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January 6, 2012

NWN Advice No. OPUC 11-19
Errata Filing

VIA ELECTRONIC FILING

Public Utility Commission of Oregon
550 Capitol Street, NE, Suite 215
Post Office Box 2148
Salem, Oregon 97308-2148

Attention: Filing Center

Re: **UG 221 – ERRATA FILING**
Application of NW Natural for a General Rate Revision

Northwest Natural Gas Company, dba NW Natural (“NW Natural” or “Company”), files herewith Exhibits 808, 809, 810, 908 and 1101 to replace those originally filed in Advice No. OPUC 11-19 on December 30, 2011. These exhibits are being refiled to remove the confidential reference as the Company does not consider this information to be confidential.

Please call me if you have questions.

Sincerely,

NW NATURAL

/s/ Onita King

Onita R. King
Tariffs and Regulatory Compliance

enclosures



CERTIFICATE OF SERVICE

I hereby certify that I served ERRATA FILING - NWN ADVICE No. OPUC 11-19, upon the following parties by electronic mail.

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DATED at Portland, Oregon, this 6th day of January 2012

/s/ Kelley C. Miller
Kelley C. Miller
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Exhibit 808 – Medical Benefits
Source: Towers Watson 2011 Report

NWN/808
Doolittle/1

- The following table provides a comparison of the **non-bargained** NW Natural PPO plan to both the total Energy benchmark and also the benchmark for the 11 company subset¹
 - We are only comparing PPO plans since this is the highest enrolled plan option within the Towers Watson database
- We have assumed the \$100 per month credit NW Natural employees receive would offset the medical contributions for comparison purposes
- Overall we feel the PPO medical plan is equal to both benchmarks

Coverage Provisions	NW Natural Coverage	Total Energy Benchmark	Comparison	11 Energy Company Subset Benchmark	Comparison
Health Benefits					
Medical					
	PPO (In-Network Only Shown)	PPO (In-Network Only Shown)	NW Natural To Benchmark	PPO (In-Network Only Shown)	NW Natural To Benchmark
Single Deductible	\$500	\$250 to \$300	Worse	\$250 to \$300	Worse
Single Out of Pocket Maximum	\$1,500	\$1,500	Equal	\$2,000 to \$2,500	Better
Coinsurance	90%	80%	Better	80%	Better
Office Visits	\$15 copay, no deductible	\$15 to \$20 copay, no deductible	Equal	\$20 copay, no deductible	Better
Preventive Care	\$15 copay, no deductible (some covered 100%)	100%	Slightly Worse	100%	Slightly Worse
Emergency Room	\$100 copay, no deductible	Coinsurance or \$100 copay	Equal	\$100 copay	Equal
Generic Drugs - Retail	\$10 copay	\$10 copay	Equal	\$10 copay	Equal
Brand Formulary Drugs - Retail	\$35 copay	80% or \$25 copay	Slightly Worse	\$25 to \$30 copay	Slightly Worse
Brand Non Formulary Drugs - Retail	\$50 copay	80% or \$40 copay	Slightly Worse	\$40 to \$50 copay	Slightly Worse
Monthly Employee Only Contributions	\$120 (\$20 after \$100 cash allowance)	\$50+	Better	\$50+	Better
Monthly Family Contributions	\$345 (\$245 after \$100 cash allowance)	\$250+	Equal	\$200+	Equal
Overall Assessment			Equal		Equal

- The following table provides a comparison of the **bargained** NW Natural PPO plan to both the total Energy benchmark
 - There were not enough of the 11 target companies that submitted separate bargained benefits to provide a meaningful benchmark
 - We are only comparing PPO plans since this is the highest enrolled plan option within the Towers Watson database
- Overall we feel the PPO medical plan is equal to the benchmark

Coverage Provisions	NW Natural Coverage	Total Energy Benchmark	Comparison
Health Benefits			
Medical			
	PPO (In-Network Only Shown)	PPO (In-Network Only Shown)	NW Natural To Benchmark
Single Deductible	\$300	\$250 to \$300	Equal
Single Out of Pocket Maximum	\$2,000	\$1,500	Worse
Coinsurance	80%	80%	Equal
Office Visits	\$20 copay, no deductible	\$15 copay, no deductible	Slightly Worse
Preventive Care	\$20 copay, no deductible (some covered 100%)	100%	Slightly Worse
Emergency Room	\$75 copay, deductible & coinsurance	Deductible & Coinsurance	Slightly Worse
Generic Drugs - Retail	\$10 copay	\$5 to \$10 copay	Equal
Brand Formulary Drugs - Retail	\$20 copay	80% or \$20 copay	Equal
Brand Non Formulary Drugs - Retail	50%	80% or \$35 copay	Worse
Monthly Employee Only Contributions	\$0	\$50+	Better
Monthly Family Contributions	\$0	\$300+	Better
Overall Assessment			Equal

¹Utility companies represented in survey: Avista, Chesapeake Utilities, Laclede, New Jersey Resources, NiSource, Oneok, Piedmont Natural Gas, PNM Resources, Portland General Electric, UGI Corp, Vectren

Exhibit 809 – Health Plan Benchmarking Survey

Source: Towers Watson 2011 Report

NWN/809
Doolittle/1

- The following table provides an overall comparison summary for each of the benefits that we reviewed
 - The comments reflect how NW Natural’s benefits compare to the benchmarks

Plan	Comparison to Non-Bargained Total Database	Comparison to Non-Bargained 11 Target Companies ¹	Comparison to Bargained Total Database
Medical	Equal	Equal	Equal
Dental	Equal	Equal	Equal
Vision	Equal	Equal	Equal
401(k)	Worse	Worse	Worse
Enhanced 401(k)/DB Plan	Better for short term employees Worse for long term employees	Better for short term employees Worse for long term employees	Better for short term employees Equal for long term employees
STD	Overall Determination Cannot Be Made- See Details	Overall Determination Cannot Be Made- See Details	Overall Determination Cannot Be Made- See Details
LTD	Overall Determination Cannot Be Made- See Details	Overall Determination Cannot Be Made- See Details	Equal
Basic Life	Overall Determination Cannot Be Made- See Details	Overall Determination Cannot Be Made- See Details	Worse
Employee Supplemental Life (paid by employees)	Equal	Equal	Equal
Spouse Life (paid by employees)	Better	Better	Better
Child Life (paid by employees in the benchmark)	Equal	Equal	Equal
Vacation	Equal	Equal	Equal
Holiday	Equal	Equal	Equal

