,564,681)	(6,413,389)
Production		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transmission		(104,629)	(106,364)	(108,099)	(109,835)	(111,575)	(113,320)	(115,065)	(116,813)	(118,567)	(120,356)	(122,154)	(123,953)	(125,753)	(115,108)
Distribution		(95,957,411)	(96,400,749)	(96,850,487)	(97,322,049)	(97,770,921)	(98,220,081)	(98,693,386)	(99,121,156)	(99,571,604)	(100,043,881)	(100,553,317)	(101,155,696)	(101,676,710)	(98,710,032)
General		(5,452,923)	(5,580,937)	(5,579,194)	(5,639,834)	(5,710,410)	(5,717,611)	(5,789,776)	(5,854,438)	(5,919,300)	(5,909,544)	(5,992,558)	(6,032,696)	(5,278,945)	(5,757,686)
Storage and storage transmission		(9,196,551)	(9,123,622)	(9,170,471)	(9,217,312)	(9,264,587)	(9,312,175)	(9,359,834)	(9,407,573)	(9,455,305)	(9,490,992)	(9,539,127)	(9,555,166)	(9,603,966)	(9,358,035)
CNG and LNG		(205,586)	(209,784)	(210,052)	(210,319)	(210,587)	(210,855)	(211,123)	(211,391)	(211,659)	(211,927)	(212,195)	(212,462)	(212,730)	(210,959)
Total Accumulated Depreciation		(117,102,918)	(117,717,526)	(118,238,039)	(118,842,921)	(119,435,713)	(119,965,940)	(120,585,470)	(121,152,092)	(121,741,628)	(122,266,695)	(122,934,497)	(123,619,136)	(123,462,785)	(120,565,209)
Storage Gas		7,348,911	6,524,186	6,142,830	6,140,764	6,427,647	6,729,442	6,784,267	6,866,509	6,956,797	6,997,872	7,060,389	6,998,798	5,555,884	6,673,492
Customer Advances		(421,615)	(426,275)	(440,259)	(717,994)	(467,526)	(466,513)	(456,829)	(459,694)	(467,808)	(466,215)	(483,351)	(491,708)	(504,328)	(483,929)
Customer Deposits		(574,883)	(580,704)	(582,292)	(588,622)	(578,853)	(571,664)	(557,872)	(547,348)	(539,274)	(536,991)	(540,208)	(538,597)	(538,597)	(562,643)
Materials and Supplies		737,441	1,280,864	1,247,722	1,243,266	1,239,263	1,250,842	1,224,177	1,257,530	1,261,415	1,247,838	1,250,608	1,289,999	1,280,201	1,233,529
Appliances		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leasehold Improvements		68,950	68,520	66,417	64,314	62,211	60,107	58,004	55,901	53,876	55,132	52,282	50,168	50,729	58,898
Total Rate Base Excluding ADIT		168,336,296	169,196,971	168,430,788	168,005,499	168,746,638	169,126,146	170,398,201	170,853,296	177,478,580	178,181,658	178,992,580	180,123,803	181,517,033	172,871,735

Average Rate Base Allocation Factors

	OR	WA	System
13 MONTH AVERAGES:			
Average Gross Plant	2,674,351,774	286,517,599	2,960,869,373
Gross Plant Average Factor	90.32%	9.68%	
Average Accumulated Deprec	(1,164,585,359)	(120,565,209)	(1,285,150,568)
Accumulated Deprec Average Factor	90.62%	9.38%	
Average Leasehold Improvements	523,208	58,898	582,106
Leasehold Improvement Average Factor	89.88%	10.12%	
Average Customer Advances	(3,075,459)	(483,929)	(3,559,387)
Customer Advance Average Factor	86.40%	13.60%	
Growth in Gross Plant	76,906,135	20,855,518	97,761,653
Gross Plant Growth Factor	78.67%	21.33%	
Average Materials & Supplies	73,730,185	7,907,020	81,637,205
Materials & Supplies Average Factor	90.31%	9.69%	
Average Distribution Plant	1,799,426,199	236,468,760	2,035,894,959
Distribution Plant Average Factor	88.39%	11.61%	
Average Total Rate Base	1,576,323,026	172,871,735	1,749,194,761
Rate Base Average Factor	90.12%	9.88%	

