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CABLE HUSTON

CABLE HUSTON BENEDICT HAAGENSEN & LLOYD LLP ■ ATTORNEYS

TOMMY A. BROOKS
ADMITTED IN OREGON AND WASHINGTON

tbrooks@cablehuston.com
www.cablehuston.com

May 3, 2012

**VIA ELECTRONIC FILING
& FIRST CLASS MAIL**

Oregon Public Utility Commission
Attn: Filing Center
550 Capitol Street N.E., #215
P.O. Box 2148
Salem, Oregon 97308-2148

Re: In the Matter of Northwest Natural Gas Company –
Application for a General Rate Revision
Docket No. UG-221

Dear Filing Center:

Enclosed please find an original and five (5) copies of the **Prefiled Direct Testimony of Donald W. Schoenbeck** on behalf of the Northwest Industrial Gas Users.

Thank you for your assistance, and please do not hesitate to contact our office with any questions.

Very truly yours,



Tommy A. Brooks

TAB:sk
Enclosures

cc: UG 221 Service List

CERTIFICATE OF SERVICE

I CERTIFY that I have on this day served the foregoing document upon all parties of record in this proceeding via electronic mail and/or by mailing a copy properly addressed with first class postage prepaid.

NW Natural (W) (C) (HC)

Mark R. Thompson
220 NW Second Avenue
Portland, OR 97209
mark.thompson@nwnatural.com

NW Natural – E-Filing (W)

220 NW Second Avenue
Portland, OR 97209
efiling@nwnatural.com

Citizens Utility Board (W)

OPUC Dockets
610 SW Broadway, Suite 400
Portland, OR 97205
dockets@oregoncub.org

Citizens Utility Board (W) (C) (HC)

Robert Jenks
610 SW Broadway, Suite 400
Portland, OR 97205
bob@oregoncub.org

Citizens Utility Board (W) (C) (HC)

G. Catriona McCracken
610 SW Broadway, Suite 400
Portland, OR 97205
catriona@oregoncub.org

McDowell, Rackner & Gibson (W) (C) (HC)

Lisa Rackner
419 SW 11th Avenue, Suite 400
Portland OR 97205
lisa@mcd-law.com

Department of Justice (W) (C) (HC)

Jason Jones
Business Activities Section
1162 Court ST NE
Salem, OR 97301-4096
jason.w.jones@state.or.us

Public Utility Commission (W) (C) (HC)

Judy Johnson
P.O. Box 2148
Salem, OR 97308-2148
judy.johnson@state.or.us

NW Energy Coalition (W)

Wendy Gerlitz
1205 SE Flavel
Portland, OR 97202
wendy@nwenergy.org

Community Action Partnership of Oregon (W)

Jess Kincaid
PO Box 7964
Salem, OR 97301
jess@caporegon.org

Northwest Pipeline GP (W)

Stewart Merrick
295 Chipeta Way
Salt Lake City, UT 84108
stewart.merrick@williams.com

Northwest Pipeline GP (W)

Jane Harrison
295 Chipeta Way
Salt Lake City, UT 84108
jane.f.harrison@williams.com

Portland General Electric (W)

Douglas C. Tingey
121 SW Salmon Street – 1WTC13
Portland, Oregon 97204
Doug.tingey@pgn.com

Portland General Electric (W)

Randy Dahlgren
121 SW Salmon Street – 1WTC0702
Portland, Oregon 97204
pge.opuc.filings@pgn.com

Dated in Portland, Oregon, this 3RD day of May 2012.



Tommy A. Brooks, OSB No. 076071
Cable Huston Benedict Haagensen & Lloyd
1001 SW Fifth Ave., Suite 2000
Portland, OR 97204-1136
Telephone: (503) 224-3092
Facsimile: (503) 224-3176
E-Mail: tbrooks@cablehuston.com
Of Attorneys for the Northwest Industrial Gas Users

Docket UG-221
NWIGU/100
Schoenbeck

BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON

**PREFILED DIRECT TESTIMONY OF DONALD W. SCHOENBECK
ON BEHALF OF NORTHWEST INDUSTRIAL GAS USERS**

May 3, 2012

NW NATURAL – UG 221

**PREFILED DIRECT TESTIMONY OF
DONALD W. SCHOENBECK**

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1 **I. INTRODUCTION AND SUMMARY**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Donald W. Schoenbeck. I am a member of Regulatory &
4 Cogeneration Services, Inc. (“RCS”), a utility rate and economic consulting firm.
5 My business address is 900 Washington Street, Suite 780, Vancouver, WA 98660.

6 **Q. PLEASE DESCRIBE YOUR BACKGROUND AND EXPERIENCE.**

7 A. I’ve been involved in the electric and gas utility industries for over 40 years. For
8 the majority of this time, I have provided consulting services for large industrial
9 customers addressing regulatory and contractual matters. I have appeared before
10 the Public Utility Commission of Oregon (“Commission”) on many occasions,
11 including several proceedings regarding the establishment of charges for
12 customers of Northwest Natural Gas Company (“NWN” or the “Company”). A
13 further description of my educational background and work experience can be
14 found in Exhibit NWIGU/101 attached to this testimony.

15 **Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?**

16 A. This testimony is on behalf of the Northwest Industrial Gas Users (“NWIGU”).
17 NWIGU is a trade association whose members are large industrial customers
18 served by gas utilities throughout the Pacific Northwest, including NWN.

19 **Q. WHAT TOPICS WILL YOUR TESTIMONY ADDRESS?**

20 A. I will discuss NWN’s rate spread proposal with reference to the Company long
21 run incremental cost study (“LRIC Study”), the proposed environmental

1 mitigation cost recovery, the proposal to eliminate the interruptible service
2 election option, and industrial rate design. My testimony will not address revenue
3 requirement issues at this time. This silence should not be construed as
4 acceptance by NWIGU of the Company's proposed base rate increase amount or
5 the environmental cost remediation proposal. NWIGU has addressed these issues
6 in the Direct Testimony of Mr. Hugh Larkin submitted jointly by NWIGU and
7 CUB. NWIGU also reserves the right to address all matters in cross-examination
8 of other witnesses and in its briefs.