¹Utility companies represented in survey: Avista, Chesapeake Utilities, Laclede, New Jersey Resources, NiSource, Oneok, Piedmont Natural Gas, PNM Resources, Portland General Electric, UGI Corp, Vectren
towerswatson.com

Exhibit 810 – Retirement Benefits Benchmarking Survey
 Source: Towers Watson 2011 Report

**NWN/810
 Doolittle/1**

- The following table provides a comparison of the **non-bargained** NW Natural retirement plans to both the total Energy benchmark and also the benchmark for the 11 company subset¹
- Overall we feel the 401(k) plan is worse than both benchmarks
- Overall we feel the Enhanced 401(k) plan is better for short term employees and worse for long term employees versus the benchmarks

Coverage Provisions	NW Natural Coverage	Total Energy Benchmark	Comparison	11 Energy Company Subset Benchmark	Comparison
Retirement Benefits					
401(k)					
Employer Match	60% of the first 6%	100% up to 6%	Worse	100% up to 6%	Worse
Vesting	Immediate	Immediate	Equal	Immediate	Equal
Overall Assessment			Worse		Worse
DB Plan					
Actual DB Plan Available	Enhanced 401(k)	75 of 109 Have Actual DB		5 of 11 Have Actual DB	
Employer Contribution	5% of current annual pay	1.5% of final pay of those that have a plan	Better for short term employees Worse for long term employees	1.5% of final pay of those that have a plan	Better for short term employees Worse for long term employees

- The following table provides a comparison of the **bargained** NW Natural retirement plans to the total Energy benchmark
- Overall we feel the 401(k) plan is worse than the benchmark
- Overall we feel the Enhanced 401(k) plan plus the Western State DB plan is better for short term employees and equal for long term employees versus the benchmarks

Coverage Provisions	NW Natural Coverage	Total Energy Benchmark	Comparison
Retirement Benefits			
401(k)			
Employer Match	50% of the first 4%	50% of 6%	Worse
Vesting	Immediate	Immediate	Equal
Overall Assessment			Worse
DB Plan			
Actual DB Plan Available	Enhanced 401(k)	47 of 67 Have	
Employer Contribution	4% of current annual pay 1.2% Western State DB Plan	1.5% of final pay of those that have a plan	Better for short term employees Equal for long term employees

¹Utility companies represented in survey: Avista, Chesapeake Utilities, Laclede, New Jersey Resources, NiSource, Oneok, Piedmont Natural Gas, PNM Resources, Portland General Electric, UGI Corp, Vectren



2.3 Supplemental Materials

You shall update promotional materials and technical applications, and, if you are a Merchant Processor, descriptions of the Processing Services, to include Card Acceptance as part of integrated materials addressing comparable services offered for other cards, in each case in accordance with your regularly scheduled updates.

2.4 Equal Treatment of Cards with Other Payment Cards; Equal Treatment of Card Issuers

Other than with respect to discounts as permitted in Section 2.5, you may not institute or adopt any practice, including any discount or in-kind incentive, that unfavorably discriminates against or provides unequal and unfavorable treatment of any Person who elects to pay using a Card versus any other credit card, debit card, prepaid card, or other payment card that you accept (except for any proprietary payment card issued by you or any payment card issued under a formal co-branding relationship between you and a card issuer), and you may not in any way discriminate among various Issuers of Cards, except to the extent such restrictions are prohibited by Requirements of Law or permitted as set forth in Section 5.12.

2.5 Surcharges and Discounts

You may assess a surcharge on a Card Sale provided that (a) the amount of the surcharge may not exceed the Merchant Fee payable by you to us for the Card Sale and (b) you assess surcharges on Card Sales conducted using other cards accepted by you, in each case subject to the restrictions in Section 2.4; and (c) you otherwise comply with Section 2.4. You may not assess a surcharge or other penalty fee of any kind other than as set forth above. Effective upon publication of Release 11.1 of these Operating Regulations, you may offer discounts or in-kind incentives for payment by different tender types (e.g., a discount for payment by cash versus payment by credit card) subject to the restrictions in Section 2.4.

2.6 Test Cards

If we have issued you a test Card or test Card Account in order to test Card Acceptance at your locations, you are responsible for any improper or fraudulent use of such Card or Card Account. You agree to use reasonable efforts to safeguard such Card or Card Account in a secure place. Test Cards are and remain our property.

2.6.1 Test Card Compliance Requirements

You must comply with the following terms and conditions with respect to test Cards and test Card Accounts we create and issue to you:

- You must have an authorized officer sign and return to us the accompanying acknowledgement form upon receipt of the test Cards.
- You must maintain the test Cards in a secure storage place with limited access.
- You must return all test Cards to us immediately upon request.
- You must not conduct a test Card Transaction that exceeds the equivalent of

5.11 Prohibited Practices

An Acquirer must ensure that none of its Merchants engage in any of the prohibited practices set forth in this Rule 5.11.

5.11.1 Discrimination

A Merchant must not engage in any acceptance practice that discriminates against or discourages the use of a Card in favor of any other acceptance brand



Note An addition to this Rule appears in Chapter 10a, "New Zealand Rules."

5.11.2 Charges to Cardholders

A Merchant must not directly or indirectly require any Cardholder to pay a surcharge or any part of any Merchant discount or any contemporaneous finance charge in connection with a Transaction. A Merchant may provide a discount to its customers for cash payments. A Merchant is permitted to charge a fee (such as a bona fide commission, postage, expedited service or convenience fees, and the like) if the fee is imposed on all like transactions regardless of the form of payment used, or as the Corporation has expressly permitted in writing. For purposes of this Rule:

1. A surcharge is any fee charged in connection with a Transaction that is not charged if another payment method is used.
2. The Merchant discount fee is any fee a Merchant pays to an Acquirer so that the Acquirer will acquire the Transactions of the Merchant.



