



Groton Electric Light

23 Station Avenue
Groton, MA 01450

tel: 978-448-1150
fax: 978-448-1159



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Dear Valued Customer:

I have received many comments from our ratepayers over the last month, similar to the one that follows.

“I am sure the people of Groton would prefer to pay a little more money on their bill rather than have a new pipeline built.”

I understand this is a sensitive issue for many of our customers but I want to explain Groton Electric’s view from a pure business perspective. A new pipeline is not just an option; it is a necessity.

As a resident of Groton you have an ownership interest in the Stony Brook Energy Center, Ludlow, MA. The Stony Brook power plant is a dual fueled facility which means it can burn natural gas or diesel fuel. The preference is to burn natural gas, but when natural gas is not available, the power plant has to burn diesel fuel (which is roughly the same as heating oil).

This past winter Stony Brook burned 7.6 million gallons of oil during times when natural gas was unavailable. By law, residential natural gas customer’s needs must be met before electric generators can access natural gas. Since the natural gas transportation system **COULD NOT** meet the electrical generation needs of New England, Stony Brook had to burn diesel fuel. To meet last winter’s electricity needs almost every oil and diesel generator in New England was running which caused higher electricity and heating oil prices.

We have a MATH problem for the future. The phasing out of coal in New England is now nearly complete. In addition, there are serious and successful efforts to close nuclear plants in the region as well. With the recent closure and soon-to-close coal and nuclear plants, our region is in need of an additional 600,000 Mcf (1,000 cubic feet) or 0.6 bcf (billion cubic feet) natural gas supply **that currently does not exist.**

The information below shows the number of megawatts *per hour* that retiring plants are able to generate.

Last month Salem Harbor coal plant closed (720 MW)

At the end of this year Vermont Yankee nuclear facility will close (605 MW)

In 2017 Brayton Point coal plant is scheduled to close (1535 MW)

Just these three closings = 2,860 MW = 2,860,000 kW

To put the size of these closings in perspective, the all time New England peak electric load is 28,130 MW. Closing these three plants retires 10% of our electric generating capacity and because these plants ran 24 hours a day, 7 days a week last winter, the effect of these retirements is even greater than 10%.

Another way to put this into perspective, if it were possible to replace these plants with wind or solar it would be equivalent to about 1,900 new wind turbines running at capacity 24/7 (there were less than 400 in New England last year) or 14,300 acres of solar farms (70 percent of the area of Groton) with the sun shining full force 24/7. In practice, a wind turbine only generates about 30 percent of its capacity and solar only 14 percent. As a result, natural gas or oil fired power generation is needed when the wind isn't blowing and the sun isn't shining.

Just to make up for these three closings, we need 538,338 Mcf of natural gas **per day**. If you would like to see the math detail it is at the end of this letter.

Building gas transportation that can deliver 600 Million cubic feet of natural gas per day just keeps us where we are today with the three plant closings. Stony Brook would still be burning 7.6 million gallons of diesel fuel during a winter comparable to last winter and there would not be natural gas available for economic growth or new residential and commercial natural gas customers.

New energy supplies are critical for future economic growth in New England and to meet additional residential and commercial customers. It is likely the **NEED** for new natural gas supplies will require at least 2 Billion cubic feet of natural gas pipe line.

The route that the pipeline will take is the debate. The **NEED** for the pipeline(s) is a reality. Neither GELD nor I are invested in the path of the pipeline. The ideal solution would have three or more entities providing pipeline options with multiple routes - that way a real debate over the most optimal route can take place.

As I have stated repeatedly, I **do not** endorse any specific path or any specific company.

Sincerely,



Kevin P. Kelly
Manager

Highly technical math below:

The New England average heat rate for natural gas generating facilities is 8039 Btu/kWhr
1 Mcf of natural gas will yield 1.025 MMBtu (Million Btu) of energy
Plant closings for coal and nuclear in 2014 and a future coal plant closing in 2017 total 2,860,000 kW
2,860,000 kW multiplied by 8039 Btu/kW = 22,991 MMBtu/hr
22,991 MMBtu/hr divided by 1.025 MMBtu/Mcf = 22,430 Mcf/hr
Multiplied by 24 hours in a day = 538,338 Mcf/day or 0.538 bcf/day