NW Natural
2016 Oregon Earnings Review
12 Months Ended December 31, 2016

Deferred Income Taxes

1	Allocation factor: Accumulated Depreciation			9.38%		
2						
3	2015 December Balances:					
4						
5			SYS	Washington	Oregon	
6		Federal	State	Total	Allocation	Allocation
7						
8	Accumulated Deferred Income Tax - Depreciation	(330,022,696)	(67,655,227)	(397,677,923)	(33,177,250)	(364,500,673)
9						
10	Accumulated Deferred Income Tax - Gas Reserves	(19,285,398)	(7,104,626)	(26,390,024)	0	(26,390,024)
11						
12	Accumulated Deferred Income Tax - Other	(6,503,613)	371,659	(6,131,954)	(597,837)	(5,534,117)
13						
14	2015 Balances	(355,811,707)	(74,388,194)	(430,199,900)	(33,775,087)	(396,424,813)
15						
16	2016 December Balances:					
17						
18			SYS	Washington	Oregon	
19		Federal	State	Total	Allocation	Allocation
20						
21	Accumulated Deferred Income Tax - Depreciation	(346,009,616)	(71,286,235)	(417,295,851)	(34,796,029)	(382,499,822)
22						
23	Accumulated Deferred Income Tax - Gas Reserves	(21,470,046)	(6,648,818)	(28,118,864)	0	(28,118,864)
24						
25	Accumulated Deferred Income Tax - Other	(10,387,882)	(483,731)	(10,871,613)	(990,264)	(9,881,349)
26						
27	2016 Balances	(377,867,544)	(78,418,784)	(456,286,328)	(35,786,293)	(420,500,035)
28						
29						
30	Simple Average December Balances (use for Rate Base)				(34,780,690)	(408,462,424)
31						
32						
33	Gas Reserves Average December Balances					(27,254,444)

NW Natural
 State Allocation Factors
 As of December 31, 2016

Allocation Factors - Summary	Oregon	Washington
Customers-all	89.140%	10.860%
Customers-Residential	89.020%	10.980%
Customers-Commercial	90.300%	9.700%
Customers-Industrial	92.290%	7.710%
Customers-The Dalles	74.650%	25.350%
3-factor	89.870%	10.130%
firm volumes	90.690%	9.310%
sales volumes	90.370%	9.630%
sendout volumes	92.030%	7.970%
sales/sendout volumes	91.200%	8.800%
Customers Portland/Vancouver	85.130%	14.870%
Customers Portland/Vancouver 80%	88.100%	11.900%
Customers Portland/Vancouver Commercial	85.660%	14.340%
Payroll	90.029%	9.971%
Admin Transfer	89.398%	10.602%
Employee Cost	90.060%	9.940%
Regulatory	70.000%	30.000%
Telemetry	89.230%	10.770%
Direct-Wa	0.000%	100.000%
Direct-Or	100.000%	0.000%
Gross plant direct assign	89.060%	10.940%
Transmission	98.830%	1.170%
Depreciation	89.700%	10.300%
Rate Base	90.117%	9.883%

