

David A. Heintz
Vice President

Mr. Heintz is a Vice President who has over 30 years of experience working with regulated rates and tariffs at both the federal and state levels. He also provides clients with analyses of natural gas projects, markets, and issues. Mr. Heintz's areas of expertise include cost of service, allocation and rate design, tariff terms and conditions, rate case preparation, and regulatory issues.

REPRESENTATIVE PROJECT EXPERIENCE

Regulatory Analysis, Ratemaking, Cost of Service

- Prepared electric cost of service studies for Eversource Energy East (NSTAR Electric) and West (Western Massachusetts Electric Company)
- Prepared gas cost of service study for Eversource Energy (NSTAR Gas)
- Prepared electric and gas class cost of service studies for New York State Electric and Gas and Rochester Gas and Electric Companies
- Prepared class cost of service study for Green Mountain Power Company
- Cash Working Capital witness for Ameren Illinois Company in its 2009, 2011, 2012 and 2013 Illinois rate filings.
- Assisted a customer group served by Dominion Cove Point LNG in a FERC rate proceeding, Docket No. RP11-2136.
- Prepared a cost of service study for Virginia Natural Gas, Case No. PUE-2011-00142.
- Assisted a customer group served by Tennessee Gas Pipeline Company in a FERC rate proceeding, Docket No. RP11-1566.
- Filed testimony on the proper design of Kern River Gas Transmission Period Two rates in Docket RP04-274-023 on behalf of a Kern River shipper.
- Prepared a cost of service study for Atlanta Gas Light Company, Docket No. 31647-U.
- Project manager for preparation of Granite State Gas Transmission FERC rate filing, Docket No. RP10-896. Witness on issues of billing determinants, revenues, cost allocation and rate design.
- Participated in the development of a gas cost of service and rate re-redesign for Northern Indiana Public Service Company.
- Assisted a customer group served by Southern Natural Gas Company in a FERC rate proceeding.
- Assisted ISO-NE in the evaluation of de-list bids and new capacity offers for the first two Forward Capacity Auctions conducted by ISO-NE.
- Prepared a cost of service study and rate design proposals for National Grid Rhode Island (Gas).
- Prepared cost of service studies for New England Gas Company in three Massachusetts rate filings.
- Assist New England Gas in the preparation of periodic filings before the Massachusetts Department of Public Utilities including Gas Cost and Local Distribution Adjustment filings.
- Prepared cost of service studies for Connecticut Natural Gas Corporation and Southern Connecticut Gas Company in their Phase 2 rate design proceeding before the Connecticut Department of Public Utility Control.
- Prepared a cost of service study and rate design proposals for Northwest Natural Gas Company (WA) which included the phase out a commercial rate class.

- Prepared a cost of service study for Puget Sound Energy and assisted in the development of a revenue decoupling mechanism.
- Prepared cost of service studies for Peoples Gas Light and Coke Company and North Shore Gas Company. Assisted in the development of a revenue decoupling mechanism for these companies.
- Performed a cost of service study for Arkansas Oklahoma Gas Corporation. Provided testimony on cost of service and rate design.
- Participated in a review of the cost of service and rate design methodologies for the natural gas transmission affiliate of a Canadian Crown Corporation.
- Performed an electric cost of service and rate review for the City of Vero Beach, Florida.
- Performed a cost of service study for Chesapeake Utility Corporation, Delaware Division, and provided testimony on rate design issues.
- Performed cost of service and rate design studies integrating the rates and tariffs of Providence Gas Company and Valley Gas Company. Provide testimony on cost of service and proposed new rate designs for the integrated company.
- Performed cost of service study for an investor owned Canadian electric utility.
- Assisted a Canadian marketing company in its intervention in Northern Border Pipeline Company FERC rate proceeding. Filed testimony on various cost-of-service and rate design issues.
- Assisted an Indiana local distribution company in the preparation of a general rate case and unbundling filing. Assisted in the development of the proposed unbundled services and tariffs.
- Assisted a New Jersey local distribution company with its initial filing under New Jersey's Electric Discount and Energy Competition Act.
- Assisted a major Southwest utility in the preparation of a cost of service and rate design study for filing with the regulatory commission.
- Reviewed and evaluated an electric cost-of-service and unbundling model for the Ontario Energy Board. This model is to be used by the municipal electric utilities in their filings to the Board.
- Assisted a group of Midwest local distribution companies served by Northern Natural Gas Company in a FERC rate proceeding. Filed testimony on various cost-of-service and rate design issues.
- Reviewed the rate harmonization proposal of a major Canadian gas utility for potential shortcomings alternative approaches.
- Responsible for the development, defense, implementation and administration of the Boston Gas Company's rates in rate cases and CGA filings. Prepared annual sales, revenue, margin and gas cost forecasts for budgeting and financial reporting. Directed the company's load research project. Represented the company in regulatory proceedings.
- Responsible for all aspects of United Gas Pipeline Company's rate department, including cost-of-service allocation and rate design, certificates and analysis of other pipeline FERC filings. Represented the company and supported its positions through testimony and negotiations with regulatory agencies, customers and intervenors.
- Responsible for the development of cost-of-service, allocation and rate design studies and filings for Consolidated Natural Gas Company. Analyzed supplier rate and certificate filings. Represented the company and supported its position in negotiations with regulatory agencies, customers and intervenors.
- Responsible for the development and support of FERC staff's position on allocation and rate design issues in pipeline rate and certificate filings.

Valuation and Appraisal

Assisted in the preparation of a report to the FERC on appraised value and insurance recommendations in a certificate proceeding.

Market Analysis

Assisted the Province of New Brunswick in the preparation of its Stage I document for the establishment of natural gas distribution within the Province.

Expert Witness Testimony Presentation

- Federal Energy Regulatory Commission
- Arkansas Public Service Commission
- Connecticut Department of Public Utility Control
- Delaware Public Service Commission
- Georgia Public Service Commission
- Idaho Public Utilities Commission
- Illinois Commerce Commission
- Massachusetts Department of Public Utilities
- New York State Public Service Commission
- New Jersey Board of Public Utilities
- Pennsylvania Public Utility Commission
- State of Rhode Island and Providence Plantations Public Utility Commission
- Washington Utilities and Transportation Commission

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2006 – Present)

Vice President

Assistant Vice President

Navigant Consulting (1998 – 2006)

Senior Engagement Manager

Boston Gas Company (1993 – 1998)

Director, Rates and Revenue Analysis

United Gas Pipeline Company (1992 – 1993)

Director, Rates and Regulatory Affairs

Consolidated Natural Gas Company (1985 – 1992)

Manager, Regulatory Projects

Federal Regulatory Energy Commission (1979 – 1985)

