BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UG 305

In the Matter of	)
	)
CASCADE NATURAL GAS CORPORATION,	)
	)
Request for a General Rate Revision.	)
	)

OPENING TESTIMONY OF MICHAEL P. GORMAN

ON BEHALF OF NORTHWEST INDUSTRIAL GAS USERS

August 11, 2016

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OPENING TESTIMONY OF MICHAEL P. GORMAN**

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017. I am employed by the firm of Brubaker & Associates, Inc. ("BAI"), regulatory and economic consultants with corporate headquarters in Chesterfield, Missouri. My qualifications are provided in Exhibit NWIGU/101.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of the Northwest Industrial Gas Users ("NWIGU"). NWIGU is a non-profit association composed of approximately 40 end users of natural gas with major facilities in Oregon, Washington, and Idaho. NWIGU members include diverse industrial and commercial interests, including food processing, pulp and paper, wood products, electric generation, aluminum, steel, chemicals, electronics, aerospace, and healthcare providers. NWIGU member companies purchase sales and transportation services from Cascade Natural Gas Corporation ("Cascade" or the "Company").

Q. ARE YOU SPONSORING ANY EXHIBITS IN CONNECTION WITH YOUR TESTIMONY?

A. Yes. I am sponsoring Exhibits NWIGU/101 through NWIGU/103.

Q. WHAT IS THE PURPOSE OF YOUR OPENING TESTIMONY IN THIS PROCEEDING?

A. I will respond to the Company's claimed revenue deficiency, class cost of service study, and proposed spread of the revenue deficiency across rate classes in this proceeding.

Q. PLEASE SUMMARIZE YOUR REVENUE REQUIREMENT RECOMMENDATIONS AND FINDINGS.

A. The Company's claimed revenue deficiency of $1.91 million, or 2.94%, on non-gas revenues is overstated. As shown in Table 1 below, the Company overstates its claimed revenue deficiency for at least one issue.

TABLE 1

Revenue Requirement Adjustments
($000)

Description	Amount
Claimed Revenue Deficiency	$1,906 (2.94%)
Less Adjustments:	
Rate Base – Def. Tax*	$148.1
Adjusted Revenue Deficiency	$1,758

*Based on adjustments to CNGC/201 and CNGC/204.

As shown in Table 1 above, the Company's claimed revenue deficiency of $1.91 million should be reduced down to a revenue deficiency of no more than $1.76 million. I will describe this revenue requirement adjustment below.

Q. PLEASE SUMMARIZE YOUR PROPOSAL ON HOW TO SPREAD THE REVENUE DEFICIENCY FOUND JUST AND REASONABLE BY THE COMMISSION IN THIS PROCEEDING.

A. The Company's proposed spread of its revenue deficiency is unjust and unreasonable because it does not base this proposed spread on an accurate class cost of service study. My proposed spread will move each rate class closer to cost of service, while recognizing gradualism in recovering the revenue deficiency. Based on primarily the differences between class cost of service studies, I show the Company's proposed spread in Table 2 below, along with my proposed allocation of the revenue deficiency across classes based on the Company's requested revenue deficiency for illustrative purposes only.

TABLE 2

Class Cost of Service Spread

Description	Company Proposed[1] $ Increase	Company Proposed[1] % Increase	NWIGU Adjusted[2] $ Increase	NWIGU Adjusted[2] % Increase
Residential (101)	$1,508	8.91%	1,554	9.18%
Commercial Service (104)	0	0.00%	215	2.78%
Industrial Service (105)	163	32.16%	46	9.18%
Large Volume Service (111)	62	25.73%	22	9.18%
General Distribution (163+164)	174	8.04%	60	2.78%
Interruptible (170)	0	0.00%	8	2.78%
Special Contracts (900)	0	0.00%		0.00%
System Total	$1,906	6.43%	$1,906	6.43%

Sources:
[1]CNGC/301, Amen/Page 2 of 2.
[2]NWIGU/102, Gorman/Page 1 of 2.

Q. PLEASE SUMMARIZE YOUR PROPOSED ADJUSTMENTS TO THE COMPANY'S CLASS COST OF SERVICE STUDY.

A. The Company's class cost of service study is based on the Long Run Incremental Cost ("LRIC") methodology that has been used to support rate settlements for both Avista and Northwest Natural Gas Company ("NW Natural") in recent rate proceedings.[1/] I believe the general structure of the Company's cost of service study is reasonable, with some

[1/] UG 288, Avista Utilities and UG 221, Northwest Natural Gas Company.

correcting adjustments to spread the increase in a fair and equitable manner. As explained in more detail below, I make adjustments to the LRIC cost of meters for several large customers. The Company's LRIC cost for meters is substantially higher than that used in Avista and NW Natural cases, and substantially higher than a reasonable estimate of the incremental cost of meters for its large customers.