**NW Natural
State Allocation Factors
As of December 31, 2016**

	System	Oregon	Washington
Customers			
Total Customers			
December 2016	725,146	645,883	79,263
December 2015	714,428	637,402	77,026
Average	719,787	641,643	78,145
% of System		89.14%	10.86%
Residential Customers			
December 2016	656,855	584,289	72,566
December 2015	646,841	576,249	70,592
Average	651,848	580,269	71,579
% of System		89.02%	10.98%
Commercial Customers			
December 2016	67,278	60,657	6,621
December 2015	66,421	60,079	6,342
Average	66,850	60,368	6,482
% of System		90.30%	9.70%
Industrial Customers			
December 2016	1,013	937	76
December 2015	1,166	1,074	92
Average	1,090	1,006	84
% of System		92.29%	7.71%
The Dalles			
December 2016	7,930	5,930	2,000
December 2015	7,815	5,823	1,992
Average	7,873	5,877	1,996
% of System		74.65%	25.35%
Portland / Vancouver			
December 2016	516,011	438,748	77,263
December 2015	508,149	433,115	75,034
Average	512,080	435,932	76,149
% of System		85.13%	14.87%
Portland / Vancouver Commercial			
December 2016	44,041	37,635	6,406
December 2015	43,356	37,228	6,128
Average	43,699	37,432	6,267
% of System		85.66%	14.34%

**NW Natural
State Allocation Factors**

Volumes - 12 Months Ended 12/31/16

Firm Delivered (exclude Unbilled) % of System	784,281,575	711,243,930 90.69%	73,037,645 9.31%
Sales Volumes (exclude Unbilled) % of System	677,696,235	612,454,837 90.37%	65,241,398 9.63%
Sendout Volumes % of System	1,084,997,214	998,497,802 92.03%	86,499,412 7.97%

3-factor formula (simple average)

Gross Plant Directly Assigned		89.06%	10.94%
Number of Employees Directly Assigned		91.40%	8.60%
Number of Customers		89.14%	10.86%
Average		89.87%	10.13%

Derivation of factor for 3-factor - Gross Plant Directly Assigned

December 31, 2016

	<u>System</u>	<u>Oregon</u>	<u>Washington</u>
Intangible - Other	84,795	84,348	447
Production	675,198	675,198	
Transmission	163,396,889	162,342,094	1,054,795
Distribution	2,078,201,641	1,829,990,097	248,211,544

Dec Operating Income needed for threshold ROE

	<u>System</u>	<u>Oregon</u>	<u>Washington</u>
Intangible - Other	84,795	84,348	447
Production	675,198	675,198	0
Transmission	157,894,271	156,878,782	1,015,489
Distribution	2,005,888,596	1,774,081,344	231,807,252

Average

	<u>System</u>	<u>Oregon</u>	<u>Washington</u>
Intangible - Other	84,795	84,348	447
Production	675,198	675,198	0
Transmission	160,645,580	159,610,438	1,035,142
Distribution	2,042,045,119	1,802,035,721	240,009,398

**Gross Plant Directly Assigned
% of System**

	2,203,450,692	1,962,405,705 89.06%	241,044,987 10.94%
--	---------------	-------------------------	-----------------------

1	<u>Oregon Total Revenues</u>	
2		<u>Revenue</u>
3		
4	Sales Revenues	580,720,142
5	Unbilled Revenues	5,728,925
6		
7		
8	Total Sales Revenues	586,449,067
9		
10	Transportation Revenues	17,663,610
11		
12	Grand Total Revenues	<u>604,112,677</u>
13		
14		
15	<u>Gas Costs</u>	
16		
17	Demand Charges	72,354,238
18		
19	Commodity Charges	174,346,985
20		
21		
22	Oregon Deferral Activities	(9,017,704)
23		
24	Grand Total Gas Costs	<u>237,683,519</u>
25		
26		

Normalization Adjustments		
<u>Revenue Adjustment</u>	<u>Therms</u>	<u>Revenue</u>
<u>WARM Adjustment</u>		
WARM Revenues		(22,945,167)
WARM Revenues - Unbilled		4,940,225
		<u>(18,004,942)</u>
<u>Weather Normalization Adjustment</u>		
Residential	33,431,298	30,057,417
Commercial	46,261,074	36,040,079
	<u>79,692,372</u>	<u>66,097,496</u>
TOTAL NORMALIZING MARGIN ADJUSTMENT	<u>79,692,372</u>	<u>48,092,554</u>
<u>Gas Cost Adjustment</u>		<u>Cost of Gas</u>
WACOG equalization		0
Weather Normalization Gas Costs		36,073,405
TOTAL GAS COST ADJUSTMENT	Type I	<u>36,073,405</u>