Note Variations to this Rule appear in Chapter 10a, "New Zealand Rules," Chapter 11a, "Canada Region Code of Conduct Related Rules," and Chapter 12, "Europe Region Rules."

5.11.3 Minimum/Maximum Transaction Amount Prohibited

A Merchant must not require, or indicate that it requires, a minimum or maximum Transaction amount to accept a valid and properly presented Card.

CPS/Small Ticket - U.S. Region

CPS/Small Ticket Merchant Category Codes - U.S. Region (Updated)

Effective 16 October 2010, in the U.S. Region, in addition to the exclusions specified in “Visa Easy Payment Service (VEPS) Merchant Category Code Exclusions – U.S. Region,” a Visa Easy Payment Service (VEPS) Transaction does not qualify for the CPS/Small Ticket Interchange Reimbursement Fee if the Transaction is one of the following:

- Visa Signature Preferred Transaction
- Commercial Visa Product Transaction
- Visa Debit Card Transaction with one of the following MCCs:
 - 5541, “Service Stations”
 - 5411, “Grocery Stores and Supermarkets”
 - 5499, “Miscellaneous Food Stores — Convenience Stores and Specialty Markets”
- Visa Consumer Card (including Visa Signature Card) Transaction at a Merchant that is eligible for the Performance Threshold Interchange Reimbursement Fee Program. An exception applies to Transactions with MCC 5812, “Eating Places and Restaurants,” or MCC 5814, “Fast Food Restaurants”

ID#: 050411-161010-0026011

Industry-Specific Merchant Programs - U.S. Region

Industry-Specific Merchant Program Requirements - U.S. Region

Industry-Specific Merchant Incentive Programs - U.S. Region (Updated)

In the U.S. Region, Visa offers incentive programs for Transactions completed by Merchants in specific Merchant segments. Visa reserves the right to disqualify a Merchant from participation in, or to modify or discontinue a Merchant incentive program at any time.

ID#: 050411-010100-0025930

Visa Utility Program Interchange Reimbursement Fee Qualification - U.S. Region

In the U.S. Region, only Visa Consumer Card Transactions or Visa Business Card Transactions (including Visa Signature Business Card) completed by a Merchant registered with the Visa Utility Interchange Reimbursement Fee Program may qualify for the Visa Utility Program Interchange Reimbursement Fee as specified in the *U.S. Interchange Reimbursement Fee Rate Qualification Guide* and the *Visa Utility Interchange Reimbursement Fee Program Guide*.

Utility Transactions involving registered Visa Merchants properly assigned Merchant Category Code 4900, “Utilities - Electric, Gas, Water, Sanitary” receive the utility Interchange Reimbursement Fee by meeting certain business requirements. Credit Voucher Transactions are not eligible for this program.

To qualify for the Visa Utility Interchange Reimbursement Fee Program, a U.S. Merchant must:

- Contract directly with an Acquirer to be a Merchant, and the Merchant Outlet must be properly identified in the Authorization and Clearing Records
- Be properly assigned Merchant Category Code 4900, "Utilities - Electric, Gas, Water, Sanitary"
- Accept Visa as a means of payment in all channels where payments are accepted (e.g., Face-to-Face Environments and Card-Absent Environments, as applicable)
- Visually represent the Visa Flag Symbol or Visa Brand Mark or Visa Brand Name on its Website
- **Not** charge a Convenience Fee to a Cardholder for processing a Visa Transaction. This restriction also applies to a third-party agent that processes Transactions for a utility Merchant.
- Feature the opportunity to pay with Visa at least as prominently as all other payment methods
- Be registered with Visa by its Acquirer

Transactions completed by a Merchant providing telecommunication or cable services are **not** eligible to participate in the Visa Utility Interchange Reimbursement Fee Program (Merchant Category Code 4900 is not applicable to such Merchants). Visa reserves the right to disqualify a Merchant from participation in or to modify or discontinue the Visa Utility Interchange Reimbursement Fee Program at any time.

An Acquirer must register the Visa Utility Payment Program Merchant as specified in the *Visa Utility Interchange Reimbursement Fee Program Guide*.

ID#: 081010-010410-0008990

Visa Debt Repayment Program - U.S. Region

In the U.S. Region, Visa Debt Repayment Program Transactions completed by a registered Visa Merchant qualify for the Debt Repayment Program Interchange Reimbursement Fee by meeting the applicable business requirements specified in the *Visa Debt Repayment Program Guide* and the *U.S. Interchange Reimbursement Fee Rate Qualification Guide*.

Transactions must have the following characteristics:

- Transaction is completed with a Visa Debit Card
- Merchant is properly assigned Merchant Category Code 6012, "Financial Institutions - Merchandise and Services," or 6051, "Non-Financial Institutions - Foreign Currency, Money Orders (not Wire Transfer), Travelers Cheques"
- Transaction is a U.S. Domestic Transaction
- The bill payment and existing debt indicators are included in the Authorization Request and Clearing Record

NW Natural
Long-Run Incremental Cost Study
Incremental Distribution Revenue Requirements