Industry Economist, Allocation and Rate Design Branch

EDUCATION

M.B.A., Katz Graduate School of Business, University of Pittsburgh, 1989

B.S., Economics, Behrend College, Pennsylvania State University, 1978

FUNCTIONAL COST STUDY
SUMMARY OF RESULTS

Line No.	Description	System Total	Delivery Costs	Direct Gas Costs	LPG & LNG	Misc	Production Costs
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Rate Base							
1	Plant in Service	\$ 480,183,923	\$ 465,529,818	\$ -	\$ 14,654,104	\$ -	\$ 14,654,104
2	Accumulated Reserve	(158,732,601)	(149,518,456)	-	(9,214,145)	-	(9,214,145)
3	Other Rate Base Items	(69,422,638)	(67,316,474)	-	(2,134,571)	28,408	(2,106,164)
4	Total Rate Base	\$ 252,028,683	\$ 248,694,888	\$ -	\$ 3,305,388	\$ 28,408	\$ 3,333,796
Revenues at Current Rates							
5	Sales Revenue	\$ 70,681,266	\$ 70,681,266	\$ -	\$ -	\$ -	\$ -
6	Miscellaneous Revenues	881,259	874,655	-	4,357	2,247	6,604
7	Total Revenues	\$ 71,562,525	\$ 71,555,921	\$ -	\$ 4,357	\$ 2,247	\$ 6,604
Expenses at Current Rates							
8	Operations & Maintenance Expenses	\$ 30,577,282	\$ 30,627,593	\$ -	\$ (474,427)	\$ 424,117	\$ (50,310)
9	Depreciation Expense	17,713,892	17,085,899	-	621,789	6,204	627,993
10	Taxes Other Than Income Taxes	10,895,009	10,544,993	-	350,016	-	350,016
11	Total Expenses - Current	\$ 59,186,183	\$ 58,258,485	\$ -	\$ 497,377	\$ 430,321	\$ 927,698
12	Total Income Taxes	\$ 2,157,769	\$ 2,556,747	\$ -	\$ (229,968)	\$ (169,010)	\$ (398,978)
13	Current Operating Income	\$ 10,218,573	\$ 10,740,689	\$ -	\$ (263,053)	\$ (259,064)	\$ (522,117)
14	Return at Current Rates	4.05%	4.32%	0.00%	-7.96%	-911.95%	-15.66%
15	Index Rate of Return	1.00	1.07	-	(1.96)	(224.92)	(3.86)
Revenue Requirement at Equal Rates of Return							
16	Required Return	7.36%	7.36%	7.36%	7.36%	7.36%	7.36%
17	Required Operating Income	\$ 18,549,311	\$ 18,303,944	\$ -	\$ 243,277	\$ 2,091	\$ 245,367
18	Operating Income (Deficiency)/Surplus	\$ (8,330,738)	\$ (7,563,254)	\$ -	\$ (506,329)	\$ (261,155)	\$ (767,484)
Expenses at Required Return							
19	Operations & Maintenance Expenses	\$ 30,577,282	\$ 30,627,593	\$ -	\$ (474,427)	\$ 424,117	\$ (50,310)
20	Depreciation Expense	17,713,892	17,085,899	-	621,789	6,204	627,993
21	Taxes Other than Income	10,895,009	10,544,993	-	350,016	-	350,016
22	Interest on Customer Deposits	-	-	-	-	-	-
23	Total Expenses Required	\$ 59,186,183	\$ 58,258,485	\$ -	\$ 497,377	\$ 430,321	\$ 927,698
24	Income Taxes	\$ 7,576,393	\$ 7,476,170	\$ -	\$ 99,367	\$ 855	\$ 100,223
25	Total Revenue Requirement at Equal Return	\$ 85,311,887	\$ 84,038,599	\$ -	\$ 840,021	\$ 433,267	\$ 1,273,288
26	Revenue (Deficiency)/Surplus	\$ (13,749,362)	\$ (12,482,678)	\$ -	\$ (835,664)	\$ (431,020)	\$ (1,266,684)

**FUNCTIONAL COST STUDY
INDIRECT COSTS**

Line No.	Description	LPG & LNG Costs	Misc. Production Costs	Bad Debts Excl. LPG & LNG	Gas Cost Working Capital	Total Indirect Costs
	(A)	(B)	(C)	(D)	(E)	(F)
Summary of Results at Present Rates						
Rate Base						
1	Gas Plant in Service	\$ 14,654,104	\$ -	\$ -	\$ -	\$ 14,654,104
2	Accumulated Reserve	(9,214,145)	-	-	-	(9,214,145)
3	Net Utility Plant in Service	\$ 5,439,959	\$ -	\$ -	\$ -	\$ 5,439,959
Other Rate Base Items:						
4	Materials & Supplies	\$ 209,810	\$ -	\$ -	\$ -	\$ 209,810
5	Working Capital	(9,765)	28,408	-	-	18,643
6	Prepayments	82,532	-	-	-	82,532
7	Accumulated Deferred Income Taxes	(2,417,149)	-	-	-	(2,417,149)
8	Total Rate Base	\$ 3,305,388	\$ 28,408	\$ -	\$ -	\$ 3,333,796
Revenues						
9	Total Sales Revenue	\$ -	\$ -	\$ -	\$ -	\$ -
10	Other Operating Revenues	4,357	2,247	-	-	6,604
11	Total Operating Revenues	\$ 4,357	\$ 2,247	\$ -	\$ -	\$ 6,604
Expenses						
12	Purchased Gas Costs	\$ -	\$ -	\$ -	\$ -	\$ -
13	Other O&M excl. Uncollectible	(489,249)	416,472	-	-	(72,777)
14	Uncollectible Expense	14,822	-	7,645	-	22,466
15	Depreciation Expense	621,789	6,204	-	-	627,993
16	Other Taxes	350,016	-	-	-	350,016
17	Income Taxes	(229,968)	(165,997)	(3,013)	-	(398,978)
18	Total Operating Expenses	\$ 267,409	\$ 256,679	\$ 4,632	\$ -	\$ 528,720
19	Operating Income	\$ (263,053)	\$ (254,432)	\$ (4,632)	\$ -	\$ (522,117)
20	Rate of Return	-7.96%	-895.65%	0.00%	0.00%	-15.66%
21	Index Rate of Return	1.00	112.54	-	-	1.97
22	Net Revenues	\$ -	\$ -	\$ -	\$ -	\$ -

**FUNCTIONAL COST STUDY
INDIRECT COSTS**

Line No.	Description	LPG & LNG Costs	Misc. Production Costs	Bad Debts Excl. LPG & LNG	Gas Cost Working Capital	Total Indirect Costs
	(A)	(B)	(C)	(D)	(E)	(F)
Summary of Results at Claimed Rates						
Rate Base						
1	Gas Plant in Service	\$ 14,654,104	\$ -	\$ -	\$ -	\$ 14,654,104
2	Accumulated Reserve	(9,214,145)	-	-	-	(9,214,145)
3	Net Utility Plant in Service	\$ 5,439,959	\$ -	\$ -	\$ -	\$ 5,439,959
Other Rate Base Items:						
4	Materials & Supplies	\$ 209,810	\$ -	\$ -	\$ -	\$ 209,810
5	Working Capital	\$ (9,765)	\$ 28,408	\$ -	\$ -	\$ 18,643
5	Prepayments	82,532	-	-	-	82,532
6	Accumulated Deferred Income Taxes	(2,417,149)	-	-	-	(2,417,149)
7	Total Rate Base	\$ 3,305,388	\$ 28,408	\$ -	\$ -	\$ 3,333,796
8	Required Rate of Return	7.36%	7.36%	7.36%	7.36%	7.36%
9	Required Operating Income	\$ 243,277	\$ 2,091	\$ -	\$ -	\$ 245,367
Expenses						
10	Purchased Gas Costs	\$ -	\$ -	\$ -	\$ -	\$ -
11	Other O&M excl. Uncollectible	(489,249)	416,472	-	-	(72,777)
12	Uncollectible Expense	14,822	-	7,645	-	22,466
13	Depreciation Expense	621,789	6,204	-	-	627,993
14	Other Taxes	350,016	-	-	-	350,016
15	Total Expenses Required	\$ 497,377	\$ 422,676	\$ 7,645	\$ -	\$ 927,698
16	Income Taxes	99,367	856	(0)	-	\$ 100,223
17	Total Rev. Req. at Required Return	\$ 840,021	\$ 425,622	\$ 7,645	\$ -	\$ 1,273,288
Revenues						
18	Total Sales Revenue	\$ 835,664	\$ 423,375	\$ 7,645	\$ -	\$ 1,266,684
19	Other Operating Revenues	4,357	2,247	-	-	6,604
20	Total Operating Revenues	\$ 840,021	\$ 425,622	\$ 7,645	\$ -	\$ 1,273,288