NW Natural
 Test year Normalizing Adjustments
 Revenues and Deliveries
 2016 Oregon Earnings Review

1 **Weather Normalization**
 2
 3

	Residential			Commercial			
	Volumes	Revenues	Gas Costs	Volumes	Revenues	Gas Costs	
4							
5							
6							
7	January	1,508,751	1,356,684	685,742	5,098,066	3,984,138	2,317,122
8	February	8,785,931	7,900,397	3,993,293	7,457,746	5,828,228	3,389,620
9	March	4,009,914	3,605,755	1,822,546	5,119,440	4,000,843	2,326,837
10	April	11,188,247	10,060,584	5,085,170	6,869,711	5,368,679	3,122,352
11	May	5,111,640	4,596,438	2,323,291	4,085,157	3,192,550	1,856,745
12	June	618,118	555,818	280,941	2,229,336	1,742,226	1,013,256
13	July	598,573	538,243	272,057	2,256,985	1,763,833	1,025,822
14	August	1,633,757	1,469,091	742,559	2,411,724	1,884,762	1,096,152
15	September	(489,871)	(440,496)	(222,651)	1,017,218	794,956	462,336
16	October	225,393	202,676	102,443	1,767,057	1,380,955	803,145
17	November	11,256,497	9,919,112	4,913,348	8,241,043	6,323,270	3,597,133
18	December	(11,015,653)	(9,706,884)	(4,808,223)	(292,409)	(224,363)	(127,634)
19							
20	Total	33,431,298	30,057,417	15,190,519	46,261,074	36,040,079	20,882,886

21
 22
 23
 24
 25
 26 **Total Revenue Change** 66,097,496
 27 **Total Gas Cost Change** 36,073,405

NW Natural
2016 Oregon Earnings Review
Adjustments to Miscellaneous Revenues
(\$000)

Worksheet 2b

<u>Line</u> <u>No.</u>	<u>Actual</u> <u>(a)</u>	<u>Normalized</u> <u>(b)</u>	<u>Adjustment</u> <u>(c)</u>		
<u>Revenue & Technical Adjustments</u>					
1	Intervenor Funding Amortization	(\$162.0)	(\$162.0)	\$0.0	
2	Interstate Storage Credit	9,286.2	\$9,286.2	0.0	
3	Washington Amortizations	0.0	\$0.0	0.0	
4	Oregon Amortizations	(2,951.3)	(\$2,951.3)	0.0	
5	Oregon Earnings Test Adjustment	0.0	\$0.0	0.0	
6	Decoupling Amortization	(16,991.3)	(\$16,991.3)	0.0	
7	Working Gas Deferral	0.0	\$0.0	0.0	
8	Gas Reserves Credit	0.0	\$0.0	0.0	
9	Gain on Property Sales - OR	0.0	\$0.0	0.0	
10	Gain on Property Sales - WA	0.0	\$0.0	0.0	
11	Gasco Cost of Service of Insurance Reserve	0.0	\$0.0	0.0	
12	Residual Amortization	16.2	\$16.2	0.0	
13	Subtotal	<u>(10,802.2)</u>	<u>(10,802.2)</u>	<u>0.0</u>	
14	Decoupling Deferral	<u>9,937.0</u>	<u>0.0</u>	<u>(9,937.0)</u>	
15	WARM Deferrals	<u>401.6</u>	<u>0.0</u>	<u>(401.6)</u>	
<u>Other Miscellaneous Revenues</u>					
16	Reconnection / Field Collection Charges	858.2	\$964.4	\$106.2	[1]
17	Returned Check Charge	94.0	96.6	2.7	[1]
18	Late Payment Fee	1,919.1	2,020.3	101.2	[1]
19	Gas Property Rental	358.4	295.8	(62.6)	[1]
20	Meter Rental	183.7	187.9	4.3	[1]
21	Oregon Other Revenues	106.6	134.7	28.2	[1]
22	Automated Payment Charge	40.6	52.9	12.3	[1]
23	Curtailment Unauthorized Take Charge Materials & Supplies	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>[1]</u>
24	Total	<u>3,560.6</u>	<u>3,752.7</u>	<u>192.2</u>	

