STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

In the matter of

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities

Docket No. DG 15-289

Petition for Approval of Franchise in City of Lebanon and Town of Hanover

DIRECT TESTIMONY

OF

Dr. Pradip K. Chattopadhyay
Assistant Consumer Advocate/Rate and Market Policy Director

January 22, 2016

Q. Please state your name, business address and occupation.

A. My name is Pradip K. Chattopadhyay. My business address is 21 South Fruit Street, Suite 18, Concord, New Hampshire. I am employed as the Assistant Consumer Advocate/Rate and Market Policy Director with the New Hampshire Office of Consumer Advocate (OCA).

Q. Please describe your formal education and professional experience.

A. I have a Ph.D. in Economics from the University of Washington, Seattle, which I earned in 1997. I have also taken courses in City and Regional Planning with applications to Energy Planning from Ohio State University in 2001-02. I have taught several courses in economics at the University of Washington as an instructor and adjunct faculty at its Business School. I am also associated with the Southern New Hampshire University (SNHU) as an adjunct faculty, where I teach several courses in economics.

From March 1998 to October 1999, I was a consultant with the National Council of Applied Economic Research, New Delhi, India. From November 1999 to August 2001, I was the Economist at the Uttar Pradesh Electricity Regulatory Commission (UPERC) in India, and advised UPERC on tariff issues. From September 2001 to June 2002, I worked at the National Regulatory Research Institute, Columbus, Ohio, as a graduate research associate while pursuing advanced courses in Energy Planning in the City and Regional Planning Program at Ohio State University. From June 2002 to July 2002, I worked at the World Bank, Washington D.C. as a short-term consultant/intern with its Energy and Water Division.

I worked at the New Hampshire Public Utilities Commission (Commission) from August 2002 to January 2007 in the capacity of a utility analyst. My responsibilities at the Commission as an analyst were in electric utility issues including analyzing and advising the Commission on rate design, cost of capital issues, wholesale market issues, and other regional matters. I briefly worked at the Massachusetts Department of Telecommunications and Energy (later reorganized into Department of Public Utilities (MA-DPU)) starting in January 2007 as an Economist. At MA-DPU, I represented the staff and examined gas demand estimation and forecasting, decoupling issues, and environmental remediation matters. I returned to the Commission in June 2007 to join its Telecom Division as its Assistant Director, and continued in that position until December 2010. I was also helping other divisions as an expert witness in economics-related issues as well as advising the Commission on regional electric matters including FERC jurisdictional issues. I joined the Commission's Regional Energy Division in January 2010 as the Regional Energy Analyst, and was advising the Commission in that capacity until I joined the Antitrust and Utilities Division, Office of the Minnesota Attorney General, in August 2013. I came back to New Hampshire in March 2014 and worked as an individual consultant until the end of August, 2014, representing the Minnesota Attorney General. I joined Liberty Utilities at the end of August, 2014 as a Forecasting Analyst for its Energy Procurement Department. I worked with Liberty Utilities for about three months, before starting my own consultancy firm. In December 2014, I joined the OCA as its Rate and Market Policy Director. I was later appointed the Assistant Consumer Advocate.

Q. Have you previously provided testimony before this Commission?

A. Yes.

Q. In which dockets did you provide testimonies before this Commission?

A. I provided testimony before the Commission in the following dockets:

- DE 03-200 – rate design testimony which was about delivery rates for retail ratepayers of Public Service of New Hampshire (PSNH);
- DE 06-028 - cost of capital testimony which was also about PSNH's delivery rates;
- DT 07-027 - competition testimony in retail telephony;
- DG 08-009 - cost of equity testimony which related to gas delivery rates of National Grid NH;
- DE 09-035 - cost of equity testimony in the matter of electric distribution rates (PSNH).
- DG 14-380 – approval of firm transportation agreement (Liberty Utilities)
- DG 15-155 – Petition by Valley Green, LLC requesting franchise in City of Lebanon and Town of Hanover, New Hampshire

Q. Have you ever provided testimonies and affidavits before other Commissions?

A. Yes. I have testified on cost of capital before the Minnesota Public Utilities Commission in dockets G008/GR-13-316 and GR 13-617. I have also provided an affidavit before the Federal Energy Regulatory Commission in a FERC Docket ER 09-14-000 on NSTAR's petition for ROE incentive adders on behalf of the New England Conference of Public Utilities Commissioners (NECPUC).