9 **Q. PLEASE BRIEFLY SUMMARIZE YOUR FINDINGS AND**
10 **RECOMMENDATIONS ADDRESSED IN THIS TESTIMONY.**

11 A. NWN is seeking a \$43.7 million increase in base rate charges in this proceeding
12 and the authorization to recover additional costs (roughly \$15 million per year)
13 related to environmental remediation. Based on the results of the Company's cost
14 of service study, the Company's rate spread proposal assigns virtually all of the
15 base rate increase to residential and certain commercial customers. NWIGU
16 supports the Company's base rate proposal if the base revenue increase exceeds
17 \$15 million. However, if the base increase approved by the Commission is less
18 than this amount, a uniform percentage margin decrease should be given to the
19 classes where no increase was proposed by the Company in recognition of the
20 very large rate disparity in the revenue to cost ratios of these classes. With regard
21 to the environmental remediation costs, the Company is proposing to recover the
22 costs through an equal percentage of margin approach to all customer classes.
23 NWIGU opposes this proposal. The Company's cost study shows a substantial

1 inequity in the current margins being paid by certain Schedule 31 and 32
2 customers (\$23.5 million) as compared to a cost based amount (\$6.3 million)
3 including the Company's full request in this proceeding. This rate disparity
4 produces a revenue-to-cost ratio of 372%. Until such time that Schedule 31 and
5 32 rate charges are more closely aligned with the cost of service results, no rate
6 increases should be assigned to these customers. NWN is proposing to eliminate
7 the ability for a customer to elect interruptible service under Schedules 31 and 32.
8 There are currently about 18 interruptible customers on Schedule 31 and over 200
9 interruptible customers on Schedule 32. NWIGU agrees with the Company
10 proposal to eliminate the interruptible service option under Schedule 31 if the
11 existing interruptible customers are allowed to elect interruptible service under
12 Schedule 32. However, NWIGU opposes the elimination of the customer's right
13 to elect interruptible service options under Schedule 32. The existing service
14 elections under Schedule 32 should be maintained and sustained by the
15 Commission. Regarding the proposed rate design of Schedules 31 and 32, the
16 Company is proposing to move away from a uniform customer charge for all
17 service elections under these tariffs. As no overall increase has been proposed for
18 the vast majority of customers under these schedules, the Company must then
19 either reduce or increase the revenue recovered through the volumetric charges to
20 achieve no overall increase for these classes. NWIGU recommends not changing
21 the current customer charge levels under these tariffs.

1 **II. NWN'S PROPOSED RATE SPREAD**

2 **Q. PLEASE BRIEFLY DESCRIBE NWN'S PROPOSED RATE INCREASE.**

3 A. The Company is proposing a \$43.7 million increase in base rate charges or margin
4 related costs. However, after taking into account the decoupling deferral already
5 included in customer rates (\$15.1 million), the net overall increase is \$28.6
6 million. The Company claims current test period base rate revenue of \$682.4
7 million of which \$395.0 million is gas costs. Thus, the proposed base rate change
8 is a 6.4% increase using total revenue and 15.2% increase in margin related
9 revenue. Taking into consideration the decoupling deferral, the overall increase is
10 about 4.1% and the margin increase is 9.4%.

11 In addition to the base rate increase, the Company is also proposing to
12 recover environmental mediation costs through two new rate schedules. I will
13 address this additional cost recovery matter later in this testimony.

14 **Q. HOW IS THE COMPANY PROPOSING TO RECOVER THE PROPOSED**
15 **BASE RATE INCREASE?**

16 A. The Company is proposing to recover almost the entire amount through increases
17 in the charges paid by residential and certain commercial customers. This is
18 shown by the following tables indicating the proposed increases by class or rate
19 schedule.

Class	Test Year Revenue (\$000)	NWN	
		Proposed Increase (\$000)	Percent Increase
Residential	\$402,243	\$33,532	8.3%
Commercial	\$223,180	\$9,943	4.5%
Industrial	\$57,020	\$207	0.4%
Total:	\$682,443	\$43,682	6.4%

Schedule	Test Year Revenue (\$000)	NWN	
		Proposed Increase (\$000)	Percent Increase
1	\$1,134	\$119	10.5%
2	\$401,237	\$33,422	8.3%
3	\$152,934	\$8,977	5.9%
31	\$67,183	\$1,164	1.7%
32	\$59,955	\$0	0.0%
Total:	\$682,443	\$43,682	6.4%

Schedule	Test Year Margin (\$000)	NWN	
		Proposed Increase (\$000)	Percent Increase
1	\$639	\$119	18.6%
2	\$188,892	\$33,422	17.7%
3	\$59,059	\$8,977	15.2%
31	\$19,509	\$1,164	6.0%
32	\$19,306	\$0	0.0%
Total:	\$287,405	\$43,682	15.2%

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Q. WHAT IS THE BASIS FOR THE COMPANY'S PROPOSED RATE SPREAD?

A. As explained in the prefiled direct testimony of Mr. Russell Feingold (Exhibit NWN/1100), the revenue-to-cost ratios or relationships produced from the LRIC

1 Study were taken into consideration in determining the Company's rate spread
2 proposal along with capping the increase to any one class at 1.25 times the overall
3 margin increase. As it has done in several prior proceedings, the Company
4 prepared a LRIC Study (Exhibit NWN/1101) to determine the long run
5 incremental cost of providing service to the Company's customer classes. This
6 study included the incremental costs associated with storage, transmission and
7 distribution services but it excluded gas costs. The exclusion of gas costs in the
8 Company's LRIC Study is entirely appropriate as the increase being sought in this
9 proceeding is related to the Company's non-gas costs. The following table shows
10 the revenue-to-cost values produced from the Company's LRIC Study at both
11 current and proposed rates for each rate schedule.

Revenue-to-Cost Ratio

Rate Schedule	Present Rates	Proposed Rates
1	49%	51%
2	85%	87%
3	118%	118%
31	223%	206%
32	469%	407%

12
13 The revenue-to-cost ratio is a critical metric for determining an appropriate rate
14 spread. A revenue-to-cost ratio that is greater than 100% indicates a class is
15 paying revenues in excess of the cost of providing service to that class. Similarly,
16 a ratio less than 100% indicates a class is not providing adequate revenue to cover
17 its allocated costs. As is demonstrated by the rate schedule revenue-to-cost ratios,

1 the Company's rate spread proposal is entirely justified. Customers on Rate
2 Schedules 1 and 2 are assigned an above average increase while customers on
3 Rate Schedule 3 are assigned a below average increase. Given the substantial
4 revenue-to-cost ratios for Schedules 31 and 32 the Company has appropriately not
5 assigned any increase to most of these customers. The one subclass exception
6 being the Schedule 31 firm sales service customers where the Company has
7 proposed a rate increase. For the Schedule 31 and 32 customers where the
8 Company has proposed no increase, the current margin revenue contribution is
9 \$23.5 million while a cost-based amount would be only \$6.3 million assuming the
10 Company's receives its full request--an unlikely event. Under these
11 circumstances, these customers would have a revenue-to-cost ratio of 372% and
12 would be contributing \$17.2 million above a cost-based level.

13 **Q. DID THE COMPANY CONDUCT THE LRIC STUDY IN PRECISELY**
14 **THE SAME MANNER AS THE COMPANY'S PREVIOUS STUDY?**

15 A. No. The Company's prefiled testimony addresses the major differences between
16 how the two studies were conducted (see Exhibit NWN/1100, Feingold/21 –
17 Feingold/25). While I understand and accept the Company's explanation for each
18 one of the changes, there are three differences in particular that I fully support.
19 These have to do with the use of estimated design day demands to determine
20 capacity related costs, the use of a minimum distribution system for identifying
21 customer related costs and not assigning any system demand related costs to
22 interruptible customers.

