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ORIGINAL

N.H.P.U.C. Docket No. DG 12-071

Date: 04/19/12

Exhibit No. 3

Witness Brian R. Maloney

DO NOT REMOVE FROM FILE

April 16, 2011

VIA FEDERAL EXPRESS

Alexander F. Speidel
Staff Attorney
State of New Hampshire
Public Utilities Commission
21 S Fruit Street, Suite 10
Concord, New Hampshire 03301-2429

Re: New Hampshire Gas Corporation: DG 12-071

Dear Attorney Speidel:

Enclosed on behalf of New Hampshire Gas Corporation, in the above-captioned proceeding, please find New Hampshire Gas Corporation's Responses to the Commission Staff's First Set of Data Requests.

If you require further information, or have any questions, do not hesitate to contact me.

Sincerely,



Meabh Purcell

cc: Librarian, NHPUC
Stephen Frink, NHPUC
Robert Wyatt, NHPUC
Mark Naylor, NHPUC
Amanda Noonan, Consumer Affairs Director, NHPUC
Brian Maloney, Rochester Gas and Electric Corporation

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NEW HAMPSHIRE GAS CORPORATION
DG-12-071 SUMMER 2012 COST OF GAS ADJUSTMENT

DATA RESPONSES - SET NO. 1

Date Request Received: 04/11/12

Date of Response: 04/16/12

Request No.: Staff 1-1

Witness: Brian Maloney

REQUEST:

1. Re. page 4, line 13 of testimony and Schedule C, Column 5. The testimony references an additional cost for supplier charges that are added to the spot propane purchase unit cost as reflected in Schedule C, Column 5. This is the first time supplier charges have been identified and included in a cost of gas forecast.

a. Please provide a detailed explanation of what is the basis for the charges, which entity in the supply chain is billing these charges, and why these charges are now being assessed to NHGC.

b. Please provide a specific letter agreement, contract, FERC tariff pages or some other form of supporting documentation for these charges.

RESPONSE:

1a. The supplier charge is the Company's estimate of the mark-up embedded by our supplier into our spot market purchase price per gallon to cover the cost of their services. Their supply procurement services include, but are not limited to, the following items:

- Full-service purchase transactions of spot propane from supply points
- Trucking arrangements from pipeline terminals to plant and storage facility
- Expertise in locating and obtaining lowest-cost supply alternatives
- Expertise and contacts to secure propane from other supply points when primary pipelines/terminals are non-operational, on allocation, or not price-competitive.
- Expertise in timing of purchases
- Certainty in meeting supply and storage requirements, regardless of propane supply and allocation issues

These estimated supplier charges are not newly assessed to the Company. Rather, it is the first time the Company has included an estimate of this cost component in its price per gallon projections. This was done in an effort to more accurately forecast our ultimate invoice price for spot propane purchases at any given level of Mt. Belvieu spot prices.

1b. There is no documentation available to support the estimated supplier charge. The supplier charge is the Company's best effort at estimating the supplier mark-up embedded in the invoice price of spot market purchases.

NEW HAMPSHIRE GAS CORPORATION
DG-12-071 SUMMER 2012 COST OF GAS ADJUSTMENT

DATA RESPONSES - SET NO. 1

Date Request Received: 04/11/12

Date of Response: 04/16/12

Request No.: Staff 1-2

Witness: Brian Maloney

REQUEST:

2. Re. page 6, line 12 of the testimony, where it notes that the Company believes that the estimated premium of \$0.0772 per gallon, associated with pre-purchased volumes was reasonable. Last year this premium was \$0.0567 per gallon and two years ago the premium was \$0.0483 per gallon. Considering this premium cost per gallon has increased by 60 percent in two years does the Company have a benchmark for what it would consider unreasonable for this added cost per gallon? Do the suppliers provide any basis for the premium cost per gallon increase?