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to state the OCA's position on the petition by Liberty Utilities requesting a franchise in the City of Lebanon and Town of Hanover, as it particularly relates to the interests of residential customers.

Q. Please briefly summarize the OCA's position

A. The OCA finds that without a demonstrated need, through commitments from anchor customers, the requested franchise does not appear to be a viable business proposition. We also contend, in the event of granting such a franchise, the Commission should carefully address the issue of prudency of investment, and should ensure that the risk associated with imprudent built-up remain with the investors and not the ratepayers. Additionally, we observe that having the same distribution rates for all customers in a class (we are especially concerned about residential customers) needs careful review of standalone costs associated with the new franchise to ensure that doing such would be just and reasonable for both preexisting ratepayers and the ratepayers in the new franchise.

Q. Please briefly discuss the Company's request for the aforementioned franchise

A. The franchise request involves Liberty Utilities procuring LNG and CNG supplies and distributing them as natural gas to end customers through an "off pipeline" distribution system, which consists of conventional underground pipelines, service risers and meters, *as well as* a fueling facility to supply the distribution system with natural gas. The fueling facility will consist of "an LNG storage and vaporization facility along with a CNG decompression facility to supply the natural gas to the distribution system and customers."[1] Liberty Utilities has already determined the site of the fueling facility. An important element of Liberty Utilities' petition is that the distribution rates for the requested franchise are proposed to be the same as the rates currently in place for Liberty Utilities at large. For greater detail see the pre-filed direct testimonies of the Company's witnesses.

[1] See William J. Clark Testimony, pages 4 of 16 and 5 of 16.

Q. Has Liberty Utilities secured commitments from any anchor customer from the Lebanon and Hanover area yet?

A. No. The Company has stated that it expects to enter into special contracts with potentially three anchor customers. At this point, there is no evidence that such contracts have been secured. In responding to data requests Staff 2-3 and Staff 2-4 (See Attachment 1), the Company states that even without any anchor customers it expects to successfully operate a smaller scalable facility and distribution system to meet its revenue requirement.

Q. Does Liberty Utilities project natural gas service for residential customers in the near future?

A. Yes. In response to data request 3-9 (see Attachment 2), the Company indicates that [redacted]

Q. Do you agree with the Company's assertion that even without any anchor customers it can operate a smaller scalable facility and the distribution system to meet its revenue requirement?

A. No. Even based on the Company's own analysis, that reasonably assumes per customer demand for residential and commercial and industrial (C&I) customers to be the class averages based on recent experience, it does not appear that the Company's assertion is correct.

Q. Please elaborate.

A. The Company's position with respect to the viability of the franchise without anchor customers, as depicted in response to data request Staff 2-3 (and related follow up response to Staff 3-6 (Attachment 3)), is predicated on [redacted] (see Attachment 3).

Q. Have you analyzed the viability of the "no anchor customer" scenario even under the Company's assumptions with respect to C&I customers for 2018? If so, please discuss your findings.

A. I have. [redacted]

[redacted] Even for 2018, the "no anchor customer" scenario is not economic under the company's proposed minimum LNG/CNG fueling capacity build-out.

Q. Do you have additional observations with respect to the "no anchor customer" analysis conducted by Liberty Utilities?

A. Yes. It is the OCA's contention that Liberty Utilities' projection on the number of residential customers appears to be overly optimistic. Liberty Utilities has the burden to show [redacted], as assumed in its analysis. The OCA contends that the analysis is lacking in the Company's petition. The projection of growth in residential customers appears even more suspect given how the recent economic realities make the case for natural gas service less attractive than what may have been expected even a few months ago. Oil and propane prices have decreased significantly compared to what was observed even in September 2015 (see Company's response to data request DR 2-1, Page 9 of 22(Attachment 4)). Low fuel prices changes the dynamics of how readily existing customers of propane and oil will switch to natural gas service quite significantly and perceptibly to the disadvantage of CNG and LNG. Careful identification of existing residential customers and new residential customers along the route of the proposed distribution pipeline and their characteristics (current fuel source, the age of existing boilers, fixed costs associated with switching etc.) will inform the estimate of the potential for interest in natural gas service. While natural gas service may be more readily attractive to new residential customers, for pre-existing households the interest in switching will be strongly influenced by the current energy market realities and burden of switching costs, and their expectations about future energy