Q. ARE YOU PROPOSING A SPREAD OF YOUR ADJUSTED REVENUE DEFICIENCY FOR CASCADE?

A. Yes. Based on my corrections to the Company's claimed revenue deficiency, I propose a revenue spread as outlined in Table 3 below.

TABLE 3

Class Cost of Service Spread

	NWIGU Proposed	
Description	**$ Increase**	**% Increase**
Residential (101)	$1,434	8.47%
Commercial Service (104)	198	2.56%
Industrial Service (105)	43	8.47%
Large Volume Service (111)	21	8.47%
General Distribution (163+164)	55	2.56%
Interruptible (170)	8	2.56%
Special Contracts (900)	-	0.00%
System Total	$1,758	5.93%

Source: NWIGU/103, Gorman/Page 1 of 2.

This alternative spread using the adjusted revenue deficiency as shown in Table 3 above, is based on corrections to the Company's class cost of service study and a more equitable allocation of the claimed revenue deficiency in this proceeding.

I. REVENUE REQUIREMENT ADJUSTMENTS

Q. WILL YOU PLEASE EXPLAIN YOUR PROPOSED ADJUSTMENT TO THE COMPANY'S CLAIMED REVENUE DEFICIENCY?

A. Yes. This adjustment will reduce the Company's claimed revenue deficiency of $1.906 million by $0.148 million. This leaves an adjusted revenue deficiency of approximately $1.76 million.

Q. PLEASE DESCRIBE YOUR ADJUSTMENTS TO THE COMPANY'S ESTIMATE OF TEST YEAR RATE BASE.

A. Cascade witness Michael Parvinen estimates cost of service by starting with 2015 books and records, and making adjustments to the test year, which is calendar year 2016. (CNGC/200 Parvinen/3). In projecting 2016 rate base relative to the 2015 calendar year, Mr. Parvinen estimated additional plant investment of $13.6 million, a buildup of accumulated depreciation reserve of $6.36 million, and an increase in deferred accumulated income tax offset of $70,305. (CNGC/201 Parvinen/page 1 of 1).

Q. PLEASE DESCRIBE YOUR CONCERN WITH MR. PARVINEN'S PROJECTED TEST YEAR RATE BASE.

A. My concern deals with his adjustment from 2015 to 2016 for deferred accumulated income tax. Mr. Parvinen's adjustment for accumulated deferred income tax reflects only incremental plant investments. He fails to recognize the buildup of accumulated deferred income taxes for embedded plant from 2015. As such, in order to accurately estimate 2016 rate base, I recommend an adjustment to the deferred accumulated income tax balance to reflect an estimate for 2016 relative to the 2015 base year.

Q. PLEASE DESCRIBE THIS DEFERRED INCOME TAX ADJUSTMENT.

A. In Mr. Parvinen's workpaper Exhibit 201-206, on the tab "2016 Plant Additions," Mr. Parvinen estimated the increase in deferred income taxes by taking the difference between tax depreciation assumed at a 5% tax rate, less book depreciation based on the Company's approved depreciation rates. The difference between tax and book depreciation rates is then adjusted by the tax conversion factor of 39.94%. (CNGC/203-Conversion Factor). Again, the problem with Mr. Parvinen's estimated and deferred income tax balances is that the depreciation expense difference between book and tax is based on the Oregon incremental plant additions of $13.76 million.

The full difference in depreciation additions should have been based on the test year total plant in-service investment of $207.4 million. As such, the total deferred balance should have been equal to the difference between tax depreciation (5% of plant in-service) and book depreciation of $6,619,184. This produces a tax depreciation amount of $10,371,261 (207,425,219 times 5%) less book depreciation of $6,619,184, which produces a net tax depreciation difference of $3,752,077, multiplied by the composite tax rate of 39.94% produces an increase in deferred accumulated income tax of $1,498,580.

This adjustment reduces rate base by approximately $1,428,275 relative to the deferred accumulated tax adjustment reflected on Mr. Parvinen's CNGC/201 at page 1. The revenue requirement impact based on the Company's pre-tax rate of return is $148,100.

II. CASCADE PROPOSED REVENUE SPREAD

Q. HOW IS THE COMPANY PROPOSING TO SPREAD THE CLAIMED REVENUE DEFICIENCY IN THIS PROCEEDING?

A. The Company's proposed revenue spread is developed by Cascade witness Ronald Amen on his Exhibit CNGC/301. As shown on that exhibit, Mr. Amen produces the Company's class cost of service study, and then uses those results to produce a two-step determination of the revenue spread of the Company's revenue requirement in this proceeding. Based on this process, Mr. Amen proposes the revenue spread shown below in Table 4.