	Units	Total (A)	IR (B)	IC (C)	2R (D)	3C Firm Sales (E)	3I Firm Sales (F)	3IC Firm Sales (G)	3IC Firm Turns (H)	3IC Interl Sales (I)	3II Firm Sales (J)	3II Firm Turns (K)
1	Number Customers											
2	MDDV Volumes	601,298	3,764	169	538,601	56,653	285	1,198	6	12	225	8
3	Winter-4 Storage Volume-Sales & Transport	207,362,282	194,861	38,670	132,481,223	49,281,181	569,537	16,449,324	8,064		1,876,983	157,702
4	Winter-4 Storage Volume-Sales	203,768,706	194,861	38,670	132,481,223	49,281,181	569,537	16,449,324			1,876,983	
5	Firm Design/Day	849,990	830	131	554,495	191,840	1,516	70,302	175		4,331	353
6	Design/Day-Sales	838,638	830	131	554,495	191,840	1,516	70,302			4,331	
7	C&I Incremental Firm Design/Day	17,459	14	3	9,496	4,531	115	1,660	4	0	327	27
8	Revenues	\$287,404,942	\$577,125	\$62,009	\$188,891,594	\$37,697,369	\$1,362,237	\$15,322,004	\$81,269	\$285,292	\$3,561,584	\$182,560
10	Total Revenue Requirement	\$ 331,087,253										
11												
12	Incremental Storage Costs											
13	Storage Revenue Requirement - Daily Deliverability	\$ 446,697,054	\$46,244	\$7,287	\$30,875,387	\$10,682,052	\$84,420	\$3,914,542	\$0	\$0	\$241,171	\$0
14	Storage Revenue Requirement - Capacity	\$8,265,500	\$7,904	\$1,569	\$5,373,856	\$1,999,000	\$23,102	\$667,236	\$0	\$0	\$76,136	\$0
15	Incremental Transmission Costs											
17	Incremental Transmission Costs per Dth/Design Day	\$ 1,677,913	\$96	\$96	\$96	\$96	\$96	\$96	\$96	\$0	\$96	\$96
18	Incremental Transmission Revenue Requirement		1,367	297	912,625	435,442	11,004	159,572	397	\$0	31,437	2,560
19												
20	Incremental Distribution Costs											
21	Incremental Distribution Costs per Customer	\$ 516,116,016	\$338	\$383	\$378	\$662	\$3,022	\$1,909	\$2,753	\$2,535	\$4,186	\$4,186
22	Incremental Distribution Costs per Dth/Design Day	\$ 516,116,016	\$0	\$13	\$0	\$13	\$13	\$13	\$13	\$0	\$13	\$13
23	Incremental Distribution Revenue Requirement	\$ 516,116,016	\$1,273,726	\$66,510	\$203,546,032	\$40,057,324	\$881,343	\$3,214,854	\$18,824	\$30,415	\$998,985	\$38,143
24												
25	Total Incremental Revenue Requirement	\$ 331,087,253										
26												
27	Ratio of Incremental Rev Req to Rev Req	94%										
28	Total Revenue Requirement - Allocated based on LRIC	\$ 331,087,253	\$1,418,944	\$80,769	\$256,951,564	\$16,762,228	\$1,067,346	\$8,493,124	\$20,518	\$32,467	\$1,438,680	\$43,459
29												
30	Test Year Revenues	\$ 287,404,942	\$577,125	\$62,009	\$188,891,594	\$37,697,369	\$1,362,237	\$15,322,004	\$81,269	\$285,292	\$3,561,584	\$182,560
31	Revenue to Cost Ratio	0.87	0.41	0.77	0.74	1.02	1.28	1.80	3.96	8.79	2.48	4.20
32	Unitized Revenue to Cost Ratio	1.00	0.47	0.88	0.85	1.17	1.47	2.08	4.56	10.12	2.85	4.84

NW Natural
Long-Run Incremental Cost Study
Incremental Distribution Revenue Requirements

	311 Invert. Sales (L)	32C Firm Sales (M)	32C Firm Sales (N)	34 Firm Days (O)	32C Invert. Sales (P)	32C Invert. Sales (Q)	32 Invert. Days (R)	32C Invert. Sales (S)
1 Number Customers	7	53	45	65	52	66	89	
2 MDDV Volumes		1,708,764	1,888,634	3,150,048				
3 Winter-4 Storage Volumes-Sales & Transport		2,351,912	525,017	3,427,811				
4 Winter-4 Storage Volumes-Sales		2,351,912	525,017	3,427,811				
5 Firm Design/Day		13,157	2,036	10,825				
6 Design/Day-Sales		13,157	2,036	10,825				
7 C&I Incremental Firm Design/Day	0	311	154	818	0	0	0	0
8 Revenues	\$75,970	\$2,060,560	\$2,056,408	\$3,945,752	\$1,749,021	\$2,647,371	\$6,846,817	
9								
10 Total Revenue Requirement								
11								
12 Incremental Storage Costs	\$0	\$732,603	\$113,349	\$0	\$0	\$0	\$0	\$0
13 Storage Revenue Requirement - Daily Deliverability	\$0	\$95,401	\$21,296	\$0	\$0	\$0	\$0	\$0
14 Storage Revenue Requirement - Capacity								
15								
16 Incremental Transmission Costs	\$0	\$96	\$96	\$96	\$0	\$0	\$0	\$0
17 Incremental Transmission Costs per Dth/Design Day	0	29,864	14,775	78,571	0	0	0	0
18 Incremental Transmission Revenue Requirement								
19								
20 Incremental Distribution Costs	\$4,192	\$3,386	\$5,030	\$6,673	\$5,021	\$6,677	\$16,581	
21 Incremental Distribution Costs per Customer	\$0	\$13	\$13	\$13	\$0	\$0	\$0	\$0
22 Incremental Distribution Costs per Dth/Design Day	\$29,347	\$33,104	\$253,204	\$576,667	\$261,110	\$440,706	\$1,475,722	
23 Incremental Distribution Revenue Requirement								
24								
25 Total Incremental Revenue Requirement								
26								
27 Ratio of Incremental Rev Req to Rev Req	\$31,327	\$1,292,694	\$429,796	\$699,437	\$278,731	\$470,447	\$1,575,311	
28 Total Revenue Requirement - Allocated based on LRIC								
29								
30 Test Year Revenues	\$75,970	\$2,060,560	\$2,056,408	\$3,945,752	\$1,749,021	\$2,647,371	\$6,846,817	
31 Revenue to Cost Ratio	2.43	1.59	4.78	5.64	6.27	5.63	4.35	
32 Utilized Revenue to Cost Ratio	2.79	1.84	5.51	6.50	7.23	6.48	5.01	