1 **Q. WHY DO YOU SUPPORT THE USE OF DESIGN DAY DEMANDS FOR**
2 **DETERMINING THE CAPACITY RELATED COSTS?**

3 A. Simply put, the peak design day criterion is used in the engineering and design of
4 the Company's delivery system in order to meet the peak demands of the firm
5 customers connected to the system. Accordingly, capacity related costs should be
6 derived using this same measure for compliance with cost causation theory. The
7 following tables show the highest day's delivery for each month in 2010 on the
8 entire Company system and for Oregon deliveries.

9 **System Peak Days - 2010 - Dth**

Month	Date	Total System	Percent of Peak Month
January	1/8/2010	529,112	73%
February	2/10/2010	480,457	66%
March	3/9/2010	473,783	65%
April	4/5/2010	455,936	63%
May	5/4/2010	371,684	51%
June	6/16/2010	271,613	37%
July	7/21/2010	207,287	28%
August	8/10/2010	207,301	28%
September	9/23/2010	224,001	31%
October	10/27/2010	366,258	50%
November	11/24/2010	728,331	100%
December	12/30/2010	580,330	80%

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Comparison of Oregon Peaks to Design Day - Dth

Month	Date	Oregon Demand	Percent of Design DayPeak
January	1/8/2010	487,855	57%
February	2/10/2010	440,028	52%
March	3/9/2010	435,675	51%
April	4/5/2010	419,618	49%
May	5/4/2010	341,467	40%
June	6/16/2010	252,179	30%
July	7/21/2010	194,485	23%
August	8/10/2010	193,544	23%
September	9/23/2010	208,008	24%
October	10/27/2010	340,252	40%
November	11/24/2010	663,623	78%
December	12/30/2010	527,657	62%
Design Day:		849,990	

2

Both tables show the significant temperature sensitivity of the Company's load.

3

On a system basis, the summer months have peaks that are only 28-37% of the

4

2010 peak month (November). More importantly, the actual Oregon peak for

5

2010 was only 663,623 decatherms ("Dths") while the estimated design day test

6

period demand is 849,990 Dths. In order to properly determine cost

7

responsibility, the design day demands—and not actual experienced demands--

8

should be used to derive cost-based charges.

9

Q. DOES THE USE OF DESIGN DAY DEMANDS IMPACT OTHER ASPECTS OF THE COMPANY'S LRIC STUDY?

10

11

A. Yes. Under the Company's design day criterion, all interruptible customers are

1 curtailed as no delivery system capacity is constructed for or dedicated to
 2 interruptible customers. Consequently, there are no system capacity related long
 3 run incremental costs for serving these interruptible customers. This was
 4 appropriately recognized in the Company's LRIC Study.

5 **Q. WHY DO YOU AGREE WITH THE USE OF MINIMUM MAIN SIZES**
 6 **FOR DETERMINING CUSTOMER-RELATED DISTRIBUTION COSTS?**

7 A. In order to receive service, all customers must have access to the Company's
 8 distribution system. The LRIC Study recognizes this fundamental circumstance
 9 by using the minimum main size the Company installs as the incremental
 10 customer distribution component for mains.

11 **Q. BASED ON THE COMPANY'S LRIC STUDY DOES NWIGU SUPPORT**
 12 **THE PROPOSED BASE RATE SPREAD?**

13 A. NWIGU support for the Company's proposal is dependent upon the ultimate
 14 amount of base rate increase approved by the Commission. The following table
 15 shows cost-based increases at the Company full request of \$43.7 million.

Cost-Based Increase - Full NWN Request				
Rate Schedule	Margin Revenue (\$000)	Cost- Based Revenue (\$000)	Cost- Based Increase (\$000)	Percent
1	\$639	\$1,500	\$861	134.7%
2	\$188,892	\$256,952	\$68,060	36.0%
3	\$59,059	\$57,830	-\$1,229	-2.1%
31	\$19,509	\$10,060	-\$9,449	-48.4%
32	\$19,306	\$4,746	-\$14,560	-75.4%
Total:	\$287,405	\$331,087	\$43,682	15.2%

1 Given the proposed substantial margin revenue increase of \$43.7 million, the
2 Company's rate spread proposal is reasonable. However, if the Commission were
3 to approve a much smaller amount, decreases should be granted to Schedule 31
4 and 32 customers in recognition of the great disparity in the revenues these
5 customers are paying versus the cost of service.

6 **Q. AT WHAT REVENUE INCREASE LEVEL WOULD THIS BE**
7 **APPROPRIATE?**

8 A. NWIGU recommends that a base increase amount of \$15.0 million be used to
9 trigger a decrease in charges to Schedule 31 and 32 customers. For amounts at or
10 above this level, the Company's proposed rate spread approach would be used.
11 Below \$15.0 million, Schedule 31 and 32 customers would receive a uniform
12 percentage margin decrease based upon the difference between the actual amount
13 authorized by the Commission and the \$15.0 million trigger. Put another way, the
14 Company's rate spread proposal would be used to recover \$15.0 million from
15 residential and commercial customers. Then the over recovery from these
16 customers would be used to decrease the base rate charges for the remaining
17 customers. The following table illustrates the NWIGU recommendation based
18 upon a Commission assumed increase of \$10.0 million.

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**NWIGU Rate Spread Recommendation
 Illustrative \$10 Million Increase**

Rate Schedule/Class	Test Year Margin (\$000)	Assign \$15 Million (\$000)	Uniform Decrease (\$000)	Base Rate Increase (\$000)	Percent Increase
1R	\$577	\$38	0	\$38	6.5%
1C	\$62	\$3	0	\$3	5.0%
2R	\$188,892	\$11,477	0	\$11,477	6.1%
3C Firm Sales	\$57,697	\$3,012	0	\$3,012	5.2%
3I Firm Sales	\$1,362	\$71	0	\$71	5.2%
31C Firm Sales	\$15,322	\$400	0	\$400	2.6%
31C Firm Trans	\$81	\$0	-\$17	-\$17	-21.3%
31C Interr Sales	\$285	\$0	-\$61	-\$61	-21.3%
31I Firm Sales	\$3,562	\$0	-\$758	-\$758	-21.3%
31I Firm Trans	\$183	\$0	-\$39	-\$39	-21.3%
31I Interr Sales	\$76	\$0	-\$16	-\$16	-21.3%
32C Firm Sales	\$2,061	\$0	-\$439	-\$439	-21.3%
32I Firm Sales	\$2,056	\$0	-\$438	-\$438	-21.3%
32 Firm Trans	\$3,946	\$0	-\$840	-\$840	-21.3%
32C Interr Sales	\$1,749	\$0	-\$372	-\$372	-21.3%
32I Interr Sales	\$2,647	\$0	-\$563	-\$563	-21.3%
32 Interr Trans	\$6,847	\$0	-\$1,457	-\$1,457	-21.3%
Total:	\$287,405	\$15,000	-\$5,000	\$10,000	3.5%

- 1 **Q. WHY IS A TRIGGER POINT OF \$15.0 MILLION APPROPRIATE?**
- 2 A. The \$15.0 million assigned to residential and commercial customers under the
- 3 NWIGU recommendation would be largely offset by the \$15.3 million decoupling
- 4 deferral these customers are currently paying in rates. This would leave these
- 5 customers with essentially a zero net base rate increase. Hence, it would be
- 6 appropriate to use monies below this level to lower the margins paid by the
- 7 industrial customers.