TABLE 4

Company Proposed Revenue Spread
($000)

Description	Rate Schedule	Revenue Increase	% Increase
Residential	101	$1,508	8.91%
Commercial Service	104	0	0.00%
Industrial Service	105	163	32.16%
Large Volume Service	111	62	25.73%
General Distribution	163/164	174	8.04%
Interruptible	170	0	0.00%
Special Contracts	900	0	0.00%
Total System		$1,906	6.43%

Source: Amen Exhibit CNGC/301

Q. IS MR. AMEN'S PROPOSED SPREAD OF THE REVENUE DEFICIENCY REASONABLE?

A. No. There are some deficiencies or errors in Mr. Amen's cost of service study. Correcting this cost of service study results in the following proposed spread of the revenue deficiency in this proceeding, using the Company's claimed revenue deficiency for illustrative purposes only.

TABLE 5

Corrected Revenue Spread
(Company Claimed Deficiency)
($000)

Description	Rate Schedule	Revenue Increase	% Increase
Residential	101	$1,554	9.18%
Commercial Service	104	215	2.78%
Industrial Service	105	46	9.18%
Large Volume Service	111	22	9.18%
General Distribution	163/164	60	2.78%
Interruptible	170	8	2.78%
Special Contracts	900	0	0.00%
Total System		$1,906	6.43%

Source: Gorman Exhibit NWIGU/102.

Q. PLEASE DESCRIBE YOUR PROPOSED CORRECTION TO MR. AMEN'S CLASS COST OF SERVICE STUDY.

A. I propose the following correction to Mr. Amen's class cost of service study:

- His LRIC projected meter costs for large customers are overstated. Using inflated LRIC meter costs inflates his cost of service for Rate Schedules 111, 163/164, 170 and 900, and therefore overstates the revenue requirement for these classes.

Q. WHY DO YOU BELIEVE CASCADE HAS OVERSTATED ITS LRIC METER COSTS TO ITS LARGE CUSTOMERS?

A. Mr. Amen's allocation of LRIC meter costs is on its face highly questionable. For example, for Rate Schedules 163 and 164, Mr. Amen notes that there are 31 customer accounts for this rate class out of a system total of 70,743 accounts, or about 0.04% of all customer accounts on the system. However, in allocating incremental costs of meters, Mr. Amen has allocated $2.6 million out of $27.6 million of total meter and regulator investment cost to this same rate class, or 9.5%. There is an obvious imbalance in his determination of meter costs for this rate class.

A more detailed review shows more reasons to question the accuracy of Mr. Amen's LRIC for meters and regulators. The accuracy is highly questionable when you compare his cost estimate for meters relative to other large customer classes' meter costs served by Cascade, and also compared to meter costs used by other Oregon utilities in conducting LRIC gas cost of service studies. Specifically, I compared Cascade's meter and regulator costs to those used by Avista and NW Natural in recent gas cost of service studies using an LRIC methodology to gain support by all parties in those rate cases. This comparison is shown in Table 6 below.

TABLE 6

Meter Cost Comparison

Description	Rate Class	Rate Schedule	Cost Per Meter
Cascade:[1]	Industrial	105	$4,690
	Lg Volume	111	$40,173
	Gen. Distribution	163/164	$85,038
	Interruptible	170	$147,305
	Special Contracts	900	$182,670
Avista Oregon[2]			$7,885
NW Natural[3]			$5,334

Sources:
[1]Amen CNGC/303, line 15 ÷ line 3 (for specific rate schedule).
[2]UG 288, Avista Utilities, Exhibit No. 801; Miller/Avista Incremental Investment Costs.
[3]UG 221, NWN/1101, Feingold/9, Incremental customer-related distribution costs, meters and regulators.

As shown in the table above, Cascade's LRIC meter costs for its Classes 111, 163, 164, 170 and 900 are substantially higher than Cascade's own meter cost estimate for its Class 105 customers. Cascade's meter costs for its Class 105 customers is more consistent with the LRIC meter cost estimates used by Avista and NW Natural in their LRIC gas cost of service studies. Further, a review of Mr. Amen's testimony failed to produce any support for his LRIC cost estimates for meters for these rate classes.

Q. HOW DO YOU PROPOSE TO CORRECT MR. AMEN'S LRIC COSTS TO REFLECT A MORE REASONABLE LRIC METER COST ESTIMATE?

A. Mr. Amen's meter cost estimates for these rate classes appear to be overstated by a factor of 10. Therefore, I adjusted his LRIC meter cost estimate by a factor of 1/10, to produce

LRIC meter costs that are more in line with his estimate for Cascade's Schedule 105, and the meter cost estimates made by Avista and NW Natural.

Q. DID YOU CORRECT MR. AMEN'S CLASS COST OF SERVICE STUDY TO REFLECT THESE ADJUSTMENTS?

A. Yes. This is shown in my Exhibit NWIGU/102, page 2. As shown in this exhibit on lines 17 and 23, I have adjusted the LRIC cost for large meters for larger customers.