Notes:

[1] Normalized to 3-year average

NW Natural
 2016 Oregon Earnings Review
 Advertising and Promotional Adjustment

Worksheet 2c

<u>Line No.</u>	<u>Amount</u>
	(a)
<u>Advertising Expense - Test Period</u>	
1 Category A	1,343,069
2 Category B	723,829
3 Category C	726,413
4 Category E	<u>0</u>
5 Total Advertising Expense	<u><u>\$2,793,311</u></u>
<u>Category A Threshold</u>	
6 Total Oregon Customers - 2015-2016 average	641,643
7 UG 221 allowed \$2.19 per customer	<u>\$2.19</u>
8 Category A Allowable	<u>\$1,405,197</u>
9 Total Allowable Expense (Line 2 plus lesser of Lines 1 and 8)	2,066,898
10 Disallowed Amounts (Line 5 less Line 9)	726,413
11 Allocation Factor (Residential Customers)	<u>89.02%</u>
12 Advertising Disallowance Allocated to Oregon	<u><u>(\$646,653)</u></u>

NW Natural
 2016 Oregon Earnings Review
 Dues/Memberships and Other Promotional Adjustment

Worksheet 2d

Line No.	Operating		Non-Operating		Amount
	Amount	Percent	Amount	Percent	
	(a)	(b)	(c)	(d)	(e)
1 Gas Technology Institute	\$788,000	100%	\$788,000	0%	\$0
2 AGA	407,099	75%	305,324	25%	101,775
3 Western Energy Institute	23,447	75%	17,585	25%	5,862
4 Other	96,983	50%	48,492	50%	48,492
5 Total	<u>\$1,315,529</u>		<u>\$1,159,401</u>		<u>\$156,128</u>
6 Allocation Factor (3-Factor)					<u>89.87%</u>
7 Non-Operating Dues/Memberships Adjustment Allocated to Oregon					<u>140,312</u>
8 Oregon Promotional and Other Expense					<u>637,970</u>
9 Dues/Memberships and Other Promotional Adjustment to Oregon					<u>(\$778,282)</u>

NW Natural
2016 Oregon Earnings Review
Property Tax Adjustment
(\$000)

Worksheet 2e

<u>Line</u> <u>No.</u>	<u>Amount</u> <u>(a)</u>
1 Property Tax Accrual - Oregon	\$19,638
2 Property Taxes Paid - Oregon	<u>19,714</u>
3 Property Tax Adjustment	<u><u>\$76</u></u>

NW Natural
 2016 Oregon Earnings Review
 Uncollectible Accounts Adjustments
 (\$000)

<u>Line No.</u>		<u>2014-2016 Total</u> (a)	<u>2016 Actual</u> (b)	<u>2015 Actual</u> (c)	<u>2014 Actual</u> (c)
Gas Revenues					
1	Residential	\$1,255,462	\$400,895	\$413,979	\$440,588
2	Commercial	638,069	197,732	214,247	226,090
3	Industrial	70,634	21,048	24,271	25,315
4	Interruptible	81,101	19,289	29,781	32,031
5	Total	<u>2,045,266</u>	<u>638,964</u>	<u>682,278</u>	<u>724,024</u>
Net Write-Offs					
6	Residential	2,392	583	702	1,107
7	Commercial	289	92	74	123
8	Industrial	127	124	3	0
9	Interruptible	-	-	-	-
10	Total	<u>2,808</u>	<u>799</u>	<u>779</u>	<u>1,230</u>
Write-Off Percentage					
11	Residential	0.191%	0.145%	0.170%	0.251%
12	Commercial	0.045%	0.047%	0.035%	0.055%
13	Industrial	0.180%	0.589%	0.012%	0.000%
14	Interruptible	0.000%	0.000%	0.000%	0.000%
15	Weighted Total [1]	<u>0.137%</u>	<u>0.125%</u>	<u>0.114%</u>	<u>0.170%</u>
Normalized Uncollectible					
16	Residential	\$764			
17	Commercial	90			
18	Industrial	38			
19	Interruptible	-			
20	Total	<u>\$891</u>			
Materials & Supplies					
21	Allocation Factor (Total Customers)	<u>89.14%</u>			
22	Oregon Normalized Amount	794			
23	Oregon Allocation of Accrued Amount	<u>1,114</u>			
24	Adjustment (Normalized less Accrued)	<u><u>(\$320)</u></u>			