1 **III. ENVIRONMENTAL REMEDIATION COST RECOVERY**

2 **Q. PLEASE BRIEFLY EXPLAIN THE COMPANY’S PROPOSAL WITH**
3 **REGARD TO ENVIRONMENTAL REMEDIATION COSTS.**

4 A. The Company has been deferring environmental remediation costs for several
5 years with Commission approval. In this proceeding, the Company is proposing
6 to establish two new rate schedules (Schedules 183 and 184) to recover the
7 deferred costs and going forward expenditures associated with environmental
8 remediation costs. Proposed Schedule 184 Special Rate Adjustment Gasco
9 Upland Pumping Station would be specific to the costs incurred by the Company
10 for building and maintaining a pumping station at the Gasco site. The Company’s
11 testimony notes a capital cost range of \$10 million to \$30 million for this facility.
12 The Company is proposing to recover all other remediation costs through
13 Schedule 183 Site Remediation Recovery Mechanism (“SRRM”). Under both
14 tariffs, the Company is seeking 100% recovery of all prudently incurred
15 expenditures offset by any third parties contributions. Under the SRRM the
16 Company would recover one-fifth of the deferred balance as of July 15 of each
17 year (“cutoff date”) through the Schedule 183 rate charges during the period of
18 November 1 through October 31. (For the first year of proposed operation, the
19 Company has proposed a cutoff date of September 30, 2012 instead of July 15th.)
20 The Company testimony notes a deferred balance as of September 30, 2011 of
21 \$64.5 million.

22 ///

1 **Q. WHAT IS THE AMOUNT OF REVENUE THE COMPANY WILL**
2 **RECOVER FROM CUSTOMERS FROM THESE PROPOSED RATE**
3 **SCHEDULES?**

4 A. The Company did not provide specific proposed charges for these rate schedules.

5 As the design of the pumping station has yet to receive the necessary regulatory
6 approvals, the Schedule 184 revenue requirement is far from certain at this time.

7 A crude estimate based on the mid-point of the Company's capital expenditure
8 range (\$20 million) and a 25 year useful life would suggest an annual revenue
9 requirement in the range of \$3.5 million. The Company provided an illustration
10 of how the SRRM would work in Exhibit NWN/1502. Based on the assumptions
11 contained in this illustration, the Company proposal would recover about \$11.5
12 million per year over the first three years of operation from Oregon customers.

13 Taken together, these estimates indicate an annual cost recovery of about \$15
14 million per year from the two proposed rate schedules.

15 **Q. HAS THE COMPANY PROPOSED A SPECIFIC RATE RECOVERY**
16 **METHOD FOR THESE COSTS FROM ITS CUSTOMERS?**

17 A. Yes. The Company proposed these costs be recovered using an equal percent of
18 margin approach applied to all customer classes.

19 **Q. DOES NWIGU AGREE WITH THIS RATE SPREAD APPROACH?**

20 A. No. The merits of the Company's environmental remediation proposal are
21 addressed in Mr. Larkin's Direct Testimony for NWIGU and CUB. The spread of
22 the proposed recovery is addressed, however, in my testimony. NWIGU strongly
23 disagrees with the use of an equal percent of margin approach applied to all

1 customers should the Commission allow the recovery of these costs. The
 2 Company's own analysis shows Schedule 31 and Schedule 32 customers are
 3 paying \$24.0 million per year in excessive margin charges already. To assign
 4 additional cost responsibility to these customers at this time is simply wrong.
 5 Based on the LRIC Study results, NWIGU recommends the Company's base rate
 6 spread proposal be applied to environmental remediation costs as well at this
 7 time. The following table compares the two rate spread proposals using an
 8 illustrative \$15.0 million recovery amount by class of customer and by rate
 9 schedule.

Cost Recovery for Schedules 183 and 184

Class	Illustrative \$15.0 Million		Difference
	NWN Proposal	NWIGU Recommendation	
Residential	\$10,103	\$11,515	\$1,411
Commercial	\$3,951	\$3,414	-\$536
Industrial	\$946	\$71	-\$875
Total:	\$15,000	\$15,000	\$0

Rate Schedule	NWN		Difference
	Proposal	NWIGU Recommendation	
1	\$34	\$41	\$7
2	\$10,072	\$11,477	\$1,405
3	\$3,082	\$3,083	\$0
31	\$937	\$400	-\$537
32	\$875	\$0	-\$875
Total:	\$15,000	\$15,000	\$0

10 Until such time that the Schedule 31 and 32 margin revenue is more closely
 11 aligned with the allocated cost of serving these customers, no environmental
 12 remediation costs should be paid by these customers.

1 **IV. INTERRUPTIBLE SERVICE ELIMINATION**

2 **Q. PLEASE BRIEFLY DESCRIBE THE COMPANY’S PROPOSALS WITH**
3 **REGARD TO INTERRUPTIBLE SERVICE.**

4 A. The Company is proposing to eliminate the interruptible sales and interruptible
5 transportation elections under Schedule 31. The Company claims it will assist the
6 18 Schedule 31 interruptible sales customers onto other rate schedules to meet
7 their specific needs, including transfers to interruptible service under Schedule 32.
8 However, the Company is proposing to eliminate the ability of a customer to elect
9 interruptible service under Schedule 32 as the Company is proposing to only offer
10 interruptible service “in its sole discretion.” For the over 200 existing
11 interruptible customers on Schedule 32, the Company is proposing that
12 interruptible service will only be offered for a period of five consecutive “PGA
13 Years” as of November 1, 2012. After the five year period, the Company “in its
14 sole discretion” will determine if interruptible service will continue to be offered
15 to each of the existing interruptible customers on a year-to-year basis.

16 **Q. WHAT AMOUNT OF INTERRUPTIBLE SERVICE HAS BEEN**
17 **PROJECTED FOR THE TEST PERIOD?**

18 A. The Company has projected test period volumes for the existing Schedule 31
19 interruptible sales customers of 1.7 million therms. For the interruptible service
20 options under Schedule 32, the Company has projected 54.5 million therms of
21 sales service and 214.0 million therms of transportation service. Taken together,
22 the 270.2 million therms represents 29% of the Company’s test period throughput
23 excluding special contract volumes.

1 **Q. WHAT WOULD BE THE RATE IMPACT FOR SCHEDULE 32**
2 **INTERRUPTIBLE SALES CUSTOMERS IF THEY WERE FORCED TO**
3 **FIRM SERVICE?**

4 A. For sales customers, the impact would be quite substantial. The difference in
5 volumetric charges between firm and interruptible service is not all that
6 significant. However, firm sales service includes a distribution capacity rate of
7 \$0.15748 per therm of maximum daily delivery volume (“MDDV”) and a storage
8 charge of \$0.20415 per therm of MDDV. Neither of these charges is paid by
9 interruptible sales customers. In addition, the interruptible pipeline capacity
10 charge is only \$0.01602 per therm while the comparable firm service charge is
11 \$0.13472 per therm (volumetric option). Taken together, these charges would
12 increase the margins paid by these sales customers by over 200%.

