

May 26, 2018

Debra Howland Executive Director and Secretary
New Hampshire Public Utilities Commission
21 S. Fruit Street, Suite 10
Concord New Hampshire 03301
RE: DG 17-198
Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities

Thank you for accepting my comments on Granite Bridge.

One of the many claims in support of the Granite Bridge pipeline and Liquefied Natural Gas (LNG) tank is that Liberty could purchase fracked gas at a lower price during the summer months and use it instead of higher priced gas during the winter peaks. This strategy, Liberty claims, will save ratepayers a ton of money.

Of course, it's impossible for me to have access to the forecasting tools that Liberty and its consultants use to develop future pricing, so I need to rely on historical data to test this idea.

I used the "City-Gate" prices from <https://www.eia.gov/dnav/ng/hist/n3050nh3m.htm> as the basis for developing an average "Summer" versus "Winter" price chart.

The first question is, "How long does it take to fill the 2 Billion Cubic Foot (BCF) LNG storage tank?" The Epping liquefaction plant could convert 8,000 DTH/Day from pipeline gas to LNG. Dividing 2 BCF by 8,000 DTH/Day, yields 250 days to fill the tank. That's a little more than 8 months. I chose March through October as my "Summer" months and November through February as my "Winter" months. I averaged prices for the seasons and then calculated the percentage savings for summer pricing over winter pricing. Here's the resulting chart.

Year	Mar-Oct	Nov-Feb	% Discount*
2010	9.7	8.49	-14.25%
2011	9.84	7.57	-29.99%
2012	7.69	7.085	-8.54%
2013	7.38	8.1	8.89%
2014	7.93	9.75	18.60%
2015	7.87	6.33	24.33%
2016	4.57	5.99	23.70%

The chart confirms that there is a trend toward lower summer pricing over the last seven years. Liberty is betting that this trend will continue, but there is at least some risk that plans for an LNG export terminal in Nova Scotia could change the trend yet again. Fortunately, even if they are wrong, it won't have that much of an impact on the annual cost of gas to ratepayers.

Let's say that we use the most optimistic savings of 24.33% (2015) as the basis for our discount. To understand how that will impact annual prices, we need to know what percentage of annual sales the LNG tank represents. Last year, Liberty purchased just under 17 BCF at the CityGate. (see page 48 of

the Annual Report) https://www.puc.nh.gov/Gas-Steam/Annual%20Reports/2017/engi_dba_liberty_annual_report_2017.pdf If we divide 2 BCF by 17 BCF, we can determine what percentage of Liberty's supply could be replaced by the cheaper gas. That works out to be 11.7%. That means the total discount would amount to about 2.8% ($0.2433 * 0.117$) for the year.

If we use the worst-case scenario from 2011, where summer prices were 30% higher than winter prices, the increase in costs would be 3.5% or about a \$3.8 million increase.

Again, referencing page 48 of the 2017 Annual Report, we see the total cost of natural gas was \$111,162,424. A 2.8% discount amounts to a little over \$3 million. **Using a simple payback, it would take 73 years to recover the \$220 million investment in the LNG tank.**

It's interesting to me that the "unaccounted for volumes" Liberty reported for 2017 was 2.2%. That expense is figured into the rates Liberty charges its customers and amounted to \$2.4 million in 2017. I would like to see a comparison of the costs to reduce the lost and unaccounted for volumes by 1% with the \$220 million LNG tank. The advantage of a more aggressive leak repair program is that the outcome is certain. The only certainty with the Liberty LNG tank is the return on equity enjoyed by its shareholders.

Sincerely,

Patricia A. Martin
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Year	Mar-Oct	Nov-Feb	% Discount*
2010	9.70875	8.49	-14.36%
2011	9.84625	7.57	-30.07%
2012	7.6925	7.085	-8.57%
2013	7.38	8.1025	8.92%
2014	7.93	9.745	18.62%
2015	6.33875	7.87	19.46%
2016	4.57625	5.9925	23.63%