Q. PLEASE DESCRIBE HOW YOU PROPOSE TO SPREAD THE COMPANY'S CLAIMED REVENUE DEFICIENCY IN THIS PROCEEDING.

A. My proposed spread of the revenue deficiency is very similar to Mr. Amen's. I followed the following steps in producing my proposed revenue spread:

1. I compared the current revenues to the class cost of service study to determine the amount of rate increase necessary to bring each rate class up to cost of service.
2. I recognized a gradual movement to cost of service in adjusting rates.
3. I propose that no class, except the Special Contract class, receive increases below 0.5x the system average increase.
4. Using this methodology as a general guide, and the effort to move each rate class to produce the revenue deficiency, I arrived at what I believe to be a reasonable spread across rate classes. My final spread, however, was tempered by ensuring that no rate class got more than a 1.5x system average increase. This last step was designed in order to ensure that no rate class got an extraordinary increase in this proceeding, and therefore was maintained reasonably close within a range of the system average increase.

Q. BASED ON THIS METHODOLOGY, WHAT IS YOUR PROPOSED SPREAD FOR EACH RATE CLASS?

A. My proposed rate spread reflecting my reduced revenue deficiency is shown on my Exhibit NWIGU/103 and summarized in Table 7 below.

TABLE 7

Class Cost of Service Spread

Description	NWIGU Proposed[1] $ Increase	NWIGU Proposed[1] % Increase	NWIGU Proposed[1] Index
Residential (101)	$1,434	8.47%	1.43
Commercial Service (104)	198	2.56%	0.43
Industrial Service (105)	43	8.47%	1.43
Large Volume Service (111)	21	8.47%	1.43
General Distribution (163+164)	55	2.56%	0.43
Interruptible (170)	8	2.56%	0.43
Special Contracts (900)	0	0.00%	0.00
System Total	$1,758	5.93%	1.00

Source:
[1]Exhibit NWIGU/103.

As shown on Exhibit NWIGU/103 and Table 7, no class received more than a 1.5x system average increase.

As shown on page 1 of that exhibit, I show the proposed spread of my estimated revenue deficiency of $1.758 million. The same steps were used to produce this rate spread along with limitations on increases to any specific rate class for gradualism, and no rate class would get a rate decrease.

Q. DOES THIS CONCLUDE YOUR OPENING TESTIMONY?

A. Yes, it does.

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BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UG 305

In the Matter of	)
	)
CASCADE NATURAL GAS	)
CORPORATION,	)
	)
Request for a General Rate Revision.	)
	)

EXHIBIT NWIGU/101

QUALIFICATIONS OF MICHAEL P. GORMAN

August 11, 2016

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q PLEASE STATE YOUR OCCUPATION.

A I am a consultant in the field of public utility regulation and a Managing Principal with the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A In 1983 I received a Bachelors of Science Degree in Electrical Engineering from Southern Illinois University, and in 1986, I received a Masters Degree in Business Administration with a concentration in Finance from the University of Illinois at Springfield. I have also completed several graduate level economics courses.

In August of 1983, I accepted an analyst position with the Illinois Commerce Commission ("ICC"). In this position, I performed a variety of analyses for both formal and informal investigations before the ICC, including: marginal cost of energy, central dispatch, avoided cost of energy, annual system production costs, and working capital. In October of 1986, I was promoted to the position of Senior Analyst. In this position, I assumed the additional responsibilities of technical leader on projects, and my areas of responsibility were expanded to include utility financial modeling and financial analyses.

In 1987, I was promoted to Director of the Financial Analysis Department. In this position, I was responsible for all financial analyses conducted by the Staff. Among other things, I conducted analyses and sponsored testimony before the ICC on rate of return, financial integrity, financial modeling and related issues. I also supervised the development of all Staff analyses and testimony on these same issues. In addition, I supervised the Staff's review and recommendations to the Commission concerning utility plans to issue debt and equity securities.

In August of 1989, I accepted a position with Merrill-Lynch as a financial consultant. After receiving all required securities licenses, I worked with individual investors and small businesses in evaluating and selecting investments suitable to their requirements.

In September of 1990, I accepted a position with Drazen-Brubaker & Associates, Inc. ("DBA"). In April 1995, the firm of Brubaker & Associates, Inc. was formed. It includes most of the former DBA principals and Staff. Since 1990, I have performed various analyses and sponsored testimony on cost of capital, cost/benefits of utility mergers and acquisitions, utility reorganizations, level of operating expenses and rate base, cost of service studies, and analyses relating to industrial jobs and economic development. I also participated in a study used to revise the financial policy for the municipal utility in Kansas City, Kansas.