Functional Cost Study
Account Detail

Docket No.DG17-048
Attachment DAH-3
Page 1 of 14

Account Description	Amount	Alloc. Factor	Delivery Costs				Direct Gas Costs			
			DEM	CUS	COM	TOTAL	DEM	CUS	COM	TOTAL
RATE BASE										
Plant in Service										
Intangible Plant										
Misc. Intangible Plant	14,745,889	LABOR	7,130,370	7,014,665	-	14,145,035	-	-	-	-
Sub-total	14,745,889		7,130,370	7,014,665	-	14,145,035	-	-	-	-
Production Plant										
Production Plant EN	14,026,237	DPROD	1,220,283	-	-	1,220,283	-	-	-	-
Production Plant Keene	335,421	DPROD_K	335,421	-	-	335,421	-	-	-	-
Sub-total	14,361,658		1,555,703	-	-	1,555,703	-	-	-	-
Distribution Plant										
Land & Land Rights	197,931	DIST	197,931	-	-	197,931	-	-	-	-
M&R Stations	623,659	DIST	623,659	-	-	623,659	-	-	-	-
Mains	231,079,452	DIST	231,079,452	-	-	231,079,452	-	-	-	-
Compressor Station Equipment	4,924,228	DIST	4,924,228	-	-	4,924,228	-	-	-	-
Services	147,512,755	CUST	-	147,512,755	-	147,512,755	-	-	-	-
Meters & Meter Installations	20,781,525	CUST	-	20,781,525	-	20,781,525	-	-	-	-
Meters Installations	14,360,005	CUST	-	14,360,005	-	14,360,005	-	-	-	-
Other Equipment	986,277	DIST	986,277	-	-	986,277	-	-	-	-
Sub-total	420,465,832		237,811,547	182,654,285	-	420,465,832	-	-	-	-
General Plant										
Land & Land Rights	16,806	LABOR	8,127	7,995	-	16,121	-	-	-	-
Structures & Improvements	22,126,395	LABOR	10,699,211	10,525,594	-	21,224,805	-	-	-	-
Office Furniture & Equipment	2,911,316	LABOR	1,407,766	1,384,922	-	2,792,688	-	-	-	-
Transportation Equipment	2,750,151	LABOR	1,329,835	1,308,255	-	2,638,090	-	-	-	-
Stores Equipment	99,421	LABOR	48,075	47,295	-	95,370	-	-	-	-
Tools, Shop & Garage Equip.	1,148,344	LABOR	555,281	546,271	-	1,101,552	-	-	-	-
Laboratory Equip.	-	LABOR	-	-	-	-	-	-	-	-
Power Operated Equip.	726,968	LABOR	351,525	345,821	-	697,346	-	-	-	-
Communication Equip.	477,578	LABOR	230,933	227,185	-	458,118	-	-	-	-
Miscellaneous Equip.	353,566	LABOR	170,967	168,192	-	339,159	-	-	-	-
Sub-total	30,610,544		14,801,718	14,561,530	-	29,363,248	-	-	-	-
TOTAL PLANT-IN-SERVICE	480,183,923		261,299,339	204,230,480	-	465,529,818	-	-	-	-
Accumulated Reserve for Depreciation										
Intangible Plant										
Misc. Intangible Plant	(4,975,703)	LABOR	(2,406,000)	(2,366,957)	-	(4,772,957)	-	-	-	-
Sub-total	(4,975,703)		(2,406,000)	(2,366,957)	-	(4,772,957)	-	-	-	-
Production Plant										
Production Plant	(9,579,080)	DPROD	(833,380)	-	-	(833,380)	-	-	-	-
Production Plant Keene	(188,851)	DPROD_K	(188,851)	-	-	(188,851)	-	-	-	-
Sub-total	(9,767,932)		(1,022,231)	-	-	(1,022,231)	-	-	-	-
Distribution Plant										
Land & Land Rights	-	0	-	-	-	-	-	-	-	-
M&R Stations	(455,849)	DIST	(455,849)	-	-	(455,849)	-	-	-	-
Mains	(55,119,021)	DIST	(55,119,021)	-	-	(55,119,021)	-	-	-	-
Compressor Station Equipment	(1,898,257)	DIST	(1,898,257)	-	-	(1,898,257)	-	-	-	-
Services	(66,914,257)	CUST	-	(66,914,257)	-	(66,914,257)	-	-	-	-
Meters	(10,159,323)	CUST	-	(10,159,323)	-	(10,159,323)	-	-	-	-
Meter Installations	(2,510,354)	CUST	-	(2,510,354)	-	(2,510,354)	-	-	-	-
Other Equipment	(377,799)	DIST	(377,799)	-	-	(377,799)	-	-	-	-

Functional Cost Study
Account Detail

Docket No.DG17-048
Attachment DAH-3
Page 2 of 14

Account Description	Amount	Alloc. Factor	LPG & LNG				Misc			
			DEM	CUS	COM	TOTAL	DEM	CUS	COM	TOTAL
RATE BASE										
Plant in Service										
Intangible Plant										
Misc. Intangible Plant	14,745,889	LABOR	600,854	-	-	600,854	-	-	-	-
Sub-total	14,745,889		600,854	-	-	600,854	-	-	-	-
Production Plant										
Production Plant EN	14,026,237	DPROD	12,805,954	-	-	12,805,954	-	-	-	-
Production Plant Keene	335,421	DPROD_K	-	-	-	-	-	-	-	-
Sub-total	14,361,658		12,805,954	-	-	12,805,954	-	-	-	-
Distribution Plant										
Land & Land Rights	197,931	DIST	-	-	-	-	-	-	-	-
M&R Stations	623,659	DIST	-	-	-	-	-	-	-	-
Mains	231,079,452	DIST	-	-	-	-	-	-	-	-
Compressor Station Equipment	4,924,228	DIST	-	-	-	-	-	-	-	-
Services	147,512,755	CUST	-	-	-	-	-	-	-	-
Meters & Meter Installations	20,781,525	CUST	-	-	-	-	-	-	-	-
Meters Installations	14,360,005	CUST	-	-	-	-	-	-	-	-
Other Equipment	986,277	DIST	-	-	-	-	-	-	-	-
Sub-total	420,465,832		-	-	-	-	-	-	-	-
General Plant										
Land & Land Rights	16,806	LABOR	685	-	-	685	-	-	-	-
Structures & Improvements	22,126,395	LABOR	901,590	-	-	901,590	-	-	-	-
Office Furniture & Equipment	2,911,316	LABOR	118,628	-	-	118,628	-	-	-	-
Transportation Equipment	2,750,151	LABOR	112,061	-	-	112,061	-	-	-	-
Stores Equipment	99,421	LABOR	4,051	-	-	4,051	-	-	-	-
Tools, Shop & Garage Equip.	1,148,344	LABOR	46,792	-	-	46,792	-	-	-	-
Laboratory Equip.	-	LABOR	-	-	-	-	-	-	-	-
Power Operated Equip.	726,968	LABOR	29,622	-	-	29,622	-	-	-	-
Communication Equip.	477,578	LABOR	19,460	-	-	19,460	-	-	-	-
Miscellaneous Equip.	353,566	LABOR	14,407	-	-	14,407	-	-	-	-
Sub-total	30,610,544		1,247,295	-	-	1,247,295	-	-	-	-
TOTAL PLANT-IN-SERVICE	480,183,923		14,654,104	-	-	14,654,104	-	-	-	-
Accumulated Reserve for Depreciation										
Intangible Plant										
Misc. Intangible Plant	(4,975,703)	LABOR	(202,746)	-	-	(202,746)	-	-	-	-
Sub-total	(4,975,703)		(202,746)	-	-	(202,746)	-	-	-	-
Production Plant										
Production Plant	(9,579,080)	DPROD	(8,745,700)	-	-	(8,745,700)	-	-	-	-
Production Plant Keene	(188,851)	DPROD_K	-	-	-	-	-	-	-	-
Sub-total	(9,767,932)		(8,745,700)	-	-	(8,745,700)	-	-	-	-
Distribution Plant										
Land & Land Rights	-	0	-	-	-	-	-	-	-	-
M&R Stations	(455,849)	DIST	-	-	-	-	-	-	-	-
Mains	(55,119,021)	DIST	-	-	-	-	-	-	-	-
Compressor Station Equipment	(1,898,257)	DIST	-	-	-	-	-	-	-	-
Services	(66,914,257)	CUST	-	-	-	-	-	-	-	-
Meters	(10,159,323)	CUST	-	-	-	-	-	-	-	-
Meter Installations	(2,510,354)	CUST	-	-	-	-	-	-	-	-
Other Equipment	(377,799)	DIST	-	-	-	-	-	-	-	-