13 **Q. WHAT WOULD BE THE RATE IMPACT FOR SCHEDULE 32**
14 **INTERRUPTIBLE TRANSPORTATION CUSTOMERS IF THEY WERE**
15 **FORCED TO FIRM SERVICE?**

16 A. For transportation customers the difference in volumetric charges between firm
17 and interruptible is relatively minor. However, the Schedule 32 firm service
18 distribution capacity charge would now apply to these customers but the storage
19 charge would not. The net effect would be a rate increase for these customers of
20 about 33%.

21 **Q. WHAT WOULD BE THE MARGIN IMPACT FOR NWN IF ALL**
22 **EXISTING SCHEDULE 32 INTERRUPTIBLE CUSTOMERS WERE**
23 **FORCED TO FIRM SERVICE?**

24 A. The margins paid by these customers would more than double from about \$11.2
25 million to over \$23.1 million, an increase of \$11.8 million or 105%.

1 **Q. DOES NWIGU SUPPORT THESE SIGNIFICANT CHANGES TO THE**
2 **TERMS AND CONDITIONS UNDER WHICH INTERRUPTIBLE**
3 **SERVICE IS OFFERED BY THE COMPANY?**

4 A. No. The Company's proposal is extraordinary in that it eliminates the customer's
5 ability to elect the level of service it wants and needs. This significant change is
6 set forth and explained on less than a single page of testimony with absolutely no
7 analysis of examples, procedures or parameters under which the Company will
8 "in its sole discretion" determine if interruptible service will be offered. Further,
9 the year-to-year aspect of the Company's decision making process simply is
10 unworkable from a customer perspective. A customer seeking interruptible
11 service has considered and evaluated the impact of service interruptions on the
12 customer's process and has likely made alternate supply arrangements in the
13 event of a curtailment of service by NWN. This type of planning and preparation
14 cannot be done in a year-to-year process as—undoubtedly-- these alternate
15 arrangements have or will require capital investments.

16 Interruptible service is a direct byproduct of the Company's responsibility to
17 provide firm service to customers that need and want this service quality. Any
18 margin contribution from interruptible customers is a direct benefit to firm
19 customers resulting in lower firm charges for service.

20 **Q. HAS THE COMPANY NEEDED TO CALL ON THESE CUSTOMERS**
21 **FOR INTERRUPTION?**

22 A. Yes. In response to a staff data request, the Company provided the interruptions
23 that had occurred for each customer from January 2007 through December 2011.

1 This data response showed that all but one customer had experienced
2 interruptions and many had been interrupted for over 100 hours. Exhibits
3 NWIGU/102 and NWIGU/103 are summaries we created from the Company's
4 data response to staff. For the reported period, Exhibit NWIGU/102 shows the
5 accumulated number of days and hours that each customer was interrupted. The
6 first several columns of this exhibit rank the customers based on the total hours of
7 interruption while the remaining columns rank the customers based upon the
8 number of days with at least one hour of interruption. This exhibit shows that 189
9 customers have been interrupted for over 100 hours, 157 customers have been
10 interrupted for 150 hours or more and 7 customers have been interrupted for over
11 200 hours.

12 **Q. DID THE COMPANY EXPERIENCE EXTREMELY COLD WEATHER**
13 **DURING THIS PERIOD?**

14 A. No. The Company's peak design weather criterion is based on a system average
15 temperature of just twelve (12) degrees Fahrenheit. During the reported period,
16 there were two cold weather events when most all of the customers were
17 interrupted. This occurred during the period of December 19-24, 2008 and
18 December 9-12, 2009. The following tables show the temperatures for these two
19 periods as reported at the Portland International Airport.

20 ///

21 ///

22 ///

23 ///

Temperatures for December 19-24, 2008
(as Measured at Portland International Airport)

Date	Minimum	Maximum	Average	Deviation from Design Day
19	30	37	33.5	21.5
20	21	35	28.0	16.0
21	19	25	22.0	10.0
22	20	25	22.5	10.5
23	25	30	27.5	15.5
24	25	34	29.5	17.5
Average:	23	31	27.2	15.2

Temperatures for December 9-12, 2009
(as Measured at Portland International Airport)

Date	Minimum	Maximum	Average	Deviation from Design Day
9	12	32	22.0	10.0
10	13	34	23.5	11.5
11	14	34	24.0	12.0
12	30	46	38.0	26.0
Average:	17	37	26.9	14.9

1 As shown by the above tables, the coldest average daily temperature experienced
2 in each period was 22 degrees Fahrenheit, some 10 degrees above the design day
3 value.

4 **Q. DID CUSTOMERS EXPERIENCE INTERRUPTIONS BESIDES DURING**
5 **THESE TWO COLD WEATEHR EVENTS?**

6 A. Yes. Exhibit NWIGU/103 isolates the interruptions experienced during the two
7 cold periods from all remaining interruptions. While the two cold weather events

1 make up the vast majority of the interrupted customer hours (94%), there was an
2 additional 2,214 hours of interruption affecting 15 customers. These exhibits and
3 tables show the continuing need for an interruptible service obligation from all
4 these customers.

5 **Q. WHAT IS YOUR RECOMMENDATION WITH REGARD TO THE**
6 **COMPANY'S INTERRUPTIBLE PROPOSAL?**

7
8 A. The Commission should reject the Company's proposal to do away with the
9 customer's ability to elect interruptible service options under Schedule 32, leaving
10 the existing service selections process and procedures in place. If the
11 Commission accepts this NWIGU recommendation, NWIGU would support the
12 Company's request to discontinue the offering of interruptible sales service under
13 Schedule 31, provided these customers may elect Schedule 32 interruptible
14 service as NW Natural has offered.

15 **V. INDUSTRIAL RATE DESIGN**

16 **Q. IS THE COMPANY PROPOSING ANY CHANGES IN THE DESIGN OF**
17 **THE CHARGES PAID UNDER SCHEDULES 31 AND 32?**

18 A. Yes. The Company is proposing non-uniform customer charges for Schedule 31
19 and 32. Currently under Schedules 31 and 32, there is a single uniform customer
20 charge for each tariff. For Schedule 31, the charge is \$325 per month while for
21 Schedule 32 the charge is \$675 per month. (Both tariffs also have an additional
22 customer charge of \$250 per month for transportation service.) The Company is
23 proposing to lower the Schedule 31 customer charge from \$325 to \$260 per
24 month for three of the proposed customer categories (commercial firm sales

1 service, commercial firm transportation service and industrial firm sales service)
2 but maintain the current \$325 per month charge for industrial firm transportation
3 service. For Schedule 32 the Company is proposing to maintain the current \$675
4 per month charge for three of the categories (firm sales service, interruptible sales
5 service and firm transportation service) but raise the customer charge to \$1,130
6 per month for interruptible transportation service.