At BAI, I also have extensive experience working with large energy users to distribute and critically evaluate responses to requests for proposals ("RFPs") for electric, steam, and gas energy supply from competitive energy suppliers. These analyses include the evaluation of gas supply and delivery charges, cogeneration and/or combined cycle unit feasibility studies, and the evaluation of third-party asset/supply management agreements. I have participated in rate cases on rate design and class cost of service for electric, natural gas, water and wastewater utilities. I have also analyzed commodity pricing indices and forward pricing methods for third party supply agreements, and have also conducted regional electric market price forecasts.

In addition to our main office in St. Louis, the firm also has branch offices in Phoenix, Arizona and Corpus Christi, Texas.

Q HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?

A Yes. I have sponsored testimony on cost of capital, revenue requirements, cost of service and other issues before the Federal Energy Regulatory Commission and numerous state regulatory commissions including: Arkansas, Arizona, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Michigan, Mississippi, Missouri, Montana, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming, and before the provincial regulatory boards in Alberta and Nova Scotia, Canada. I have also sponsored testimony before the Board of Public Utilities in Kansas City, Kansas; presented rate setting position reports to the regulatory board of the municipal utility in Austin, Texas, and Salt River Project, Arizona, on behalf of industrial customers; and negotiated rate disputes for industrial customers of the Municipal Electric Authority of Georgia in the LaGrange, Georgia district.

Q PLEASE DESCRIBE ANY PROFESSIONAL REGISTRATIONS OR ORGANIZATIONS TO WHICH YOU BELONG.

A I earned the designation of Chartered Financial Analyst (“CFA”) from the CFA Institute. The CFA charter was awarded after successfully completing three examinations which covered the subject areas of financial accounting, economics, fixed income and equity valuation and professional and ethical conduct. I am a member of the CFA Institute's Financial Analyst Society.

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UG 305

In the Matter of	)
	)
CASCADE NATURAL GAS	)
CORPORATION,	)
	)
Request for a General Rate Revision.	)
	)

EXHIBIT NWIGU/102

LONG RUN INCREMENTAL COST (LRIC) STUDY
DEVELOPMENT OF ADJUSTED NON-GAS REVENUE CLASS INCREASES

August 11, 2016

Cascade Natural Gas Corp.
Oregon Jurisdiction
Docket No. UG 305

Long Run Incremental Cost (LRIC) Study
Development of Adjusted Non-Gas Revenue Class Increases

			Long Run Incremental Cost (LRIC) Study Results				**Step 1**		**Step 2**				
Line	Rate Class		Non-Gas Revenue @ Current Rates (1)	Revenue Requirement (2)	Non-Gas Revenue Increase (3)	Percent Increase (4)	Adjustment to Class Increases (5)	Increase to Current Revenue (6)	Shortfall Spread (7)	New Revenue Increase (8)	Increase Amount (9)	Increase Percent (10)	Increase Relative to System Average (11)
1	Residential	101	$16,926,173	$18,843,114	$1,916,941	11.33%	$18,559,071	$1,632,898	($78,688)	$18,480,383	$1,554,210	9.18%	1.43
2	Commercial	104	$7,741,020	7,818,554	77,534	1.00%	$7,989,950	$248,930	($33,876)	$7,956,074	$215,054	2.78%	0.43
3	Industrial	105	$505,501	982,116	476,614	94.29%	$554,268	$48,767	($2,350)	$551,918	$46,417	9.18%	1.43
4	Lg Volume	111	$242,548	382,097	139,549	57.53%	$265,947	$23,399	($1,128)	$264,820	$22,271	9.18%	1.43
5	Gen. Distribution	163+164	$2,159,441	2,215,890	56,450	2.61%	$2,228,882	$69,442	($9,450)	$2,219,432	$59,992	2.78%	0.43
6	Interruptible	170	300,244	262,900	(37,344)	-12.44%	$309,899	$9,655	($1,314)	$308,585	$8,341	2.78%	0.43
7	Special Contracts	900	1,765,115	1,041,656	(723,458)	-40.99%	1,765,115	$0	$0	$1,765,115	$0	0.00%	-
8	Total		$29,640,042	**$31,546,327**	$1,906,285	**6.43%**	$31,673,132	$2,033,090	($126,805)	$31,546,327	$1,906,285	6.43%	1.00
			Input	*Input*			*Shortfall*	*($126,805)*					

Notes
This revenue allocation ensures that no class receives an increase less than 0.5x system average, or greater than 1.5x system average.