**Functional Cost Study
Account Detail**

Docket No.DG17-048
Attachment DAH-3
Page 3 of 14

Account Description	Amount	Alloc. Factor	Delivery Costs				Direct Gas Costs			
			DEM	CUS	COM	TOTAL	DEM	CUS	COM	TOTAL
General Plant										
Land & Land Rights	-	0	-	-	-	-	-	-	-	-
Structures & Improvements	(3,369,744)	LABOR	(1,629,438)	(1,602,997)	-	(3,232,436)	-	-	-	-
Office Furniture & Equipment	(510,622)	LABOR	(246,911)	(242,905)	-	(489,816)	-	-	-	-
Transportation Equipment	(807,510)	LABOR	(390,471)	(384,135)	-	(774,606)	-	-	-	-
Stores Equipment	(28,007)	LABOR	(13,543)	(13,323)	-	(26,866)	-	-	-	-
Tools, Shop & Garage Equip.	(641,731)	LABOR	(310,309)	(305,273)	-	(615,582)	-	-	-	-
Laboratory Equip.	-	LABOR	-	-	-	-	-	-	-	-
Power Operated Equip.	(665,676)	LABOR	(321,887)	(316,664)	-	(638,551)	-	-	-	-
Communication Equip.	(240,750)	LABOR	(116,415)	(114,526)	-	(230,940)	-	-	-	-
Miscellaneous Equip.	(156,784)	LABOR	(75,813)	(74,582)	-	(150,395)	-	-	-	-
Other	(133,284)	PLANT	(72,529)	(56,688)	-	(129,216)	-	-	-	-
Sub-total	(6,554,108)		(3,177,316)	(3,111,094)	-	(6,288,409)	-	-	-	-
TOTAL DEPRECIATION ACCRUAL	(158,732,601)		(64,456,472)	(85,061,984)	-	(149,518,456)	-	-	-	-
NET PLANT	321,451,321		196,842,867	119,168,495	-	316,011,362	-	-	-	-
Rate Base Adjustments										
Additions										
Gas Materials and Supplies	6,948,817	PDGPLT	3,794,648	2,944,359	-	6,739,007	-	-	-	-
Cash Working Capital (Other)	2,725,860	OMEXPX	1,437,916	1,239,765	29,536	2,707,217	-	-	-	-
Prepayments	2,733,433	PDGPLT	1,492,688	1,158,213	-	2,650,901	-	-	-	-
Sub-total	12,408,110		6,725,253	5,342,336	29,536	12,097,125	-	-	-	-
Deductions										
Customer Deposits	(1,775,750)	CUST	-	(1,775,750)	-	(1,775,750)	-	-	-	-
Accum. Deferred Income Taxes	(80,054,998)	PDGPLT	(43,716,875)	(33,920,975)	-	(77,637,849)	-	-	-	-
Sub-total	(81,830,748)		(43,716,875)	(35,696,725)	-	(79,413,599)	-	-	-	-
TOTAL RATE BASE ADJ.	(69,422,638)		(36,991,622)	(30,354,388)	29,536	(67,316,474)	-	-	-	-
TOTAL RATE BASE	252,028,683		159,851,244	88,814,107	29,536	248,694,888	-	-	-	-

Functional Cost Study
Account Detail

Docket No.DG17-048
Attachment DAH-3
Page 4 of 14

Account Description	Amount	Alloc. Factor	LPG & LNG				Misc			
			DEM	CUS	COM	TOTAL	DEM	CUS	COM	TOTAL
General Plant										
Land & Land Rights	-	0	-	-	-	-	-	-	-	-
Structures & Improvements	(3,369,744) LABOR		(137,308)	-	-	(137,308)	-	-	-	-
Office Furniture & Equipment	(510,622) LABOR		(20,806)	-	-	(20,806)	-	-	-	-
Transportation Equipment	(807,510) LABOR		(32,904)	-	-	(32,904)	-	-	-	-
Stores Equipment	(28,007) LABOR		(1,141)	-	-	(1,141)	-	-	-	-
Tools, Shop & Garage Equip.	(641,731) LABOR		(26,149)	-	-	(26,149)	-	-	-	-
Laboratory Equip.	- LABOR		-	-	-	-	-	-	-	-
Power Operated Equip.	(665,676) LABOR		(27,124)	-	-	(27,124)	-	-	-	-
Communication Equip.	(240,750) LABOR		(9,810)	-	-	(9,810)	-	-	-	-
Miscellaneous Equip.	(156,784) LABOR		(6,389)	-	-	(6,389)	-	-	-	-
Other	(133,284) PLANT		(4,068)	-	-	(4,068)	-	-	-	-
Sub-total	(6,554,108)		(265,698)	-	-	(265,698)	-	-	-	-
TOTAL DEPRECIATION ACCRUAL	(158,732,601)		(9,214,145)	-	-	(9,214,145)	-	-	-	-
NET PLANT	321,451,321		5,439,959	-	-	5,439,959	-	-	-	-
Rate Base Adjustments										
Additions										
Gas Materials and Supplies	6,948,817 PDGPLT		209,810	-	-	209,810	-	-	-	-
Cash Working Capital (Other)	2,725,860 OMEXPX		125,252	-	(135,016)	(9,765)	-	-	28,408	28,408
Prepayments	2,733,433 PDGPLT		82,532	-	-	82,532	-	-	-	-
Sub-total	12,408,110		417,594	-	(135,016)	282,577	-	-	28,408	28,408
Deductions										
Customer Deposits	(1,775,750) CUST		-	-	-	-	-	-	-	-
Accum. Deferred Income Taxes	(80,054,998) PDGPLT		(2,417,149)	-	-	(2,417,149)	-	-	-	-
Sub-total	(81,830,748)		(2,417,149)	-	-	(2,417,149)	-	-	-	-
TOTAL RATE BASE ADJ.	(69,422,638)		(1,999,555)	-	(135,016)	(2,134,571)	-	-	28,408	28,408
TOTAL RATE BASE	252,028,683		3,440,404	-	(135,016)	3,305,388	-	-	28,408	28,408

**Functional Cost Study
Account Detail**

Docket No.DG17-048
Attachment DAH-3
Page 5 of 14

Account Description	Amount	Alloc. Factor	Delivery Costs				Direct Gas Costs			
			DEM	CUS	COM	TOTAL	DEM	CUS	COM	TOTAL
EXPENSES										
O & M Expenses										
Production (LPG LNG) - Operation										
Supervision	333,238	DPROD	28,992	-	-	28,992	-	-	-	-
LPG - Production	263,598	DPROD	22,933	-	-	22,933	-	-	-	-
LPG - Materials	46,178	DPROD	4,017	-	-	4,017	-	-	-	-
Gas Mixing & Misc Exp - Keene	(23,701)	DPROD_K	(23,701)	-	-	(23,701)	-	-	-	-
Misc. Prod. Exp.	388,258	DPROD	33,778	-	-	33,778	-	-	-	-
Operation Labor & Expenses	2,543	DPROD	221	-	-	221	-	-	-	-
Other	4,296	DPROD	374	-	-	374	-	-	-	-
Indirect Expenses	(1,992,581)	INDIRECT	-	-	-	-	-	-	-	-
Sub-total	(978,172)		66,615	-	-	66,615	-	-	-	-
Production (LPG LNG) - Maintenance										
Maint. of Prod. Equip	72,133	DPROD	6,276	-	-	6,276	-	-	-	-
Sub-total	72,133		6,276	-	-	6,276	-	-	-	-
Total Production	(906,039)		72,890	-	-	72,890	-	-	-	-
Purchased Gas Expenses										
Gas Supply	-	GASCOST	-	-	-	-	-	-	-	-
Storage Gas	-	GASCOST	-	-	-	-	-	-	-	-
Other Gas Supply	-	GASSPLY	-	-	-	-	-	-	-	-
Sub-total	-		-	-	-	-	-	-	-	-
Distribution Operation Expenses										
Operation Supervision & Engineering	1,725,207	DISTOPX	1,333,485	391,722	-	1,725,207	-	-	-	-
Distribution Load Dispatch	252,649	DIST	252,649	-	-	252,649	-	-	-	-
Mains & Services Expenses	4,899,898	DIST	4,899,898	-	-	4,899,898	-	-	-	-
M&R Station Expenses - General	160,140	DIST	160,140	-	-	160,140	-	-	-	-
M&R Station Expenses - Industrial	14,536	DIST	14,536	-	-	14,536	-	-	-	-
Meter & House Regulator Expenses	1,800,052	CUST	-	1,800,052	-	1,800,052	-	-	-	-
Customer Installation Expenses	58,893	CUST	-	58,893	-	58,893	-	-	-	-
Other Expenses	988,828	DIST	988,828	-	-	988,828	-	-	-	-
Rents	12,098	DIST	12,098	-	-	12,098	-	-	-	-
Sub-total	9,912,299		7,661,633	2,250,667	-	9,912,299	-	-	-	-
Distribution Maintenance Expenses										
Maint. Supervision & Engineering	-	DISTMNX	-	-	-	-	-	-	-	-
Maint. of Structures & Improv.	123,257	DIST	123,257	-	-	123,257	-	-	-	-
Maint. of Mains	1,673,937	DIST	1,673,937	-	-	1,673,937	-	-	-	-
Maint. of M&R Station Equip. - General	55,977	DIST	55,977	-	-	55,977	-	-	-	-
Maint. of Services	678,014	CUST	-	678,014	-	678,014	-	-	-	-
Maint. of Meters & House Regulators	310,270	CUST	-	310,270	-	310,270	-	-	-	-
Maint. of Other Equip.	13,686	DIST	13,686	-	-	13,686	-	-	-	-
Sub-total	2,855,141		1,866,857	988,284	-	2,855,141	-	-	-	-
Total Distribution	12,767,440		9,528,489	3,238,951	-	12,767,440	-	-	-	-