7 **Q. DOES NWIGU SUPPORT NON-UNIFORM CUSTOMER CHARGES AT**
8 **THIS TIME?**

9 A. No. The Company's rate spread recommendation has not assigned any additional
10 cost recovery for the vast majority of customer sub-categories on these schedules
11 (11 out of 13). Consequently, an increase or decrease in the customer charge
12 necessitates that the volumetric charges be decreased or increased to target the
13 same overall revenue amount. In addition, NWIGU is concerned about having
14 different customer charges for different customer classifications (commercial
15 versus industrial) under the same tariff. For these reasons, NWIGU recommends
16 maintaining the customer charges for all Schedule 31 and 32 categories at the
17 current levels.

18 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

19 A. Yes, it does.

Docket UG-221
NWIGU/101
Schoenbeck

BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON

EXHIBIT NWIGU/101

QUALIFICATION STATEMENT OF DONALD W. SCHOENBECK

May 3, 2012

QUALIFICATIONS OF DONALD W. SCHOENBECK

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 **A.** Donald W. Schoenbeck, 900 Washington Street, Suite 780, Vancouver, Washington
3 98660.

4 **Q. PLEASE STATE YOUR OCCUPATION.**

5 **A.** I am a consultant in the field of public utility regulation and I am a member of Regulatory
6 & Cogeneration Services, Inc. (“RCS”).

7 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**
8 **EXPERIENCE.**

9 **A.** I have a Bachelor of Science Degree in Electrical Engineering from the University of
10 Kansas and a Master of Science Degree in Engineering Management from the University
11 of Missouri.

12 From June of 1972 until June of 1980, I was employed by Union Electric
13 Company in the Transmission and Distribution, Rates, and Corporate Planning functions.
14 In the Transmission and Distribution function, I had various areas of responsibility,
15 including load management, budget proposals and special studies. While in the Rates
16 function, I worked on rate design studies, filings and exhibits for several regulatory
17 jurisdictions. In Corporate Planning, I was responsible for the development and
18 maintenance of computer models used to simulate the Company’s financial and economic
19 operations.

20 In June of 1980, I joined the consulting firm of Drazen-Brubaker & Associates,
21 Inc. Since that time, I have participated in the analysis of various utilities for power cost

1 forecasts, avoided cost pricing, contract negotiations for gas and electric services, siting
2 and licensing proceedings, and rate case purposes including revenue requirement
3 determination, class cost-of-service and rate design.

4 In April 1988, I formed RCS. RCS provides consulting services in the field of
5 public utility regulation to many clients, including large industrial and institutional
6 customers. We also assist in the negotiation of contracts for utility services for large
7 users. In general, we are engaged in regulatory consulting, rate work, feasibility,
8 economic and cost-of-service studies, design of rates for utility service and contract
9 negotiations.

10 **Q. IN WHICH JURISDICTIONS HAVE YOU TESTIFIED AS AN EXPERT**
11 **WITNESS REGARDING UTILITY COST AND RATE MATTERS?**

12 **A.** I have testified as an expert witness in rate proceedings before commissions in the states
13 of Alaska, Arizona, California, Delaware, Idaho, Illinois, Maryland, Montana, Nevada,
14 North Carolina, Ohio, Oregon, Washington, Wisconsin and Wyoming. In addition, I
15 have presented testimony before the Bonneville Power Administration, the National
16 Energy Board of Canada, the Federal Energy Regulatory Commission, publicly-owned
17 utility boards and in court proceedings in the states of Washington, Oregon and
18 California.

19

Docket UG-221
NWIGU/102
Schoenbeck

BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON

EXHIBIT NWIGU/102
NWN CUSTOMER INTERRUPTIONS

May 3, 2012

NWN Interruptible Customer Interruptions

<u>Sorted by Total Hours</u>				<u>Sorted by Number of Events</u>		
Number	Identifier	Number of Days	Hours of Interruption	Identifier	Number of Days	Hours of Interruption
1	5	128	786	5	128	786
2	7	81	405	7	81	405
3	184	37	345	11	48	240
4	49	26	265	184	37	345
5	120	25	264	12	31	155
6	10	28	260	8	30	165
7	11	48	240	3	30	150
8	194	10	187	10	28	260
9	195	10	187	49	26	265
10	196	10	187	120	25	264
11	197	10	187	158	21	103
12	15	10	186	194	10	187
13	154	10	186	195	10	187
14	179	10	186	196	10	187
15	187	10	186	197	10	187
16	9	10	185	15	10	186
17	14	10	185	154	10	186
18	23	10	185	179	10	186
19	27	10	185	187	10	186
20	28	10	185	9	10	185
21	30	10	185	14	10	185
22	34	10	185	23	10	185
23	71	10	185	27	10	185
24	82	10	185	28	10	185
25	85	10	185	30	10	185
26	86	10	185	34	10	185
27	92	10	185	71	10	185
28	108	10	185	82	10	185
29	116	10	185	85	10	185
30	121	10	185	86	10	185
31	133	10	185	92	10	185
32	134	10	185	108	10	185
33	137	10	185	116	10	185
34	138	10	185	121	10	185
35	143	10	185	133	10	185

NWN Interruptible Customer Interruptions

<u>Sorted by Total Hours</u>				<u>Sorted by Number of Events</u>		
Number	Identifier	Number of Days	Hours of Interruption	Identifier	Number of Days	Hours of Interruption
36	147	10	185	134	10	185
37	148	10	185	137	10	185
38	159	10	185	138	10	185
39	162	10	185	143	10	185
40	164	10	185	147	10	185
41	165	10	185	148	10	185
42	185	10	185	159	10	185
43	186	10	185	162	10	185
44	13	10	184	164	10	185
45	17	10	184	165	10	185
46	29	10	184	185	10	185
47	31	10	184	186	10	185
48	35	10	184	13	10	184
49	36	10	184	17	10	184
50	39	10	184	29	10	184
51	42	10	184	31	10	184
52	58	10	184	35	10	184
53	69	10	184	36	10	184
54	70	10	184	39	10	184
55	74	10	184	42	10	184
56	77	10	184	58	10	184
57	79	10	184	69	10	184
58	84	10	184	70	10	184
59	87	10	184	74	10	184
60	98	10	184	77	10	184
61	102	10	184	79	10	184
62	104	10	184	84	10	184
63	110	10	184	87	10	184
64	115	10	184	98	10	184
65	117	10	184	102	10	184
66	119	10	184	104	10	184
67	128	10	184	110	10	184
68	141	10	184	115	10	184
69	142	10	184	117	10	184
70	145	10	184	119	10	184