[2] [redacted]

prices. The Company needs to undertake a thorough analysis to examine the viability of the requested franchise. For the reasons discussed above, it is the OCA's assertion that as a threshold, the Company must secure sufficient commitments from anchor customers before its franchise request is considered for approval by the Commission.

Q. Are there additional points that the OCA wants to share?

A. Yes. First, if the Commission grants the requested franchise, it should ensure that the risks associated with imprudent investment are solely on the investors. Starting a franchise involves investment. If the Commission grants the requested franchise to Liberty Utilities, it should carefully address the issue of what constitutes prudent investment. It should be understood right from the beginning that the Company will have to demonstrate the prudency of such investment. Any imprudent investment must be at the investors' risk, and should not be borne by ratepayers. We urge the Commission to convey that message unequivocally and be vigilant to that effect.

Second, in granting an additional franchise to an existing utility, it is important to estimate the standalone costs associated with the new franchise. We do not believe that Liberty Utilities has conducted that analysis satisfactorily. To the extent the costs associated with a uniquely "off pipeline" distribution system differs from the rest of the utility's distribution network, it is possible that the unit distribution cost of serving a customer under the new franchise is greater than that of serving a customer in the pre-existing utility-footprint. One cannot rule out the possibility that a uniform rate structure for the entire class of customers (subsuming the new franchise) will necessitate customers in the preexisting utility-footprint cross-subsidizing new customers in the franchise. The reverse scenario is also possible. Regardless, we urge the

Commission to carefully analyze whether existing distribution rates are reasonable for the requested franchise, if it determines that granting the franchise to the utility is in public interest.

Q. Do you have any additional observation?

A. I do. Whether the requested franchise is in public interest requires understanding the rate impact of company investments on each and every customer class, including the residential customer class. With demonstrable need, i.e., sufficient commitment initially from anchor customers (regardless of the class), the reasonableness of resulting rates for all customer classes is more likely.

Q. Does this conclude your testimony?

A. Yes.

REDACTED

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities

DG 15-289
Petition for Approval of a Gas Franchise for Lebanon and Hanover, New Hampshire

Staff Data Requests - Set 2

Date Request Received: 10/21/15	Date of Response: 11/2/15
Request No. Staff 2-3	Respondent: William J. Clark

REQUEST:

Ref. Staff DR 1-1. Please explain how the break-even point was determined and provide supporting Excel schedules.

RESPONSE:

Pursuant to Puc 203.08, the Company has a good faith basis for seeking confidential treatment of information contained in this response. The Company will submit a motion for confidential treatment regarding this information at or before the commencement of the final hearing in this proceeding.

As stated in the response to Staff 1-1, revenue and break-even point are components of customer connections and yearly throughput. Staff 1-1 asked for estimated revenues and break-even. To answer this request as asked, Liberty utilized certain assumptions which are:

- Land acquisition costs of [redacted]
- Initial scalable LNG/CNG construction of between [redacted] million and [redacted] million
- Distribution system construction of approximately $6 million over the first two years
- An estimated revenue requirement of between 12% and 15% (to include return, taxes, depreciation and operating expenses)

These assumptions would result in an initial rate base of between [redacted] million and [redacted] million. This would result in an annual revenue requirement of between [redacted] and [redacted]. Another assumption utilized to answer DR 1-1 was the customer base would be made up of R-3, G-41 and G-42 accounts initially. Estimated customer charges would contribute approximately $250,518 annually (R-3 at 400, G-41 at 100 and G-42 at 50). Distribution rates for these accounts average approximately $3.20 per dth. After accounting for customer charges, the annual revenue requirement associated with distribution charges would need to be approximately [redacted] and [redacted]. Utilizing the average distribution charge of $3.20 per dth stated above and no CIAC payments from customers, break-even would occur between [redacted] and [redacted] dth.