Functional Cost Study
Account Detail

Docket No.DG17-048
Attachment DAH-3
Page 6 of 14

Account Description	Amount	Alloc. Factor	LPG & LNG				Misc			
			DEM	CUS	COM	TOTAL	DEM	CUS	COM	TOTAL
EXPENSES										
O & M Expenses										
Production (LPG LNG) - Operation										
Supervision	333,238	DPROD	304,246	-	-	304,246	-	-	-	-
LPG - Production	263,598	DPROD	240,665	-	-	240,665	-	-	-	-
LPG - Materials	46,178	DPROD	42,161	-	-	42,161	-	-	-	-
Gas Mixing & Misc Exp - Keene	(23,701)	DPROD_K	-	-	-	-	-	-	-	-
Misc. Prod. Exp.	388,258	DPROD	354,479	-	-	354,479	-	-	-	-
Operation Labor & Expenses	2,543	DPROD	2,322	-	-	2,322	-	-	-	-
Other	4,296	DPROD	3,922	-	-	3,922	-	-	-	-
Indirect Expenses	(1,992,581)	INDIRECT	-	-	(1,979,418)	(1,979,418)	-	-	(13,163)	(13,163)
Sub-total	(978,172)		947,795	-	(1,979,418)	(1,031,623)	-	-	(13,163)	(13,163)
Production (LPG LNG) - Maintenance										
Maint. of Prod. Equip	72,133	DPROD	65,857	-	-	65,857	-	-	-	-
Sub-total	72,133		65,857	-	-	65,857	-	-	-	-
Total Production	(906,039)		1,013,652	-	(1,979,418)	(965,766)	-	-	(13,163)	(13,163)
Purchased Gas Expenses										
Gas Supply	-	GASCOST	-	-	-	-	-	-	-	-
Storage Gas	-	GASCOST	-	-	-	-	-	-	-	-
Other Gas Supply	-	GASSPLY	-	-	-	-	-	-	-	-
Sub-total	-		-	-	-	-	-	-	-	-
Distribution Operation Expenses										
Operation Supervision & Engineering	1,725,207	DISTOPX	-	-	-	-	-	-	-	-
Distribution Load Dispatch	252,649	DIST	-	-	-	-	-	-	-	-
Mains & Services Expenses	4,899,898	DIST	-	-	-	-	-	-	-	-
M&R Station Expenses - General	160,140	DIST	-	-	-	-	-	-	-	-
M&R Station Expenses - Industrial	14,536	DIST	-	-	-	-	-	-	-	-
Meter & House Regulator Expenses	1,800,052	CUST	-	-	-	-	-	-	-	-
Customer Installation Expenses	58,893	CUST	-	-	-	-	-	-	-	-
Other Expenses	988,828	DIST	-	-	-	-	-	-	-	-
Rents	12,098	DIST	-	-	-	-	-	-	-	-
Sub-total	9,912,299		-	-	-	-	-	-	-	-
Distribution Maintenance Expenses										
Maint. Supervision & Engineering	-	DISTMNX	-	-	-	-	-	-	-	-
Maint. of Structures & Improv.	123,257	DIST	-	-	-	-	-	-	-	-
Maint. of Mains	1,673,937	DIST	-	-	-	-	-	-	-	-
Maint. of M&R Station Equip. - General	55,977	DIST	-	-	-	-	-	-	-	-
Maint. of Services	678,014	CUST	-	-	-	-	-	-	-	-
Maint. of Meters & House Regulators	310,270	CUST	-	-	-	-	-	-	-	-
Maint. of Other Equip.	13,686	DIST	-	-	-	-	-	-	-	-
Sub-total	2,855,141		-	-	-	-	-	-	-	-
Total Distribution	12,767,440		-	-	-	-	-	-	-	-

**Functional Cost Study
Account Detail**

Docket No.DG17-048
Attachment DAH-3
Page 7 of 14

Account Description	Amount	Alloc. Factor	Delivery Costs				Direct Gas Costs			
			DEM	CUS	COM	TOTAL	DEM	CUS	COM	TOTAL
Customer Account										
Supervision	199,462	CACCTX	-	199,462	-	199,462	-	-	-	-
Meter Reading	408,042	CUST	-	408,042	-	408,042	-	-	-	-
Customer Records & Collection	3,902,071	CUST	-	3,902,071	-	3,902,071	-	-	-	-
Uncollectable Accounts - Delivery	1,482,816	PREV_DEL	-	-	1,482,816	1,482,816	-	-	-	-
Uncollectable Accounts - Production	22,466	PREV_PROD	-	-	-	-	-	-	-	-
Misc. Customer Accounts	(19,398)	CUST	-	(19,398)	-	(19,398)	-	-	-	-
Sub-total	5,995,459		-	4,490,176	1,482,816	5,972,992	-	-	-	-
Customer Service & Information Expenses										
Customer Assistance Expense	-	CUST	-	-	-	-	-	-	-	-
Misc Customer Assistance Expense	2,521	CUST	-	2,521	-	2,521	-	-	-	-
Sub-total	2,521		-	2,521	-	2,521	-	-	-	-
Sales Expenses										
Demonstrating & Selling Expenses	160,782	CUST	-	160,782	-	160,782	-	-	-	-
Sub-total	160,782		-	160,782	-	160,782	-	-	-	-
Administrative and General Expenses										
Administrative & General Salaries	4,878,391	LABOR	2,358,944	2,320,666	-	4,679,610	-	-	-	-
A&G Salaries - Energy Procurement	641,584	GASSPLY	-	-	-	-	-	-	-	-
Office Supplies	1,219,159	LABOR	589,524	579,958	-	1,169,482	-	-	-	-
Office Supplies - Energy Procurement	69,699	GASSPLY	-	-	-	-	-	-	-	-
A&G Transferred	(7,749,920)	AGxTRANSFER	(3,419,762)	(3,364,270)	(261,868)	(7,045,900)	-	-	-	-
A&G Transferred - Energy Procurement	(258,003)	GASSPLY	-	-	-	-	-	-	-	-
Outside Services	3,980,056	LABOR	1,924,555	1,893,325	-	3,817,880	-	-	-	-
Outside Serv. - Gas Acquisition	381,674	GASSPLY	-	-	-	-	-	-	-	-
Property Insurance	35,930	LABOR	17,374	17,092	-	34,466	-	-	-	-
Injuries & Damages	1,074,851	LABOR	519,744	511,310	-	1,031,053	-	-	-	-
Employee Pension & Benefits	7,227,581	LABOR	3,494,894	3,438,183	-	6,933,077	-	-	-	-
Regulatory Commission - Delivery	694,888	PREV_DEL	-	-	694,888	694,888	-	-	-	-
Regulatory Commission - Production	10,528	REG_COMM	-	-	-	-	-	-	-	-
Misc. General Expenses	70,770	LABOR	34,221	33,665	-	67,886	-	-	-	-
Office Rent	146,051	LABOR	70,623	69,477	-	140,100	-	-	-	-
Maintenance of General Plant	133,881	LABOR	64,738	63,687	-	128,426	-	-	-	-
Sub-total	12,557,120		5,654,855	5,563,093	433,020	11,650,967	-	-	-	-
TOTAL O & M EXPENSES	30,577,282		15,256,234	13,455,523	1,915,836	30,627,593	-	-	-	-
Labor Expense										
Production - Operation										
Supervision	299,027	DPROD	26,015	-	-	26,015	-	-	-	-
LPG - Production	13,574	DPROD	1,181	-	-	1,181	-	-	-	-
LPG - Materials	194,832	DPROD	16,950	-	-	16,950	-	-	-	-
Gas Mixing & Misc Exp - Keene	(9,365)	DPROD_K	(9,365)	-	-	(9,365)	-	-	-	-
Misc. Prod. Exp.	2,543	DPROD	221	-	-	221	-	-	-	-
Operation Labor & Expenses	-	DPROD	-	-	-	-	-	-	-	-
Sub-total	500,612		35,003	-	-	35,003	-	-	-	-
Production - Maintenance										
Maint. of Prod. Equip	-	DPROD	-	-	-	-	-	-	-	-
Sub-total	-		-	-	-	-	-	-	-	-
Total Production	500,612		35,003	-	-	35,003	-	-	-	-