NWN Interruptible Customer Interruptions

<u>Sorted by Total Hours</u>				<u>Sorted by Number of Events</u>		
Number	Identifier	Number of Days	Hours of Interruption	Identifier	Number of Days	Hours of Interruption
71	150	10	184	128	10	184
72	153	10	184	141	10	184
73	157	10	184	142	10	184
74	160	10	184	145	10	184
75	171	10	184	150	10	184
76	175	10	184	153	10	184
77	6	10	183	157	10	184
78	20	10	183	160	10	184
79	26	10	183	171	10	184
80	38	10	183	175	10	184
81	48	10	183	6	10	183
82	50	10	183	20	10	183
83	57	10	183	26	10	183
84	59	10	183	38	10	183
85	60	10	183	48	10	183
86	62	10	183	50	10	183
87	64	10	183	57	10	183
88	81	10	183	59	10	183
89	88	10	183	60	10	183
90	91	10	183	62	10	183
91	93	10	183	64	10	183
92	100	10	183	81	10	183
93	112	10	183	88	10	183
94	124	10	183	91	10	183
95	125	10	183	93	10	183
96	130	10	183	100	10	183
97	131	10	183	112	10	183
98	136	10	183	124	10	183
99	163	10	183	125	10	183
100	166	10	183	130	10	183
101	167	10	183	131	10	183
102	170	10	183	136	10	183
103	192	10	183	163	10	183
104	16	10	182	166	10	183
105	22	10	182	167	10	183

NWN Interruptible Customer Interruptions

<u>Sorted by Total Hours</u>				<u>Sorted by Number of Events</u>		
Number	Identifier	Number of Days	Hours of Interruption	Identifier	Number of Days	Hours of Interruption
106	25	10	182	170	10	183
107	40	10	182	192	10	183
108	46	10	182	16	10	182
109	53	10	182	22	10	182
110	55	10	182	25	10	182
111	67	10	182	40	10	182
112	72	10	182	46	10	182
113	73	10	182	53	10	182
114	90	10	182	55	10	182
115	94	10	182	67	10	182
116	96	10	182	72	10	182
117	97	10	182	73	10	182
118	111	10	182	90	10	182
119	113	10	182	94	10	182
120	118	10	182	96	10	182
121	123	10	182	97	10	182
122	132	10	182	111	10	182
123	152	10	182	113	10	182
124	161	10	182	118	10	182
125	172	10	182	123	10	182
126	176	10	182	132	10	182
127	201	10	182	152	10	182
128	18	10	181	161	10	182
129	24	10	181	172	10	182
130	44	10	181	176	10	182
131	45	10	181	201	10	182
132	68	10	181	18	10	181
133	103	10	181	24	10	181
134	105	10	181	44	10	181
135	146	10	181	45	10	181
136	21	10	180	68	10	181
137	107	10	180	103	10	181
138	122	10	180	105	10	181
139	56	10	179	146	10	181
140	95	10	179	21	10	180

NWN Interruptible Customer Interruptions

<u>Sorted by Total Hours</u>				<u>Sorted by Number of Events</u>		
Number	Identifier	Number of Days	Hours of Interruption	Identifier	Number of Days	Hours of Interruption
141	32	10	178	107	10	180
142	43	10	178	122	10	180
143	52	10	178	56	10	179
144	106	10	178	95	10	179
145	114	10	178	32	10	178
146	144	10	178	43	10	178
147	101	10	177	52	10	178
148	126	10	176	106	10	178
149	178	10	176	114	10	178
150	80	10	175	144	10	178
151	149	10	173	101	10	177
152	33	10	172	126	10	176
153	8	30	165	178	10	176
154	151	10	161	80	10	175
155	12	31	155	149	10	173
156	75	7	152	33	10	172
157	3	30	150	151	10	161
158	191	8	142	191	8	142
159	188	8	141	188	8	141
160	189	8	140	189	8	140
161	177	7	126	75	7	152
162	1	6	120	177	7	126
163	2	6	120	1	6	120
164	4	6	120	2	6	120
165	19	6	120	4	6	120
166	37	6	120	19	6	120
167	41	6	120	37	6	120
168	47	6	120	41	6	120
169	61	6	120	47	6	120
170	63	6	120	61	6	120
171	65	6	120	63	6	120
172	66	6	120	65	6	120
173	78	6	120	66	6	120
174	83	6	120	78	6	120
175	99	6	120	83	6	120

NWN Interruptible Customer Interruptions

<u>Sorted by Total Hours</u>				<u>Sorted by Number of Events</u>		
Number	Identifier	Number of Days	Hours of Interruption	Identifier	Number of Days	Hours of Interruption
176	109	6	120	99	6	120
177	127	6	120	109	6	120
178	129	6	120	127	6	120
179	135	6	120	129	6	120
180	140	6	120	135	6	120
181	155	6	120	140	6	120
182	156	6	120	155	6	120
183	168	6	120	156	6	120
184	169	6	120	168	6	120
185	173	6	120	169	6	120
186	174	6	120	173	6	120
187	89	6	115	174	6	120
188	54	6	114	89	6	115
189	158	21	103	54	6	114
190	180	6	79	180	6	79
191	202	4	65	202	4	65
192	51	4	64	51	4	64
193	193	4	64	193	4	64
194	181	4	63	181	4	63
195	182	4	61	182	4	61
196	183	4	61	183	4	61
197	190	2	22	190	2	22
198	198	2	22	198	2	22
199	199	2	21	199	2	21
200	200	2	19	200	2	19
201	76	2	10	76	2	10
202	139	0	0	139	0	0

Docket UG-221
NWIGU/103
Schoenbeck

BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON

EXHIBIT NWIGU/103
NWN CUSTOMER INTERRUPTIONS
COLD WEATHER EVENTS

May 3, 2012

NWN Interruptible Customer Interruptions

Identifier	<u>Total Interruptions</u>		<u>Cold Periods</u>		<u>Other Events</u>	
	Number of Days	Total Hours	Number of Days	Total Hours	Number of Days	Total Hours
1	6	120	6	120	0	0
2	6	120	6	120	0	0
3	30	150	3	15	27	135
4	6	120	6	120	0	0
5	128	786	10	126	118	660
6	10	183	10	183	0	0
7	81	405	8	40	73	365
8	30	165	8	55	22	110
9	10	185	10	185	0	0
10	28	260	9	165	19	95
11	48	240	6	30	42	210
12	31	155	3	15	28	140
13	10	184	10	184	0	0
14	10	185	10	185	0	0
15	10	186	10	186	0	0
16	10	182	10	182	0	0
17	10	184	10	184	0	0
18	10	181	10	181	0	0
19	6	120	6	120	0	0
20	10	183	10	183	0	0
21	10	180	10	180	0	0
22	10	182	10	182	0	0
23	10	185	10	185	0	0
24	10	181	10	181	0	0
25	10	182	10	182	0	0
26	10	183	10	183	0	0
27	10	185	10	185	0	0
28	10	185	10	185	0	0
29	10	184	10	184	0	0
30	10	185	10	185	0	0
31	10	184	10	184	0	0
32	10	178	10	178	0	0
33	10	172	10	172	0	0
34	10	185	10	185	0	0
35	10	184	10	184	0	0