Cascade Natural Gas Corp.
Oregon Jurisdiction
Long Run Incremental Cost (LRIC) Study
Summary

Line	Description	Total	101 Residential Service core	104 Commercial Service core	105 Industrial Service core	111 Large Volume Service core	163 General Distribution non-core	170 Interruptible core	900 Special Contracts non-core
1	Billing Determinants								
2	Peak Day Forecast	91,882	52,034	35,256	2,906	1,686	-	-	-
3	Customer Count	70,743	60,662	9,901	128	13	31	4	4
4	Throughput	31,599,959	3,996,951	2,811,784	254,327	156,543	3,272,979	243,922	20,863,452
5	O&M Costs								
6	Gas Supply Related								
7	Gas Planning	$ 21,037	$ 9,609	$ 6,556	$ 550	$ 323	$ 528	$ 107	$ 3,364
8	Gas Supply	$ 42,749	$ 17,007	$ 11,964	$ 1,082	$ 666	$ 1,491	$ 1,038	$ 9,502
9	Gas Control	$ 79,283	$ 32,689	$ 22,996	$ 2,080	$ 1,280	$ 5,241	$ 1,995	$ 13,002
10	Customer Related								
11	Meter Reading	$ 251,985	$ 210,829	$ 34,410	$ 444	$ 1,606	$ 3,733	$ 482	$ 482
12	Customer Acoount records and collection	$ 1,153,862	$ 986,592	$ 161,026	$ 2,080	$ 217	$ 3,137	$ 405	$ 405
13	Billing Postage & Printing	$ 385,330	$ 330,420	$ 53,929	$ 697	$ 73	$ 169	$ 22	$ 22
14	Uncollectible	$ 361,003	$ 300,336	$ 60,462	$ 205	$ -	$ -	$ -	$ -
15	Subtotal: O&M Costs	$ 2,295,250	$ 1,887,480	$ 351,344	$ 7,139	$ 4,165	$ 14,299	$ 4,048	$ 26,776
16	Customer Investment Carrying Costs								
17	Meter	$ 4,534,576	$ 2,629,190	$ 1,703,949	$ 115,325	$ 10,042	$ 50,691	$ 11,330	$ 14,050
18	Service	$ 13,216,697	$ 10,925,277	$ 1,963,011	$ 60,688	$ 17,937	$ 187,602	$ 48,952	$ 13,230
19	Mains	$ 13,426,374	$ 5,915,660	$ 1,484,739	$ 1,136,781	$ 274,618	$ 2,626,560	$ 362,791	$ 1,625,225
20	Subtotal: Customer Investment Costs	$ 31,177,647	$ 19,470,127	$ 5,151,699	$ 1,312,794	$ 302,597	$ 2,864,852	$ 423,072	$ 1,652,505
21	System Core Main Carrying Costs								
22	Capacity	$ 39,638,178	$ 22,447,756	$ 15,209,317	$ 1,253,806	$ 727,300	$ -	$ -	$ -
23	Commodity	$ 11,925,744	$ 4,439,676	$ 3,123,233	$ 282,498	$ 173,883	$ 3,635,513	$ 270,941	$ -
24	Subtotal: System Core Main Costs	$ 51,563,922	$ 26,887,431	$ 18,332,550	$ 1,536,304	$ 901,183	$ 3,635,513	$ 270,941	$ -
25	LRIC - Distribution	$ 85,036,819	$ 48,245,039	$ 23,835,593	$ 2,856,236	$ 1,207,945	$ 6,514,664	$ 698,061	$ 1,679,281
26	Fuctional Cost Assignment by LRIC								
27	Scheduling & Planning	$ 143,069	$ 59,304	$ 41,516	$ 3,712	$ 2,270	$ 7,259	$ 3,140	$ 25,868
28	Meter Reading, Billing etc.	$ 2,152,181	$ 1,828,176	$ 309,828	$ 3,426	$ 1,895	$ 7,039	$ 908	$ 908
29	Meters, Services & Mains extensions	$ 31,177,647	$ 19,470,127	$ 5,151,699	$ 1,312,794	$ 302,597	$ 2,864,852	$ 423,072	$ 1,652,505
30	Sysctem Core Mains	$ 51,563,922	$ 26,887,431	$ 18,332,550	$ 1,536,304	$ 901,183	$ 3,635,513	$ 270,941	$ -
31	Total	$ 85,036,819	$ 48,245,039	$ 23,835,593	$ 2,856,236	$ 1,207,945	$ 6,514,664	$ 698,061	$ 1,679,281
32	Non-Gas Revenue at Current Rates	$ 29,640,042	$ 16,926,173	$ 7,741,020	$ 505,501	$ 242,548	$ 2,159,441	$ 300,244	$ 1,765,115
33	Scheduling and Planning	$ 544,487	$ 225,698	$ 157,999	$ 14,129	$ 8,637	$ 27,627	$ 11,949	$ 98,447
34	Meter Reading & Billing	$ 3,756,032	$ 3,190,571	$ 540,719	$ 5,979	$ 3,307	$ 12,285	$ 1,585	$ 1,585
35	Meters & Services	$ 12,755,998	$ 7,965,992	$ 2,107,762	$ 537,115	$ 123,804	$ 1,172,123	$ 173,096	$ 676,105
36	Mains	$ 14,019,804	$ 7,180,111	$ 4,895,586	$ 410,260	$ 240,655	$ 970,840	$ 72,353	$ 250,000
37	Total LRIC Based Non-gas Rev Req.	$ 31,076,320	$ 18,562,372	$ 7,702,066	$ 967,483	$ 376,404	$ 2,182,876	$ 258,983	$ 1,026,136
38	Revenue to Cost Ratio	0.95	0.91	1.01	0.52	0.64	0.99	1.16	1.72
39	Incremental Non-gas Revenue Requirement	$ 1,906,285							
40	LRIC Based Non-Gas Revenue Requirement	$ 31,546,327	$ 18,843,114	$ 7,818,554	$ 982,116	$ 382,097	$ 2,215,890	$ 262,900	$ 1,041,656
41	Revenue to Cost Ratio		0.90	0.99	0.51	0.63	0.97	1.14	1.69