[1] Weighted uncollectible rate of : 0.1370% is used on page 1, column (b).

NW Natural Company
2016 Oregon Earnings Review
Common Stock Issuance expense

Worksheet 2g

<u>Line No.</u>	<u>Amount</u> (a)
1 Capital Stock Expense - 2014	\$0
2 Capital Stock Expense - 2015	0
3 Capital Stock Expense - 2016	<u>4,113,920</u>
4 Three Year Average	\$1,371,307
5 Allocation Factor (Rate Base)	<u>90.117%</u>
6 Allocated to Oregon	<u><u>\$1,235,780</u></u>

NW Natural
2016 Oregon Earnings Review
Bonus Adjustment
(\$000)

Worksheet 2h

<u>Line</u>					
No.	Assumptions:	Disallowance			
1	UG 221 requirements				
1	Officer incentives	100%			
2	Employee merit	50%			
3	Company performance	75%			
2016 Incentive Allocation		Employee Merit	Company Performance		
4	Key goals	77.9%	22.1%	Apply to NBU and BU key goals.	
5	NBU short-term incentives	100.0%	0.0%	Apply to NBU performance bonus.	
Employee merit and Company performance incentives					
		Key Goals		Performance Bonus	
		<u>O&M</u>	<u>Capital</u>	<u>O&M</u>	<u>Capital</u>
6	Officers	0	0	1,384,651	480,342
7	Non-officers exec. incentive	0	0	0	0
8	NBU	0	0	3,991,037	1,867,030
9	BU	635,464	365,123	0	0
10		<u>635,464</u>	<u>365,123</u>	<u>5,375,687</u>	<u>2,347,372</u>
UG 221 Disallowance					
		<u>O&M</u>	<u>Capital</u>		
11	Officer incentives (includes non-officers exec. incentive)	(1,384,651)	(480,342)	=100% of perf. bonus	
12	NBU based on employee merit	(1,995,518)	(933,515)	=(Key goals x 77.9% x 50%) + (Perf. bonus x 100% x 50%)	
13	BU based on employee merit	(247,513)	(142,215)	=(Key goals x 77.9% x 50%)	
14	NBU based on company performance	0	0	=(Key goals x 22.1% x 75%)	
15	BU based on company performance	(105,328)	(60,519)	=(Key goals x 22.1% x 75%)	
16		<u>(3,733,011)</u>	<u>(1,616,591)</u>		
17	25% reduction per UG 221 stipulation	<u>933,253</u>	<u>404,148</u>		
18	Total adjustment	<u>(2,799,758)</u>	<u>(1,212,443)</u>		
19	Allocation factor (O&M=Payroll, Capital=Rate base)	90.03%	90.12%		
20	Oregon bonus adjustment	<u><u>(2,520,594)</u></u>	<u><u>(1,092,617)</u></u>		

NW Natural
2016 Oregon Earnings Review
Rate Case Expense
(\$000)

Worksheet 2i

<u>Line</u>		
<u>No.</u>		
1	Rate case amortization	<u>\$150</u>
2	(Per UG 221, Order No. 12-408 - \$750 over 5 years)	