NWN Interruptible Customer Interruptions

Identifier	<u>Total</u>		<u>Cold Periods</u>		<u>Other Events</u>	
	<u>Interruptions</u>					
	Number of Days	Total Hours	Number of Days	Total Hours	Number of Days	Total Hours
36	10	184	10	184	0	0
37	6	120	6	120	0	0
38	10	183	10	183	0	0
39	10	184	10	184	0	0
40	10	182	10	182	0	0
41	6	120	6	120	0	0
42	10	184	10	184	0	0
43	10	178	10	178	0	0
44	10	181	10	181	0	0
45	10	181	10	181	0	0
46	10	182	10	182	0	0
47	6	120	6	120	0	0
48	10	183	10	183	0	0
49	26	265	10	185	16	80
50	10	183	10	183	0	0
51	4	64	4	64	0	0
52	10	178	10	178	0	0
53	10	182	10	182	0	0
54	6	114	6	114	0	0
55	10	182	10	182	0	0
56	10	179	10	179	0	0
57	10	183	10	183	0	0
58	10	184	10	184	0	0
59	10	183	10	183	0	0
60	10	183	10	183	0	0
61	6	120	6	120	0	0
62	10	183	10	183	0	0
63	6	120	6	120	0	0
64	10	183	10	183	0	0
65	6	120	6	120	0	0
66	6	120	6	120	0	0
67	10	182	10	182	0	0
68	10	181	10	181	0	0
69	10	184	10	184	0	0
70	10	184	10	184	0	0

NWN Interruptible Customer Interruptions

Identifier	<u>Total</u>		<u>Cold Periods</u>		<u>Other Events</u>	
	<u>Interruptions</u>					
	Number of Days	Total Hours	Number of Days	Total Hours	Number of Days	Total Hours
71	10	185	10	185	0	0
72	10	182	10	182	0	0
73	10	182	10	182	0	0
74	10	184	10	184	0	0
75	7	152	6	120	1	32
76	2	10	0	0	2	10
77	10	184	10	184	0	0
78	6	120	6	120	0	0
79	10	184	10	184	0	0
80	10	175	10	175	0	0
81	10	183	10	183	0	0
82	10	185	10	185	0	0
83	6	120	6	120	0	0
84	10	184	10	184	0	0
85	10	185	10	185	0	0
86	10	185	10	185	0	0
87	10	184	10	184	0	0
88	10	183	10	183	0	0
89	6	115	6	115	0	0
90	10	182	10	182	0	0
91	10	183	10	183	0	0
92	10	185	10	185	0	0
93	10	183	10	183	0	0
94	10	182	10	182	0	0
95	10	179	10	179	0	0
96	10	182	10	182	0	0
97	10	182	10	182	0	0
98	10	184	10	184	0	0
99	6	120	6	120	0	0
100	10	183	10	183	0	0
101	10	177	10	177	0	0
102	10	184	10	184	0	0
103	10	181	10	181	0	0
104	10	184	10	184	0	0
105	10	181	10	181	0	0

NWN Interruptible Customer Interruptions

Identifier	<u>Total</u>		<u>Cold Periods</u>		<u>Other Events</u>	
	Number of Days	Total Hours	Number of Days	Total Hours	Number of Days	Total Hours
106	10	178	10	178	0	0
107	10	180	10	180	0	0
108	10	185	10	185	0	0
109	6	120	6	120	0	0
110	10	184	10	184	0	0
111	10	182	10	182	0	0
112	10	183	10	183	0	0
113	10	182	10	182	0	0
114	10	178	10	178	0	0
115	10	184	10	184	0	0
116	10	185	10	185	0	0
117	10	184	10	184	0	0
118	10	182	10	182	0	0
119	10	184	10	184	0	0
120	25	264	10	189	15	75
121	10	185	10	185	0	0
122	10	180	10	180	0	0
123	10	182	10	182	0	0
124	10	183	10	183	0	0
125	10	183	10	183	0	0
126	10	176	10	176	0	0
127	6	120	6	120	0	0
128	10	184	10	184	0	0
129	6	120	6	120	0	0
130	10	183	10	183	0	0
131	10	183	10	183	0	0
132	10	182	10	182	0	0
133	10	185	10	185	0	0
134	10	185	10	185	0	0
135	6	120	6	120	0	0
136	10	183	10	183	0	0
137	10	185	10	185	0	0
138	10	185	10	185	0	0
139	0	0	0	0	0	0
140	6	120	6	120	0	0

NWN Interruptible Customer Interruptions

Identifier	<u>Total</u>		<u>Cold Periods</u>		<u>Other Events</u>	
	Number of Days	Total Hours	Number of Days	Total Hours	Number of Days	Total Hours
141	10	184	10	184	0	0
142	10	184	10	184	0	0
143	10	185	10	185	0	0
144	10	178	10	178	0	0
145	10	184	10	184	0	0
146	10	181	10	181	0	0
147	10	185	10	185	0	0
148	10	185	10	185	0	0
149	10	173	10	173	0	0
150	10	184	10	184	0	0
151	10	161	10	161	0	0
152	10	182	10	182	0	0
153	10	184	10	184	0	0
154	10	186	10	186	0	0
155	6	120	6	120	0	0
156	6	120	6	120	0	0
157	10	184	10	184	0	0
158	21	103	0	0	21	103
159	10	185	10	185	0	0
160	10	184	10	184	0	0
161	10	182	10	182	0	0
162	10	185	10	185	0	0
163	10	183	10	183	0	0
164	10	185	10	185	0	0
165	10	185	10	185	0	0
166	10	183	10	183	0	0
167	10	183	10	183	0	0
168	6	120	6	120	0	0
169	6	120	6	120	0	0
170	10	183	10	183	0	0
171	10	184	10	184	0	0
172	10	182	10	182	0	0
173	6	120	6	120	0	0
174	6	120	6	120	0	0
175	10	184	10	184	0	0

NWN Interruptible Customer Interruptions

Identifier	<u>Total</u>		<u>Cold Periods</u>		<u>Other Events</u>	
	Number of Days	Total Hours	Number of Days	Total Hours	Number of Days	Total Hours
176	10	182	10	182	0	0
177	7	126	4	96	3	30
178	10	176	10	176	0	0
179	10	186	10	186	0	0
180	6	79	4	69	2	10
181	4	63	4	63	0	0
182	4	61	4	61	0	0
183	4	61	4	61	0	0
184	37	345	10	186	27	159
185	10	185	10	185	0	0
186	10	185	10	185	0	0
187	10	186	10	186	0	0
188	8	141	8	141	0	0
189	8	140	8	140	0	0
190	2	22	2	22	0	0
191	8	142	8	142	0	0
192	10	183	10	183	0	0
193	4	64	4	64	0	0
194	10	187	10	187	0	0
195	10	187	10	187	0	0
196	10	187	10	187	0	0
197	10	187	10	187	0	0
198	2	22	2	22	0	0
199	2	21	2	21	0	0
200	2	19	2	19	0	0
201	10	182	10	182	0	0
202	4	65	4	65	0	0
Total:		34,296		32,082		2,214