RESPONSE:

The Company does not have a specific benchmark to determine whether the estimated premium cost per gallon for the pre-purchased volumes is reasonable. The Company sends requests for proposals to all suppliers known to us that may be interested in providing the hedging services required under our Propane Purchasing Stabilization Plan. The Company generally chooses the lowest-cost bidder from suppliers submitting conforming responses, although we retain the right to consider other factors in the selection process.

It is conceivable that a point could be reached in which the estimated premium for the pre-purchased volumes may be deemed to outweigh the benefits of entering into such a program. The benefits consist of less volatility in the winter cost of gas rate and facilitation of a fixed price option for customers. As this decision would involve a good deal of subjectivity, the Company would thoroughly analyze it with Staff.

The suppliers do not provide any basis for the estimated premium increase over the three year period cited above.

NEW HAMPSHIRE GAS CORPORATION
DG-12-071 SUMMER 2012 COST OF GAS ADJUSTMENT
DATA RESPONSES - SET NO. 1

Date Request Received: 04/11/12

Date of Response: 04/16/12

Request No.: Staff 1-3

Witness: Brian Maloney

REQUEST:

3. Re. Schedule A, conversion factor. A table of energy conversion factors published by the American Gas Association uses an accepted industry standard of 91,600 Btu/gallon as the comparative thermal value for propane. Please provide support for the Company using 91,502 Btu/gallon in its cost of gas conversion calculations.

RESPONSE:

The company uses the Btu/gallon factor identical to the value displayed in the following table as reported by the National Propane Gas Association.

APPENDIX

Approximate Properties Of LP-Gases (Commercial Propane)			
Specific gravity of liquid at 60 degrees F	0.504	Latent heat of vaporization at boiling point:	
Initial boiling point at 14.7 ps-a, degrees F	-44.0	(a) Btu per pound	184
Weight per gallon of liquid at 60 degrees F, lb	4.20	(b) Btu per gallon	773
Specific heat of liquid, Btu/lb. At 60 degrees F	0.630	Total heating values after vaporization:	
Cubic ft. of vapor per gallon at 60 degrees F	36.38	(a) Btu per cubic foot	2,488
Cubic ft. of vapor per pound at 60 degrees F	6.26	(b) Btu per pound	21,548
Specific gravity of vapor (air=1) at 60 degrees F	1.50	(c) Btu per gallon	91,502
Ignition temperature in air, degrees F	920-1120	Molecular weight	44.094
Maximum flame temperature in air, degrees F	3,525	Chemical formula	C ₃ H ₈
Limits of flammability in air:		Vapor pressure in psig	
Percent of vapor in air-gas mixture			
(a) Lower	2.15	70 degrees F	127
(b) Upper	9.60	100 degrees F	196
		105 degrees F	210
		130 degrees F	287

NFPA 58 Liquefied Petroleum Gas Code, 1998 Edition, Table B-1.2

NPGA #3325
Rev. 4/10/01

Alternatively, the following table published by the U.S. Department of Energy places the Btu/gallon factor at 91,330.

Table 1: Average Btu Content of Fuels

Fuel Type	No. of Btu/Unit
Fuel Oil (No. 2)	140,000/gallon
Electricity	3,412/kWh
Natural Gas	1,025,000/thousand cubic feet
Propane	91,330/gallon
Wood (air dried)*	20,000,000/cord or 8,000/pound
Pellets (for pellet stoves; premium)	16,500,000/ton
Kerosene	135,000/gallon
Coal	28,000,000/ton

A third value, as stated in Staff's question, is the American Gas Association's factor of 91,600 Btu/gallon.

A minor amount of variation is apparent in the measured values from various sources. New Hampshire Gas Corporation has used the factor of 91,502 Btu/gallon in its conversion calculations for many years.

It should be noted that the Company measures the gas consumed by customers at their meter in hundred cubic feet (ccf), and converts this usage to therms using the tariff conversion factor of 0.74 therms/ccf (Tariff Page 21).