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UG 305

In the Matter of	)
	)
CASCADE NATURAL GAS	)
CORPORATION,	)
	)
Request for a General Rate Revision.	)
	)

EXHIBIT NWIGU/103

LONG RUN INCREMENTAL COST (LRIC) STUDY
REVISED REVENUE DEFICIENCY SCENARIO
DEVELOPMENT OF ADJUSTED NON-GAS REVENUE CLASS INCREASES

August 11, 2016

Cascade Natural Gas Corp.
Oregon Jurisdiction
Docket No. UG 305

Long Run Incremental Cost (LRIC) Study
Revised Revenue Deficiency Scenario
Development of Adjusted Non-Gas Revenue Class Increases

			Long Run Incremental Cost (LRIC) Study Results				**Step 1**		**Step 2**				
Line	Rate Class		Non-Gas Revenue @ Current Rates	Revenue Requirement	Non-Gas Revenue Increase	Percent Increase	Adjustment to Class Increases	Increase to Current Revenue	Shortfall Spread	New Revenue Increase	Increase Amount	Increase Percent	Increase Relative to System Average
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Residential	101	$16,926,173	$18,754,652	$1,828,479	10.80%	$18,432,211	$1,506,037	($72,461)	$18,359,750	$1,433,576	8.47%	1.43
2	Commercial	104	$7,741,020	7,781,848	40,828	0.53%	$7,970,611	$229,590	($31,334)	$7,939,276	$198,256	2.56%	0.43
3	Industrial	105	$505,501	977,505	472,003	93.37%	$550,479	$44,978	($2,164)	$548,315	$42,814	8.47%	1.43
4	Lg Volume	111	$242,548	380,303	137,755	56.79%	$264,129	$21,581	($1,038)	$263,091	$20,543	8.47%	1.43
5	Gen. Distribution	163+164	$2,159,441	2,205,487	46,047	2.13%	$2,223,487	$64,047	($8,741)	$2,214,746	$55,306	2.56%	0.43
6	Interruptible	170	300,244	261,666	(38,578)	-12.85%	$309,149	$8,905	($1,215)	$307,934	$7,690	2.56%	0.43
7	Special Contracts	900	1,765,115	1,036,766	(728,349)	-41.26%	$1,765,115	$0	$0	$1,765,115	$0	0.00%	-
8	Total		$29,640,042	**$31,398,227**	$1,758,185	**5.93%**	$31,515,181	$1,875,139	($116,954)	$31,398,227	$1,758,185	5.93%	1.00
			Input	*Input*			*Shortfall*	*($116,954)*					

Notes
This revenue allocation ensures that no class receives an increase less than 0.5x system average, or greater than 1.5x system average.

Cascade Natural Gas Corp.
Oregon Jurisdiction
Long Run Incremental Cost (LRIC) Study
Summary