**NW Natural
 Long-Run Incremental Cost Study
 Calculation of Incremental Storage Costs (Test Year \$)**

	(A)	(B)	(C)	(D)	(E)
Cost of Capital	<u>Percentage</u>	<u>Rate</u>		<u>Tax Rates</u>	
Equity	50%	10.30%		State	7.90%
Debt	50%	6.27%		Federal	35.00%
Weighted Cost of Capital		8.28%		Combined Tax Rate	40.14%
Weighted Cost of Capital including Taxes		11.74%		After Tax Rate	59.87%
Direct	<u>Plant</u>	<u>O&M</u>			
Storage-Demand	212,416,125	280,999			
Storage-Energy	<u>39,340,908</u>	<u>403,148</u>			
Total	251,757,033	684,148			
Storage Direct Revenue Requirement-(Return on Plant, O&M, Taxes and Depreciation)					
Storage-Demand		46,697,054			
Storage-Energy		8,265,500			

NW Natural
Long-Run Incremental Cost Study
Incremental Demand-Related Transmission Costs (Test Year \$)

<u>Class</u>	<u>Mains Component Investment</u> (A)	<u>ECCR Factor</u> (B)	<u>Annual Cost per Dth/Design Day</u> (C)	<u>Monthly Cost per Dth/Design Day</u> (D)
1 IR	\$ 1,107	8.68%	\$ 96.11	\$ 8.01
2 1C	\$ 1,107	8.68%	\$ 96.11	\$ 8.01
3 2R	\$ 1,107	8.68%	\$ 96.11	\$ 8.01
4 3C Firm Sales	\$ 1,107	8.68%	\$ 96.11	\$ 8.01
5 3I Firm Sales	\$ 1,107	8.68%	\$ 96.11	\$ 8.01
6 31C Firm Sales	\$ 1,107	8.68%	\$ 96.11	\$ 8.01
7 31C Firm Trans	\$ 1,107	8.68%	\$ 96.11	\$ 8.01
8 31C Interr Sales	\$ -	8.68%	\$ -	\$ -
9 31I Firm Sales	\$ 1,107	8.68%	\$ 96.11	\$ 8.01
10 31I Firm Trans	\$ 1,107	8.68%	\$ 96.11	\$ 8.01
11 31I Interr Sales	\$ -	8.68%	\$ -	\$ -
12 32C Firm Sales	\$ 1,107	8.68%	\$ 96.11	\$ 8.01
13 32I Firm Sales	\$ 1,107	8.68%	\$ 96.11	\$ 8.01
14 32 Firm Trans	\$ 1,107	8.68%	\$ 96.11	\$ 8.01
15 32C Interr Sales	\$ -	8.68%	\$ -	\$ -
16 32I Interr Sales	\$ -	8.68%	\$ -	\$ -
17 32 Interr Trans	\$ -	8.68%	\$ -	\$ -

**NW Natural
 Long-Run Incremental Cost Study
 Calculation of Incremental Transmission Mains Costs**

Forecasted Transmission Investment		(A)	(B)
		<u>2011-2013</u>	<u>Units</u>
1	Corvallis Loop Project	\$12,800,000	\$
2	Mid-Willamette Valley Feeder Project	\$32,600,000	\$
3	Total Investment	<u>\$45,400,000</u>	\$
4			
5	Total Additional Design Day Capacity for both Projects*	41,000	Per Dth/Day
6	* Since both projects are in series, (i.e. one pipeline project feeds the other) the 41,000 Dth/Day is the total for both.		
7			
8	Forecasted Transmission Investment per Design Day Dth	\$1,107	Per Dth/Day
9			
10	2013 Forecasted C&I Incremental Design Day Requirements by Revenue Class (Dth per Day)		
11	Residential	9,510	Per Dth/Day
12	Commercial	6,509	Per Dth/Day
13	Industrial	<u>1,440</u>	Per Dth/Day
14	2013 Total Forecasted C&I Incremental Design Day Requirements	<u>17,459</u>	Per Dth/Day

NW Natural
 Long-Run Incremental Cost Study
Incremental Demand-Related Distribution Costs (Test Year \$)

Class	Mains Component Investment (A)	ECCR Factor (B)	Annual Cost per Dth/Design Day (C)	Monthly Cost per Dth/Design Day (D)
1 1R	\$ -	8.68%	\$ -	\$ -
2 1C	\$ 152	8.68%	\$ 13.20	\$ 1.10
3 2R	\$ -	8.68%	\$ -	\$ -
4 3C Firm Sales	\$ 152	8.68%	\$ 13.20	\$ 1.10
5 3I Firm Sales	\$ 152	8.68%	\$ 13.20	\$ 1.10
6 31C Firm Sales	\$ 152	8.68%	\$ 13.20	\$ 1.10
7 31C Firm Trans	\$ 152	8.68%	\$ 13.20	\$ 1.10
8 31C Interr Sales	\$ -	8.68%	\$ -	\$ -
9 31I Firm Sales	\$ 152	8.68%	\$ 13.20	\$ 1.10
10 31I Firm Trans	\$ 152	8.68%	\$ 13.20	\$ 1.10
11 31I Interr Sales	\$ -	8.68%	\$ -	\$ -
12 32C Firm Sales	\$ 152	8.68%	\$ 13.20	\$ 1.10
13 32I Firm Sales	\$ 152	8.68%	\$ 13.20	\$ 1.10
14 32 Firm Trans	\$ 152	8.68%	\$ 13.20	\$ 1.10
15 32C Interr Sales	\$ -	8.68%	\$ -	\$ -
16 32I Interr Sales	\$ -	8.68%	\$ -	\$ -
17 32 Interr Trans	\$ -	8.68%	\$ -	\$ -

NW Natural
Leak-Rate Incremental Cost Study
Calculation of Economic Carrying Charge Rate - Main

(A) (B) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V)

1 BOOK DATA:

2 Book Cost	\$100.00
3 Avg Life	80.00
4 Salvage Value	-60.00%
5 Dispersal: (Yes=1, No=0)	0
6 End of Yr. (1) or Avg. Rate Base (0)	1

FEDERAL TAX DATA:

Tax Base	\$100.00
Tax Life	20.00
FT Rate	35.00%
Declining Rate	150.00%
1st Year Adjust	50.00%
Deferred FT: (Yes=1, No=0)	1

STATE TAX DATA:

State Tax Life	80.00
State Rate	7.90%
Declining Rate	200.00%
State Tax Method	0
SL=0, DDB=1	