Docket No. DG 15-289 Request No. Staff 2-3

In the response to Staff 1-1, it was stated that break-even would occur between 200,000 and 400,000 ADTH. Those calculations included only the first year estimate of distribution system construction of $3 million.

Liberty firmly believes that a smaller scale facility with decreased infrastructure sizing and without any anchor customers is still economically feasible and would generate sufficient revenue to meet revenue requirements.

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities

DG 15-289
Petition for Approval of a Gas Franchise for Lebanon and Hanover, New Hampshire

Staff Data Requests - Set 2

Date Request Received: 10/21/15
Request No. Staff 2-4

Date of Response: 11/2/15
Respondent: William J. Clark
Steven E. Mullen

REQUEST:

Ref. Staff DR 1-2. Please provide a revenue requirement (with supporting Excel schedules) based on expected plant investments (broken out by major cost categories, miles and diameter of mains, applicable depreciation rates and the CIBS rate of return), expected annual sales (ADTH), and estimated annual margins under the following scenarios:

a. Intial build out with no anchor customers
b. Kleen Laundry as the only anchor customer
c. Kleen and DHMC as anchor customers
d. Kleen, DHMC and Dartmouth College as anchor customers

RESPONSE:

a. Please see the response to Staff 2-3. This response shows that a smaller, scalable facility and distribution system is economic and can produce sufficient revenue to meet the revenue requirement without the three potential anchor tenants.

b.-d. Liberty intends to enter into special contracts with the three potential anchor customers. These special contracts will offer Liberty and its customers protections for the costs associated with the facility and distribution system construction required to serve them. The special contracts will also be designed to meet the revenue requirement for all incremental facilities needed to serve these customers. Two of these customers would be dual-fuel and Liberty envisions take-or-pay requirements as part of a special contract. Another factor would be how many days of peak capacity storage they would desire. Yet another factor would be the pressure requirements of these customers and the resulting impact on distribution pipe size. Liberty will be evaluating whether increased pipe size or a CNG pressure support at another location would be more economical. Until these design/engineering parameters are completed and terms of the special contracts negotiated, Liberty cannot provide a revenue requirement for scenarios b., c., and d. As these designs are finalized Liberty will share that data with Staff. All special contracts will also be filed with the PUC for approval before construction begins for dedicated facilities required to serve these customers.

REDACTED

[redacted]

REDACTED

[redacted]

REDACTED

Capital Investments

Low High

Land Acquisition [redacted]
LNG/CNG construction
Distribution (direct)

Rate Base (low) [redacted] (high)

[redacted]

Distribution Revenues

Customer Charges [redacted]
Distribution charges p/dth

[redacted]

Hi/Lo Distributionthroughput [redacted]
breakeven with no CIAC's

Natural Gas vs Other Fuels

- Safe
- Reliable
- Low cost
- Convenient

Current Heating Fuel Values - Updated September 9, 2015			
Fuel Type	Price/Unit	Heat Content Per Unit (BTU)	Price Per Million BTU
Fuel Oil (#2)	$2.23/Gallon	138,690	$16.05
Propane	$2.54/Gallon	91,333	$27.79
Kerosene	$3.07/Gallon	135,000	$22.75
Natural Gas 1st Tier (<20 Therms)	$0.78/Therm	100,000	$7.84
Natural Gas 2nd Tier (>20 Therms)	$0.72/Therm	100,000	$7.24
Wood (Bulk Delivered Pellets)	$251.38/Ton	16,500,000	$15.24
Wood (Cord)	$325/Cord	20,000,000	$16.25
Electricity	$0.14/kwh	3,412	$41.55

- Liquefied Natural Gas - $15.09
- Compressed Natural Gas - $12.25

9 Source: N.H. Office of Energy and Planning
http://www.nh.gov/oep/energy/energy-nh/fuel-prices/index.htm

Liberty Utilities

This page left intentionally blank