**Functional Cost Study
Account Detail**

Docket No.DG17-048
Attachment DAH-3
Page 8 of 14

Account Description	Amount	Alloc. Factor	LPG & LNG				Misc			
			DEM	CUS	COM	TOTAL	DEM	CUS	COM	TOTAL
Customer Account										
Supervision	199,462	CACCTX	-	-	-	-	-	-	-	-
Meter Reading	408,042	CUST	-	-	-	-	-	-	-	-
Customer Records & Collection	3,902,071	CUST	-	-	-	-	-	-	-	-
Uncollectable Accounts - Delivery	1,482,816	PREV_DEL	-	-	-	-	-	-	-	-
Uncollectable Accounts - Production	22,466	PREV_PROD	-	-	14,822	14,822	-	-	7,645	7,645
Misc. Customer Accounts	(19,398)	CUST	-	-	-	-	-	-	-	-
Sub-total	5,995,459		-	-	14,822	14,822	-	-	7,645	7,645
Customer Service & Information Expenses										
Customer Assistance Expense	-	CUST	-	-	-	-	-	-	-	-
Misc Customer Assistance Expense	2,521	CUST	-	-	-	-	-	-	-	-
Sub-total	2,521		-	-	-	-	-	-	-	-
Sales Expenses										
Demonstrating & Selling Expenses	160,782	CUST	-	-	-	-	-	-	-	-
Sub-total	160,782		-	-	-	-	-	-	-	-
Administrative and General Expenses										
Administrative & General Salaries	4,878,391	LABOR	198,781	-	-	198,781	-	-	-	-
A&G Salaries - Energy Procurement	641,584	GASSPLY	-	-	-	-	-	-	641,584	641,584
Office Supplies	1,219,159	LABOR	49,677	-	-	49,677	-	-	-	-
Office Supplies - Energy Procurement	69,699	GASSPLY	-	-	-	-	-	-	69,699	69,699
A&G Transferred	(7,749,920)	AGxTRANSFER	(288,173)	-	-	(288,173)	-	-	(415,848)	(415,848)
A&G Transferred - Energy Procurement	(258,003)	GASSPLY	-	-	-	-	-	-	(258,003)	(258,003)
Outside Services	3,980,056	LABOR	162,176	-	-	162,176	-	-	-	-
Outside Serv. - Gas Acquisition	381,674	GASSPLY	-	-	-	-	-	-	381,674	381,674
Property Insurance	35,930	LABOR	1,464	-	-	1,464	-	-	-	-
Injuries & Damages	1,074,851	LABOR	43,797	-	-	43,797	-	-	-	-
Employee Pension & Benefits	7,227,581	LABOR	294,504	-	-	294,504	-	-	-	-
Regulatory Commission - Delivery	694,888	PREV_DEL	-	-	-	-	-	-	-	-
Regulatory Commission - Production	10,528	REG_COMM	-	-	-	-	-	-	10,528	10,528
Misc. General Expenses	70,770	LABOR	2,884	-	-	2,884	-	-	-	-
Office Rent	146,051	LABOR	5,951	-	-	5,951	-	-	-	-
Maintenance of General Plant	133,881	LABOR	5,455	-	-	5,455	-	-	-	-
Sub-total	12,557,120		476,517	-	-	476,517	-	-	429,635	429,635
TOTAL O & M EXPENSES	30,577,282		1,490,169	-	(1,964,596)	(474,427)	-	-	424,117	424,117
Labor Expense										
Production - Operation										
Supervision	299,027	DPROD	273,012	-	-	273,012	-	-	-	-
LPG - Production	13,574	DPROD	12,393	-	-	12,393	-	-	-	-
LPG - Materials	194,832	DPROD	177,882	-	-	177,882	-	-	-	-
Gas Mixing & Misc Exp - Keene	(9,365)	DPROD_K	-	-	-	-	-	-	-	-
Misc. Prod. Exp.	2,543	DPROD	2,322	-	-	2,322	-	-	-	-
Operation Labor & Expenses	-	DPROD	-	-	-	-	-	-	-	-
Sub-total	500,612		465,609	-	-	465,609	-	-	-	-
Production - Maintenance										
Maint. of Prod. Equip	-	DPROD	-	-	-	-	-	-	-	-
Sub-total	-		-	-	-	-	-	-	-	-
Total Production	500,612		465,609	-	-	465,609	-	-	-	-

**Functional Cost Study
Account Detail**

Docket No.DG17-048
Attachment DAH-3
Page 9 of 14

Account Description	Amount	Alloc. Factor	Delivery Costs				Direct Gas Costs			
			DEM	CUS	COM	TOTAL	DEM	CUS	COM	TOTAL
Distribution Operation Expenses										
Operation Supervision & Engineering	847,506	DISTOPX	655,073	192,433	-	847,506	-	-	-	-
Distribution Load Dispatch	215,372	DIST	215,372	-	-	215,372	-	-	-	-
Mains & Services Expenses	3,237,065	DIST	3,237,065	-	-	3,237,065	-	-	-	-
M&R Station Expenses - General	129,841	DIST	129,841	-	-	129,841	-	-	-	-
M&R Station Expenses - Industrial	9,569	DIST	9,569	-	-	9,569	-	-	-	-
Meter & House Regulator Expenses	1,521,556	CUST	-	1,521,556	-	1,521,556	-	-	-	-
Customer Installation Expenses	17,889	CUST	-	17,889	-	17,889	-	-	-	-
Other Expenses	468,781	DIST	468,781	-	-	468,781	-	-	-	-
Rents	-	DIST	-	-	-	-	-	-	-	-
Sub-total	6,447,579		4,715,701	1,731,879	-	6,447,579	-	-	-	-
Distribution Maintenance Expenses										
Maint. Supervision & Engineering	-	DISTMNX	-	-	-	-	-	-	-	-
Maint. of Structures & Improv.	83,216	DIST	83,216	-	-	83,216	-	-	-	-
Maint. of Mains	656,606	DIST	656,606	-	-	656,606	-	-	-	-
Maint. of M&R Station Equip. - General	30,851	DIST	30,851	-	-	30,851	-	-	-	-
Maint. of Services	367,661	CUST	-	367,661	-	367,661	-	-	-	-
Maint. of Meters & House Regulators	196,372	CUST	-	196,372	-	196,372	-	-	-	-
Maint. of Other Equip.	4,029	DIST	4,029	-	-	4,029	-	-	-	-
Sub-total	1,338,735		774,702	564,033	-	1,338,735	-	-	-	-
Total Distribution	7,786,315		5,490,403	2,295,912	-	7,786,315	-	-	-	-
Customer Account										
Supervision	185,091	CACCTX	-	185,091	-	185,091	-	-	-	-
Meter Reading	386,682	CUST	-	386,682	-	386,682	-	-	-	-
Customer Records & Collection	2,448,098	CUST	-	2,448,098	-	2,448,098	-	-	-	-
Uncollectable Accounts	-		-	-	-	-	-	-	-	-
Misc. Customer Accounts	-	CUST	-	-	-	-	-	-	-	-
Sub-total	3,019,870		-	3,019,870	-	3,019,870	-	-	-	-
Customer Service & Information Expenses										
Customer Assistance Expense	-	CUST	-	-	-	-	-	-	-	-
Misc Customer Assistance Expense	3,994	CUST	-	3,994	-	3,994	-	-	-	-
Sub-total	3,994		-	3,994	-	3,994	-	-	-	-
Sales Expenses										
Demonstrating & Selling Expenses	115,969	CUST	-	115,969	-	115,969	-	-	-	-
Sub-total	115,969		-	115,969	-	115,969	-	-	-	-
TOTAL O & M LABOR EXP.	11,426,760		5,525,406	5,435,745	-	10,961,151	-	-	-	-