7 OTHER INFORMATION:

8 Property Tax (Percent of Net Plant)	Rate	Starting
9 O&M (Percent of Gross Plant + Inf)	0.81%	Year
10 A&G (Percent of Gross Plant + Inf)	1.07%	2012
11 Initial (ECCR)	0.00%	
12 GRT Rate	2.10%	
13	0.00%	

14 COST OF CAPITAL AND DISCOUNT RATES

15	Cost of Capital	Percent of Capital	Weighted Costs
16	Debt	50.00%	3.13%
17	Preferred	0.00%	0.00%
18	Common	50.00%	5.15%
19	Total	100.00%	8.28%
20	Net of Tax or After Tax	7.19%	5.15%
21	Pre Tax	10.20%	8.28%
22	Cost of Capital		
23	Cost of Equity	62%	
24	Discount Rate:		

PRESENT WORTH REQUIREMENTS AND CHARGE RATES

TOTAL PRESENT WORTH OF REVENUES:	141.79
TOTAL PRESENT WORTH PLANT:	1,245.76
CHARGE RATES:	RATES:
LEVELIZED (LACR)	11.36%
ECONOMIC CARRYING CHARGE RATES (ECCR)	ECCR
TAX:	12.18%
BOOK:	8.66%
AVERAGE ECCR	10.43%
YEARS	60
FACTOR	0.0812

**NW Natural
 Long-Run Incremental Cost Study
 Calculation of Incremental Distribution Mains Costs**

	(A)	(B)
Forecasted Incremental Design Day Requirements by Revenue Class (Dth per Day)		
	<u>2011</u>	<u>Note</u>
1 Residential	6,840	Residential
2 Commercial	5,535	Commercial
3 Industrial	549	Industrial
4 Commercial & Industrial Service	6,083	Commercial + Industrial
5 Residential	6,840	Residential
6		
7		
8 New customer meter set without idle and add sets*		
9	<u>2011</u>	
10 Commercial & Industrial Service	423	
11 Residential Conversion Service	2,282	
12 Residential New Service	2,790	
13 Commercial & Industrial Service	423	
14 Residential	5,072	
15 *Idle and add sets are new customers that currently have meter and service connections		
16		
17 Forecast Capital Expenditure with Construction Overhead		
18		
19	<u>2011</u>	
20 Residential	\$ 843,243.80	
21 Commercial & Industrial	\$ 1,289,896.79	
22 Includes Extensions		
23		
24 Cost per Foot	\$14.56	
25 Installed Mains Length per New Customer	77	
26		
27 Customer Costs per Customer - All (2011 \$)	\$1,120	Per Customer
28 Escalation to the Test Year Dollars	1.13	Factor
29 Customer Costs per Customer - All (Test Year \$)	\$1,271	Per Customer
30		
31 Total Commercial Customer Component	\$473,966	Number of New C&I Customers * \$1,120
32 Total Commercial Demand Component	\$815,931	Com & Ind - Customer Component
33 Commercial & Industrial cost per forecasted new design day requirement (2011 \$)	\$134	Per Dth/Day
34 Escalation to the Test Year Dollars	1.13	Factor
35 Commercial & Industrial cost per forecasted new design day requirement (Test Year \$)	\$152	Per Dth/Day

NW Natural
Long-Run Incremental Cost Study
Incremental Customer-Related Distribution Costs (Test Year \$)

Rate Schedule	Mains		Services		Meters & Regulators			Accounting		Annual		Monthly	
	Invest- ment (A)	ECCR Factor (B)	Invest- ment (D)	ECCR Factor (E)	Invest- ment (G)	ECCR Factor (H)	Annual Cost (I)	Annual Cost (L)	Annual Cost (M)	Annual Cost Per Customer (N)	Annual Cost Per Customer (M)	Annual Cost Per Customer (N)	
1 IR	\$1,271	8.68%	\$1,595	8.19%	\$375	13.50%	\$51	\$ 46.76	\$ 338	\$ 28	\$ 338	\$ 28	
2 IC	\$1,271	8.68%	\$1,678	8.19%	\$633	13.50%	\$85	\$ 50.20	\$ 383	\$ 32	\$ 383	\$ 32	
3 2R	\$1,271	8.68%	\$1,979	8.19%	\$435	13.50%	\$59	\$ 46.76	\$ 378	\$ 31	\$ 378	\$ 31	
4 3C Firm Sales	\$1,271	8.68%	\$4,764	8.19%	\$827	13.50%	\$112	\$ 50.20	\$ 662	\$ 55	\$ 662	\$ 55	
5 3I Firm Sales	\$1,271	8.68%	\$9,250	8.19%	\$3,409	13.50%	\$460	\$ 1,694.30	\$ 3,022	\$ 252	\$ 3,022	\$ 252	
6 31C Firm Sales	\$1,271	8.68%	\$14,090	8.19%	\$4,406	13.50%	\$595	\$ 50.20	\$ 1,909	\$ 159	\$ 1,909	\$ 159	
7 31C Firm Trans	\$1,271	8.68%	\$22,862	8.19%	\$5,334	13.50%	\$720	\$ 50.20	\$ 2,753	\$ 229	\$ 2,753	\$ 229	
8 31C Interr Sales	\$1,271	8.68%	\$20,538	8.19%	\$5,127	13.50%	\$692	\$ 50.20	\$ 2,535	\$ 211	\$ 2,535	\$ 211	
9 31I Firm Sales	\$1,271	8.68%	\$20,538	8.19%	\$5,180	13.50%	\$699	\$ 1,694.30	\$ 4,186	\$ 349	\$ 4,186	\$ 349	
10 31I Firm Trans	\$1,271	8.68%	\$20,538	8.19%	\$5,180	13.50%	\$699	\$ 1,694.30	\$ 4,186	\$ 349	\$ 4,186	\$ 349	
11 31I Interr Sales	\$1,271	8.68%	\$20,538	8.19%	\$5,228	13.50%	\$706	\$ 1,694.30	\$ 4,192	\$ 349	\$ 4,192	\$ 349	
12 32C Firm Sales	\$1,271	8.68%	\$30,848	8.19%	\$5,175	13.50%	\$699	\$ 50.20	\$ 3,386	\$ 282	\$ 3,386	\$ 282	
13 32I Firm Sales	\$1,271	8.68%	\$30,848	8.19%	\$5,175	13.50%	\$699	\$ 1,694.30	\$ 5,030	\$ 419	\$ 5,030	\$ 419	
14 32 Firm Trans	\$1,271	8.68%	\$50,821	8.19%	\$5,235	13.50%	\$707	\$ 1,694.30	\$ 6,673	\$ 556	\$ 6,673	\$ 556	
15 32C Interr Sales	\$1,271	8.68%	\$50,821	8.19%	\$5,175	13.50%	\$699	\$ 50.20	\$ 5,021	\$ 418	\$ 5,021	\$ 418	
16 32I Interr Sales	\$1,271	8.68%	\$50,821	8.19%	\$5,264	13.50%	\$710	\$ 1,694.30	\$ 6,677	\$ 556	\$ 6,677	\$ 556	
17 32 Interr Trans	\$1,271	8.68%	\$171,892	8.19%	\$5,175	13.50%	\$699	\$ 1,694.30	\$ 16,581	\$ 1,382	\$ 16,581	\$ 1,382	