Line	Description	Total	101	104	105	111	163	170	900
			Residential Service	Commercial Service	Industrial Service	Large Volume Service	General Distribution	Interruptible	Special Contracts
			core	core	core	core	non-core	core	non-core
1	Billing Determinants								
2	Peak Day Forecast	91,882	52,034	35,256	2,906	1,686	-	-	-
3	Customer Count	70,743	60,662	9,901	128	13	31	4	4
4	Throughput	31,599,959	3,996,951	2,811,784	254,327	156,543	3,272,979	243,922	20,863,452
5	O&M Costs								
6	Gas Supply Related								
7	Gas Planning	$ 21,037	$ 9,609	$ 6,556	$ 550	$ 323	$ 528	$ 107	$ 3,364
8	Gas Supply	$ 42,749	$ 17,007	$ 11,964	$ 1,082	$ 666	$ 1,491	$ 1,038	$ 9,502
9	Gas Control	$ 79,283	$ 32,689	$ 22,996	$ 2,080	$ 1,280	$ 5,241	$ 1,995	$ 13,002
10	Customer Related								
11	Meter Reading	$ 251,985	$ 210,829	$ 34,410	$ 444	$ 1,606	$ 3,733	$ 482	$ 482
12	Customer Acoount records and collection	$ 1,153,862	$ 986,592	$ 161,026	$ 2,080	$ 217	$ 3,137	$ 405	$ 405
13	Billing Postage & Printing	$ 385,330	$ 330,420	$ 53,929	$ 697	$ 73	$ 169	$ 22	$ 22
14	Uncollectible	$ 361,003	$ 300,336	$ 60,462	$ 205	$ -	$ -	$ -	$ -
15	Subtotal: O&M Costs	$ 2,295,250	$ 1,887,480	$ 351,344	$ 7,139	$ 4,165	$ 14,299	$ 4,048	$ 26,776
16	Customer Investment Carrying Costs								
17	Meter	$ 4,534,576	$ 2,629,190	$ 1,703,949	$ 115,325	$ 10,042	$ 50,691	$ 11,330	$ 14,050
18	Service	$ 13,216,697	$ 10,925,277	$ 1,963,011	$ 60,688	$ 17,937	$ 187,602	$ 48,952	$ 13,230
19	Mains	$ 13,426,374	$ 5,915,660	$ 1,484,739	$ 1,136,781	$ 274,618	$ 2,626,560	$ 362,791	$ 1,625,225
20	Subtotal: Customer Investment Costs	$ 31,177,647	$ 19,470,127	$ 5,151,699	$ 1,312,794	$ 302,597	$ 2,864,852	$ 423,072	$ 1,652,505
21	System Core Main Carrying Costs								
22	Capacity	$ 39,638,178	$ 22,447,756	$ 15,209,317	$ 1,253,806	$ 727,300	$ -	$ -	$ -
23	Commodity	$ 11,925,744	$ 4,439,676	$ 3,123,233	$ 282,498	$ 173,883	$ 3,635,513	$ 270,941	$ -
24	Subtotal: System Core Main Costs	$ 51,563,922	$ 26,887,431	$ 18,332,550	$ 1,536,304	$ 901,183	$ 3,635,513	$ 270,941	$ -
25	LRIC - Distribution	$ 85,036,819	$ 48,245,039	$ 23,835,593	$ 2,856,236	$ 1,207,945	$ 6,514,664	$ 698,061	$ 1,679,281
26	Fuctional Cost Assignment by LRIC								
27	Scheduling & Planning	$ 143,069	$ 59,304	$ 41,516	$ 3,712	$ 2,270	$ 7,259	$ 3,140	$ 25,868
28	Meter Reading, Billing etc.	$ 2,152,181	$ 1,828,176	$ 309,828	$ 3,426	$ 1,895	$ 7,039	$ 908	$ 908
29	Meters, Services & Mains extensions	$ 31,177,647	$ 19,470,127	$ 5,151,699	$ 1,312,794	$ 302,597	$ 2,864,852	$ 423,072	$ 1,652,505
30	Sysctem Core Mains	$ 51,563,922	$ 26,887,431	$ 18,332,550	$ 1,536,304	$ 901,183	$ 3,635,513	$ 270,941	$ -
31	Total	$ 85,036,819	$ 48,245,039	$ 23,835,593	$ 2,856,236	$ 1,207,945	$ 6,514,664	$ 698,061	$ 1,679,281
32	Non-Gas Revenue at Current Rates	$ 29,640,042	$ 16,926,173	$ 7,741,020	$ 505,501	$ 242,548	$ 2,159,441	$ 300,244	$ 1,765,115
33	Scheduling and Planning	$ 544,487	$ 225,698	$ 157,999	$ 14,129	$ 8,637	$ 27,627	$ 11,949	$ 98,447
34	Meter Reading & Billing	$ 3,756,032	$ 3,190,571	$ 540,719	$ 5,979	$ 3,307	$ 12,285	$ 1,585	$ 1,585
35	Meters & Services	$ 12,755,998	$ 7,965,992	$ 2,107,762	$ 537,115	$ 123,804	$ 1,172,123	$ 173,096	$ 676,105
36	Mains	$ 14,019,804	$ 7,180,111	$ 4,895,586	$ 410,260	$ 240,655	$ 970,840	$ 72,353	$ 250,000
37	Total LRIC Based Non-gas Rev Req.	$ 31,076,320	$ 18,562,372	$ 7,702,066	$ 967,483	$ 376,404	$ 2,182,876	$ 258,983	$ 1,026,136
38	Revenue to Cost Ratio	0.95	0.91	1.01	0.52	0.64	0.99	1.16	1.72
39	Revised Incremental Non-gas Revenue Requirement	$ 1,758,185							
40	LRIC Based Non-Gas Revenue Requirement	$ 31,398,227	$ 18,754,652	$ 7,781,848	$ 977,505	$ 380,303	$ 2,205,487	$ 261,666	$ 1,036,766
41	Revenue to Cost Ratio		0.90	0.99	0.52	0.64	0.98	1.15	1.70