Functional Cost Study
Account Detail

Docket No.DG17-048
Attachment DAH-3
Page 10 of 14

Account Description	Amount	Alloc. Factor	LPG & LNG				Misc			
			DEM	CUS	COM	TOTAL	DEM	CUS	COM	TOTAL
Distribution Operation Expenses										
Operation Supervision & Engineering	847,506	DISTOPX	-	-	-	-	-	-	-	-
Distribution Load Dispatch	215,372	DIST	-	-	-	-	-	-	-	-
Mains & Services Expenses	3,237,065	DIST	-	-	-	-	-	-	-	-
M&R Station Expenses - General	129,841	DIST	-	-	-	-	-	-	-	-
M&R Station Expenses - Industrial	9,569	DIST	-	-	-	-	-	-	-	-
Meter & House Regulator Expenses	1,521,556	CUST	-	-	-	-	-	-	-	-
Customer Installation Expenses	17,889	CUST	-	-	-	-	-	-	-	-
Other Expenses	468,781	DIST	-	-	-	-	-	-	-	-
Rents	-	DIST	-	-	-	-	-	-	-	-
Sub-total	6,447,579		-	-	-	-	-	-	-	-
Distribution Maintenance Expenses										
Maint. Supervision & Engineering	-	DISTMNX	-	-	-	-	-	-	-	-
Maint. of Structures & Improv.	83,216	DIST	-	-	-	-	-	-	-	-
Maint. of Mains	656,606	DIST	-	-	-	-	-	-	-	-
Maint. of M&R Station Equip. - General	30,851	DIST	-	-	-	-	-	-	-	-
Maint. of Services	367,661	CUST	-	-	-	-	-	-	-	-
Maint. of Meters & House Regulators	196,372	CUST	-	-	-	-	-	-	-	-
Maint. of Other Equip.	4,029	DIST	-	-	-	-	-	-	-	-
Sub-total	1,338,735		-	-	-	-	-	-	-	-
Total Distribution	7,786,315		-	-	-	-	-	-	-	-
Customer Account										
Supervision	185,091	CACCTX	-	-	-	-	-	-	-	-
Meter Reading	386,682	CUST	-	-	-	-	-	-	-	-
Customer Records & Collection	2,448,098	CUST	-	-	-	-	-	-	-	-
Uncollectable Accounts	-		-	-	-	-	-	-	-	-
Misc. Customer Accounts	-	CUST	-	-	-	-	-	-	-	-
Sub-total	3,019,870		-	-	-	-	-	-	-	-
Customer Service & Information Expenses										
Customer Assistance Expense	-	CUST	-	-	-	-	-	-	-	-
Misc Customer Assistance Expense	3,994	CUST	-	-	-	-	-	-	-	-
Sub-total	3,994		-	-	-	-	-	-	-	-
Sales Expenses										
Demonstrating & Selling Expenses	115,969	CUST	-	-	-	-	-	-	-	-
Sub-total	115,969		-	-	-	-	-	-	-	-
TOTAL O & M LABOR EXP.	11,426,760		465,609	-	-	465,609	-	-	-	-

**Functional Cost Study
Account Detail**

Docket No.DG17-048
Attachment DAH-3
Page 11 of 14

Account Description	Amount	Alloc. Factor	Delivery Costs				Direct Gas Costs			
			DEM	CUS	COM	TOTAL	DEM	CUS	COM	TOTAL
Depreciation Expense										
Intangible Plant										
Misc. Intangible Plant	2,378,512	LABOR	1,150,129	1,131,465	-	2,281,594	-	-	-	-
Sub-total	2,378,512		1,150,129	1,131,465	-	2,281,594	-	-	-	-
Production Plant										
Production Plant EN	389,879	DPROD	33,919	-	-	33,919	-	-	-	-
Production Plant Keene	66,241	DPROD_K	66,241	-	-	66,241	-	-	-	-
Sub-total	456,120		100,160	-	-	100,160	-	-	-	-
Other										
Depr Amort of Reserve Surplus	(933,588)	PLANT	(508,026)	(397,071)	-	(905,097)	-	-	-	-
Regulatory Debits	181,327	AGEXP	81,657	80,332	6,253	168,242	-	-	-	-
Amort. Of Regulatory Asset	3,854,214	LABOR	1,863,704	1,833,461	-	3,697,165	-	-	-	-
Ratemaking Adjustment	(1,325,000)	PDGPLT	(723,563)	(561,430)	-	(1,284,993)	-	-	-	-
Sub-total	1,776,953		713,772	955,292	6,253	1,675,317	-	-	-	-
Distribution Plant										
Land & Land Rights	-	0	-	-	-	-	-	-	-	-
M&R Stations	17,837	DIST	17,837	-	-	17,837	-	-	-	-
Mains	4,532,743	DIST	4,532,743	-	-	4,532,743	-	-	-	-
Compressor Station Equipment	141,154	DIST	141,154	-	-	141,154	-	-	-	-
Services	5,248,167	CUST	-	5,248,167	-	5,248,167	-	-	-	-
Meters & Installations	857,975	CUST	-	857,975	-	857,975	-	-	-	-
Meters Installations	449,468	CUST	-	449,468	-	449,468	-	-	-	-
Other Equipment	51,674	DIST	51,674	-	-	51,674	-	-	-	-
Sub-total	11,299,019		4,743,409	6,555,610	-	11,299,019	-	-	-	-
General Plant Plant										
Land & Land Rights	-	0	-	-	-	-	-	-	-	-
Structures & Improvements	642,361	LABOR	310,613	305,573	-	616,186	-	-	-	-
Office Furniture & Equipment	345,644	LABOR	167,136	164,424	-	331,560	-	-	-	-
Transportation Equipment	534,213	LABOR	258,319	254,127	-	512,446	-	-	-	-
Stores Equipment	3,311	LABOR	1,601	1,575	-	3,176	-	-	-	-
Tools, Shop & Garage Equip.	65,199	LABOR	31,527	31,015	-	62,542	-	-	-	-
Laboratory Equip.	-	0	-	-	-	-	-	-	-	-
Power Operated Equip.	131,974	LABOR	63,816	62,780	-	126,596	-	-	-	-
Communication Equip.	55,599	LABOR	26,885	26,449	-	53,334	-	-	-	-
Miscellaneous Equip.	24,986	LABOR	12,082	11,886	-	23,968	-	-	-	-
Sub-total	1,803,288		871,979	857,830	-	1,729,809	-	-	-	-
TOTAL DEPRECIATION EXPENSES	17,713,892		7,579,449	9,500,198	6,253	17,085,899	-	-	-	-
Taxes Other Than Income Taxes										
Payroll	1,713,204	LABOR	828,419	814,976	-	1,643,395	-	-	-	-
Property	9,181,806	PLANT	4,996,418	3,905,180	-	8,901,598	-	-	-	-
Sub-total	10,895,009		5,824,837	4,720,156	-	10,544,993	-	-	-	-
TOTAL TAXES OTHER THAN INCOME TAX	10,895,009		5,824,837	4,720,156	-	10,544,993	-	-	-	-
Operating Revenues										
Distribution Rate Revenue	70,681,266	CUR_REV	-	-	70,681,266	70,681,266	-	-	-	-
Late Payment Charges - Delivery	435,860	PREV_DEL	-	-	435,860	435,860	-	-	-	-
Late Payment Charges - Production	6,604	PREV_PROD	-	-	-	-	-	-	-	-
Connect/Reconnect Fees	400,285	CUST	-	400,285	-	400,285	-	-	-	-
Other Revenues	38,510	OTH_REV	-	-	38,510	38,510	-	-	-	-
Sub-total	71,562,525		-	400,285	71,155,636	71,555,921	-	-	-	-
TOTAL	71,562,525		-	400,285	71,155,636	71,555,921	-	-	-	-