**NW Natural
 Long-Run Incremental Cost Study
 Incremental Customer Component Costs (Test Year \$)**

<u>Rate Schedule</u>	<u>Mains Demand</u>		<u>Service</u>	<u>Weighted</u>	<u>Average Dth per Customer</u>		<u>Adjusted Service Costs</u>
	<u>Mains Cust</u>	<u>Per Dthd</u>		<u>Avg Meter</u>	<u>February</u>	<u>Annual</u>	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
1 1R	\$ 1,271	\$ -	\$ 1,595	\$ 375	24	202	\$ 1,595
2 1C	\$ 1,271	\$ 152	\$ 1,678	\$ 633	103	923	\$ 1,678
3 2R	\$ 1,271	\$ -	\$ 1,979	\$ 435	91	680	\$ 1,979
4 3C Firm Sales	\$ 1,271	\$ 152	\$ 4,764	\$ 827	368	2,864	\$ 4,764
5 3I Firm Sales	\$ 1,271	\$ 152	\$ 9,250	\$ 3,409	1,483	14,667	\$ 9,250
6 31C Firm Sales	\$ 1,271	\$ 152	\$ 14,090	\$ 4,406	5,970	50,562	\$ 14,090
7 31C Firm Trans	\$ 1,271	\$ 152	\$ 22,862	\$ 5,334	25,262	232,590	\$ 22,862
8 31C Interr Sales	\$ 1,271	\$ -	\$ 20,538	\$ 5,127	13,673	90,830	\$ 20,538
9 31I Firm Sales	\$ 1,271	\$ 152	\$ 1,044	\$ 5,180	7,798	80,670	\$ 20,538
10 31I Firm Trans	\$ 1,271	\$ 152	\$ -	\$ 5,180	13,967	108,138	\$ 20,538
11 31I Interr Sales	\$ 1,271	\$ -	\$ 23,280	\$ 5,228	6,368	59,122	\$ 20,538
12 32C Firm Sales	\$ 1,271	\$ 152	\$ 8,413	\$ 5,175	27,193	229,443	\$ 30,848
13 32I Firm Sales	\$ 1,271	\$ 152	\$ 30,848	\$ 5,175	27,570	289,297	\$ 30,848
14 32 Firm Trans	\$ 1,271	\$ 152	\$ -	\$ 5,235	76,628	875,672	\$ 50,821
15 32C Interr Sales	\$ 1,271	\$ -	\$ 50,821	\$ 5,175	45,404	326,506	\$ 50,821
16 32I Interr Sales	\$ 1,271	\$ -	\$ 13,595	\$ 5,264	40,791	654,251	\$ 50,821
17 32 Interr Trans	\$ 1,271	\$ -	\$ 171,892	\$ 5,175	206,687	2,327,217	\$ 171,892

NW Natural
Long-Run Incremental Cost Study
Calculation of Economic Carrying Charge Rate - Services

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)
BOOK DATA:																				
1 Book Cost	\$100.00																			
2 Avg Life	39.18																			
3 Salvage Value	-0.23%																			
4 Depreciation: (Yes=1, No=0)	0																			
5 End of Yr (1) or Avg. Rate Base (0)	1																			
6																				
7 OTHER INFORMATION:																				
8 Property Tax (Percent of Net Plant)	Rate	Station																		
9 O&M (Percent of Gross Plant + Inf)	0.61%	Year																		
10 A&G (Percent of Gross Plant + Inf)	5.20%	2012																		
11 Inflat (ECCOR)	0.00%																			
12 GRT Rate	2.10%																			
13	0.00%																			
14																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				
25																				
26																				

PRESENT WORTH REQUIREMENTS AND CHARGE RATES

TOTAL PRESENT WORTH OF REVENUES: 204.49

TOTAL PRESENT WORTH PLANT: 1,199.98

CHARGE RATES:

LEVELIZED (LACR) RATES: 17.04%

ECONOMIC CARRYING CHARGE RATES (ECCR)

TAX: 20 ECCR 17.57%

BOOK: 39.18143 ECCR 13.50%

AVERAGE ECCR: 0.0660 ECCR 15.54%

BOOK DATA:

1 Book Cost	\$100.00
2 Avg Life	39.18
3 Salvage Value	-0.23%
4 Depreciation: (Yes=1, No=0)	0
5 End of Yr (1) or Avg. Rate Base (0)	1

FEDERAL TAX DATA:

Tax Base	\$100.00
Tax Life	20.00
State Tax Life	35.00%
Declining Rate	150.00%
1st Year Adjust	50.00%
Deferred FIT: (Yes=1, No=0)	1

STATE TAX DATA:

State Tax Life	39.18
State Rate	7.90%
Declining Rate	200.00%
State Tax Method	0
SI=0, DDB=1	

OTHER INFORMATION:

Property Tax (Percent of Net Plant)	Rate	Station
O&M (Percent of Gross Plant + Inf)	0.61%	Year
A&G (Percent of Gross Plant + Inf)	5.20%	2012
Inflat (ECCOR)	0.00%	
GRT Rate	2.10%	
	0.00%	

COST OF CAPITAL AND DISCOUNT RATES

Debt	Cost of Capital	Percent of Capital	Weighted Costs
Prefixed	6.27%	50.00%	3.13%
Common	0.00%	0.00%	0.00%
Total	10.30%	50.00%	5.15%
		100.00%	8.28%
Net of Tax or After Tax	Cost of Capital:	7.19%	Weighted Cost of Equity
Pre Tax	Cost of Capital:	10.20%	Discount Rate:
			5.15%
			8.28%

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
BOOK DATA:																					
1 Book Cost	\$100.00																				
2 Avg Life	48.00																				
3 Salvage Value	-60.00%																				
4																					
5																					
6																					
7																					
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24																					
25																					
26																					
27																					

OTHER INFORMATION:

Rate	Start/End
Property Tax (Percent of Net Plant)	Year 1, No=0
O&M (Percent of Gross Plant + Inf)	2012
A&G (Percent of Gross Plant + Inf)	
Inflat. (ECCR)	2.10%
GRT Rate	0.00%

STATE TAX DATA:

State Tax Life	48.00 TAXLIFE_S
State Rate	7.90% SIT
Declining Rate	200.00% TDORATE_S
1st Year Adjust	0 TaxM_S
State Tax Method	SL=0, DDB=1

FEDERAL TAX DATA:

Tax Base	\$100.00
Tax Life	20.00
FT Rate	35.00%
Declining Rate	150.00%
1st Year Adjust	50.00%
Deferred FT: (Yes=1, No=0)	1

PRESENT WORTH REVENUE REQUIREMENTS AND CHARGE RATES

TOTAL PRESENT WORTH OF REVENUES:	130.12
TOTAL PRESENT WORTH PLANT:	1,230.92

CHARGE RATES:

LEVELIZED (LACR)	RATES: 10.57%
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ECONOMIC CARRYING CHARGE RATES (ECCR)

TAX:	YEARS	FACTOR	ECCR
BOOK:	20	0.0659	11.18%
AVERAGE ECCR	48	0.0629	9.89%

COST OF CAPITAL AND DISCOUNT RATES

Cost of Capital	Percent of Capital	Weighted Cost
Capital	50.00%	3.13%
Debt	0.00%	0.00%
Preferred	50.00%	5.15%
Common	100.00%	8.28%
Total		

Net of Tax or After Tax	7.19%	Weighted Cost of Equity	82%
Pre Tax Cost of Capital:	10.20%	Discount Rate:	8.28%

**NW Natural
 Long-Run Incremental Cost Study
 Incremental Customer Account Costs**

<u>Allocator</u>	<u>Total</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>
	(A)	(B)	(C)	(D)
1 Number of Customers	608,964	550,746	57,428	790
2		90.4%	9.4%	0.1%
3				
<u>Account-Class</u>	<u>Total</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>
5 902-All	\$ 625,866	\$ 566,032	\$ 59,022	\$ 812
6 902-Ind	\$ 19,279			\$ 19,279
7 902-Other	\$ (14,906)	\$ (13,481)	\$ (1,406)	\$ (19)
8 902-Res	\$ 5,457	\$ 5,457		
9 903-All	\$ 1,495,645	\$ 1,352,658	\$ 141,046	\$ 1,940
10 903-Ind	\$ 341,320			\$ 341,320
11 903-Other	\$ 9,874,222	\$ 8,930,229	\$ 931,183	\$ 12,810
12 903-Res	\$ 3,852,255	\$ 3,852,255		
13 904-All	\$ (41,969)	\$ (37,956)	\$ (3,958)	\$ (54)
14 904-Comm	\$ 314,831		\$ 314,831	
15 904-Ind	\$ 83,319			\$ 83,319
16 904-Res	\$ 1,188,556	\$ 1,188,556		
17 907-Other	\$ 32,874	\$ 29,731	\$ 3,100	\$ 43
18 907-Res	\$ 234,969	\$ 234,969		
19 908-All	\$ 67	\$ 61	\$ 6	\$ 0
20 908-Comm	\$ 166,017		\$ 166,017	
21 908-Ind	\$ 671,890			\$ 671,890
22 908-Other	\$ 230,618	\$ 208,571	\$ 21,748	\$ 299
23 908-Res	\$ 1,986,700	\$ 1,986,700		
24 909-Other	\$ 3,159	\$ 2,857	\$ 298	\$ 4
25 909-Res	\$ 1,326,746	\$ 1,326,746		
26 910-Other	\$ 358	\$ 324	\$ 34	\$ 0
27 910-Res	\$ 165,612	\$ 165,612		
28 911-All	\$ 141,873	\$ 128,310	\$ 13,379	\$ 184
29 911-Other	\$ 17,702	\$ 16,009	\$ 1,669	\$ 23
30 911-Res	\$ 126,397	\$ 126,397		
31 912-All	\$ 1,874,692	\$ 1,695,468	\$ 176,792	\$ 2,432
32 912-Comm	\$ 64,521		\$ 64,521	
33 912-Ind	\$ 91			\$ 91
34 912-Other	\$ 54,557	\$ 49,342	\$ 5,145	\$ 71
35 912-Res	\$ 1,176	\$ 1,176		
36 913-Comm	\$ 550,044		\$ 550,044	
37 913-Other	\$ 130	\$ 118	\$ 12	\$ 0
38 913-Res	\$ 9,762	\$ 9,762		
39 916-Other	\$ 43	\$ 38	\$ 4	\$ 0
40 916-Res	\$ 94	\$ 94		
41				
42 Total 2010	\$ 25,403,965	\$ 21,826,033	\$ 2,443,488	\$ 1,134,444
43		86%	10%	4%
44				
45 Total Test Year	\$ 29,973,481	\$ 25,751,972	\$ 2,883,008	\$ 1,338,501
46				
47 Per Customer		\$ 46.76	\$ 50.20	\$ 1,694.30
48		\$ 3.90	\$ 4.18	\$ 141.19