**Functional Cost Study
Account Detail**

Docket No.DG17-048
Attachment DAH-3
Page 12 of 14

Account Description	Amount	Alloc. Factor	LPG & LNG				Misc			
			DEM	CUS	COM	TOTAL	DEM	CUS	COM	TOTAL
Depreciation Expense										
Intangible Plant										
Misc. Intangible Plant	2,378,512	LABOR	96,918	-	-	96,918	-	-	-	-
Sub-total	2,378,512		96,918	-	-	96,918	-	-	-	-
Production Plant										
Production Plant EN	389,879	DPROD	355,960	-	-	355,960	-	-	-	-
Production Plant Keene	66,241	DPROD_K	-	-	-	-	-	-	-	-
Sub-total	456,120		355,960	-	-	355,960	-	-	-	-
Other										
Depr Amort of Reserve Surplus	(933,588)	PLANT	(28,491)	-	-	(28,491)	-	-	-	-
Regulatory Debits	181,327	AGEXP	6,881	-	-	6,881	-	-	6,204	6,204
Amort. Of Regulatory Asset	3,854,214	LABOR	157,049	-	-	157,049	-	-	-	-
Ratemaking Adjustment	(1,325,000)	PDGPLT	(40,007)	-	-	(40,007)	-	-	-	-
Sub-total	1,776,953		95,432	-	-	95,432	-	-	6,204	6,204
Distribution Plant										
Land & Land Rights	-	0	-	-	-	-	-	-	-	-
M&R Stations	17,837	DIST	-	-	-	-	-	-	-	-
Mains	4,532,743	DIST	-	-	-	-	-	-	-	-
Compressor Station Equipment	141,154	DIST	-	-	-	-	-	-	-	-
Services	5,248,167	CUST	-	-	-	-	-	-	-	-
Meters & Installations	857,975	CUST	-	-	-	-	-	-	-	-
Meters Installations	449,468	CUST	-	-	-	-	-	-	-	-
Other Equipment	51,674	DIST	-	-	-	-	-	-	-	-
Sub-total	11,299,019		-	-	-	-	-	-	-	-
General Plant Plant										
Land & Land Rights	-	0	-	-	-	-	-	-	-	-
Structures & Improvements	642,361	LABOR	26,174	-	-	26,174	-	-	-	-
Office Furniture & Equipment	345,644	LABOR	14,084	-	-	14,084	-	-	-	-
Transportation Equipment	534,213	LABOR	21,768	-	-	21,768	-	-	-	-
Stores Equipment	3,311	LABOR	135	-	-	135	-	-	-	-
Tools, Shop & Garage Equip.	65,199	LABOR	2,657	-	-	2,657	-	-	-	-
Laboratory Equip.	-	0	-	-	-	-	-	-	-	-
Power Operated Equip.	131,974	LABOR	5,378	-	-	5,378	-	-	-	-
Communication Equip.	55,599	LABOR	2,266	-	-	2,266	-	-	-	-
Miscellaneous Equip.	24,986	LABOR	1,018	-	-	1,018	-	-	-	-
Sub-total	1,803,288		73,479	-	-	73,479	-	-	-	-
TOTAL DEPRECIATION EXPENSES	17,713,892		621,789	-	-	621,789	-	-	6,204	6,204
Taxes Other Than Income Taxes										
Payroll	1,713,204	LABOR	69,808	-	-	69,808	-	-	-	-
Property	9,181,806	PLANT	280,208	-	-	280,208	-	-	-	-
Sub-total	10,895,009		350,016	-	-	350,016	-	-	-	-
TOTAL TAXES OTHER THAN INCOME TAX	10,895,009		350,016	-	-	350,016	-	-	-	-
Operating Revenues										
Distribution Rate Revenue	70,681,266	CUR_REV	-	-	-	-	-	-	-	-
Late Payment Charges - Delivery	435,860	PREV_DEL	-	-	-	-	-	-	-	-
Late Payment Charges - Production	6,604	PREV_PROD	-	-	4,357	4,357	-	-	2,247	2,247
Connect/Reconnect Fees	400,285	CUST	-	-	-	-	-	-	-	-
Other Revenues	38,510	OTH_REV	-	-	-	-	-	-	-	-
Sub-total	71,562,525		-	-	4,357	4,357	-	-	2,247	2,247
TOTAL	71,562,525		-	-	4,357	4,357	-	-	2,247	2,247

**Functional Cost Study
External Allocation Factors**

Docket No. DG17-048
Attachment DAH/FCOS-3
Page 13 of 14

Name	Description		Total	Delivery Costs	Direct Gas Costs	Production Costs	Misc. Costs
DEMAND ALLOCATORS							
LPG_LNG	Production	DEM					
	Test Yr with K&N		1	0.00%	0.00%	100.00%	0.00%
						1	
DIST	Distribution	DEM					
	Test Yr with K&N		1	100.00%	0.00%	0.00%	0.00%
				1			
DPROD	Delivery & Production	DEM					
	Test Yr with K&N		1	8.70%	0.00%	91.30%	0.00%
				0.087		0.913	
DPROD_K	Keene Production	DEM					
	Test Yr with K&N		1	100.00%	0.00%	0.00%	0.00%
				1			
CUSTOMER ALLOCATORS							
CUST	Distribution Customer	CUS					
	Test Yr with K&N		1	100.00%	0.00%	0.00%	0.00%
				1			
COMMODITY ALLOCATORS							
PROPANE	Propane Commodity	COM					
	Test Yr with K&N		1	0.00%	0.00%	100.00%	0.00%
						1	
LNG	LNG Commodity	COM					
	Test Yr with K&N		1	0.00%	0.00%	100.00%	0.00%
						1	
GASCOST	Allocated Gas Costs	COM					
	Test Yr with K&N		1	0.00%	100.00%	0.00%	0.00%
					1		
GASSPLY	Gas Supply	COM					
	Test Yr with K&N		1	0.00%	0.00%	0.00%	100.00%
							1
CUR_REV	Revenues at Current Rates	COM					
	Test Yr with K&N		70,681,266	100.00%	0.00%	0.00%	0.00%
				70,681,266	-	-	-
PROP_REV	Proposed Revenues	COM					
	Test Yr with K&N		85,311,887	98.51%	0.00%	0.98%	0.51%
				84,038,599		840,021	433,267
PREV_DEL	Proposed Revenues Delivery	COM					
	Test Yr with K&N		1	100.00%	0.00%	0.00%	0.00%
				1			
PREV_PROD	Proposed Production Revenue	COM					
	Test Yr with K&N		1,273,288	0.00%	0.00%	65.97%	34.03%
						840,021	433,267
INDIRECT	Settlement Indirect Expenses	COM					
	Test Yr with K&N		(1,993,598)	0.00%	0.00%	99.34%	0.66%
						(1,980,428)	(13,170)
REG_COMM	Production Regulatory Comm. Exp	COM					
	Test Yr with K&N		1	0.00%	0.00%	0.00%	100.00%
							1
OTH_REV	Other Revenue	COM					
	Test Yr with K&N		1	100.00%	0.00%	0.00%	0.00%
				1			

**Functional Cost Study
Internal Allocators**

Allocator							
Name	Description	Total	Delivery Costs	Direct Gas Costs	Production Costs	Misc. Costs	
PLANT	Total Plant in Service Percent	480,183,923 100.00%	465,529,818 96.95%	- 0.00%	14,654,104 3.05%	- 0.00%	
OMEXPX	TOI and O&M Exp. excl. gas costs & uncollectible Percent	39,962,714 100.00%	39,689,396 99.32%	- 0.00%	(143,155) -0.36%	416,472 1.04%	
PRODOEXP	Production Operations Expenses Percent	681,172 100.00%	37,623 5.52%	- 0.00%	643,549 94.48%	- 0.00%	
PRODMNTX	Production Maintenance Expenses Percent	72,133 100.00%	6,276 8.70%	- 0.00%	65,857 91.30%	- 0.00%	
DISTOPX	Distribution Operations Expense Percent	8,187,092 100.00%	8,187,092 100.00%	- 0.00%	- 0.00%	- 0.00%	
DISTMNX	Distribution Maintenance Expense Percent	2,855,141 100.00%	2,855,141 100.00%	- 0.00%	- 0.00%	- 0.00%	
CACCTX	Customer Accounting Expenses Percent	4,290,715 100.00%	4,290,715 100.00%	- 0.00%	- 0.00%	- 0.00%	
LABOR	Labor expense excluding A&G Percent	11,426,760 100.00%	10,961,151 95.93%	- 0.00%	465,609 4.07%	- 0.00%	
GENPLT	General Plant Percent	30,610,544 100.00%	29,363,248 95.93%	- 0.00%	1,247,295 4.07%	- 0.00%	
AGxTRANSFER	A&G Expenses excluding transfer Percent	20,565,043 100.00%	18,696,867 90.92%	- 0.00%	764,690 3.72%	1,103,486 5.37%	
AGEXP	Total A&G Expense Percent	12,557,120 100.00%	11,650,967 92.78%	- 0.00%	476,517 3.79%	429,635 3.42%	
DISTRPLT	Distribution Plant Percent	420,465,832 100.00%	420,465,832 100.00%	- 0.00%	- 0.00%	- 0.00%	
RTBASE	Rate Base Percent	252,028,683 100.00%	248,694,888 98.68%	- 0.00%	3,305,388 1.31%	28,408 0.01%	
PDGPLT	Production, Distribution & General Plant Percent	465,438,034 100.00%	451,384,784 96.98%	- 0.00%	14,053,250 3.02%	- 0.00%	