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Mason, NH 03048
September 7, 2016

Debra Howland, Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, New Hampshire 03301-2429

RE: DG16-770
Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Utilities and Concord Steam Corporation
Joint Petition for Approval of an Asset Purchase Agreement

Dear Ms. Howland:

I would like to point out some CONCERNS about the above referenced matter and how they would increase New Hampshire's dependence on natural gas.

First CONCERN: Estimates of Natural Gas Availability Are Overly Optimistic

Pipeline and gas companies are fond of stating that resources will give us a 100-year supply of natural gas.

Resources are what is in the ground. There are technical reserves, which is gas that can be extracted using current technology, and there are economic reserves -- gas that is profitable to extract at current prices. Extraction of some resources will never be technically or economically feasible.

There is the tendency to exploit low hanging fruit when opening a new gas field. Any field will have a "sweet spot" where drilling is more productive. And wells produce more when first drilled and fracked. That is when statements are made to attract investors, and when decisions are made regarding export and infrastructure.

From Post Carbon Institute's DRILLING DEEPER

"This report uses the Department of Energy's own figures to conclude that the current boom in domestic oil and gas production is unsustainable at the rates projected by the Energy Information Administration, and that the EIA's gas forecasts to 2040 are extremely optimistic. This means that the country's current energy policy—largely based on the expectation of domestic oil and natural gas abundance—is badly misguided and is setting the country up for a painful, costly, and unexpected shock when the boom ends."

From SNAKE OIL, page 60:

While the EIA says that "Proved and unproved technically recoverable shale gas reserves will provide a 24-year supply of natural gas, In reality, given steep shale gas well decline rates and low recovery efficiency, the United States may actually have fewer than 10 years of shale gas supply at the current rate of consumption."

CONCERN: Exporting natural gas will result in higher prices here

On the world market, natural gas is priced three to five times what it sells for in the U.S. If the proposed pipelines are completed, they will provide industry with access to the world market, and NH will be forced to compete with world market pricing.

A June 6, 2014, letter from Senator Jeanne Shaheen states:

“... I am concerned that large-scale exports of natural gas could hurt New Hampshire consumers and businesses. Recently, the U.S. Department of Energy approved LNG exports from a sixth export facility in the U.S. This addition, and the existing and approved export pipelines, will make the total LNG exports exceed the total amount of gas that is currently used in every American homes and commercial business. According to a U.S. Department of Energy study, LNG exports at these levels could increase domestic natural gas prices by up to 54 percent.”

CONCERN: Over-Dependency on One Fuel Source

There is a question on the wisdom of having New Hampshire, and even New England overly dependent on natural gas. New Hampshire's 10-Year State Energy Strategy wisely recommends a diversified energy portfolio. The high energy rates experienced during the winter of 2013-14 can be interpreted to show we are already too dependent on gas.

Here's a link to a video presentation called THE ECONOMICS BEHIND FRACKING, by Deborah Rogers, who was appointed for a three-year term as a primary member to the U.S. Extractive Industries Transparency Initiative (USEITI), an advisory committee within the U.S. Department of Interior. In May 2013, she was invited to testify before the Senate Committee on Energy and Natural Resources. She has twice participated in a working group at EIA, the Energy Information Administration of the U.S. Department of Energy.

To hear how over-dependency will affect New Hampshire consumers, skip directly to the last 10 minutes of this video by clicking this link: <https://youtu.be/JYaC7L2svoQ?t=2555>

The following link takes you to ISO-NE energy dashboard:

[http://iso-ne.com/isoexpress/web/charts/guest-hub?
p_p_id=fuelmixgraph_WAR_isoneportlet_INSTANCE_WOKSMAX9Rozl&p_p_lifecycle=0&p_p_state=pop_up&p_p_mode=view&p_p_col_id=column-3&p_p_col_pos=2&p_p_col_count=5](http://iso-ne.com/isoexpress/web/charts/guest-hub?p_p_id=fuelmixgraph_WAR_isoneportlet_INSTANCE_WOKSMAX9Rozl&p_p_lifecycle=0&p_p_state=pop_up&p_p_mode=view&p_p_col_id=column-3&p_p_col_pos=2&p_p_col_count=5)

When I copied the above link, we are running around 67% dependent on fracked gas for our electrical generation. Once we've converted our municipal buildings and fleets to run on gas, we will be forced to pay whatever the industry wants for their product. Consider also that we are rushing to export gas, which will increase the price here.

CONCERN: Insufficient Emphasis on Energy Efficiency

There are more benefits to energy efficiency: It lowers customers' utility bills, it's better for the environment, it creates jobs, and it encourages long-term economic investment.”

CONCERN: Price Volatility

From <http://www.forbes.com/sites/statoil/2015/02/26/the-natural-gas-myth/>

“Generally, natural gas prices *tend to be* very volatile. Since energy efficiency measures help lower the demand for electricity, they can help protect companies against price volatility while maintaining the reliability of the electrical grid. Specifically, these measures include reducing electricity consumption, thereby reducing the amount of natural gas used to generate electricity, as well as gas-targeted efficiency programs that directly reduce the end-use of gas for consumers.

CONCERN: The Real Cost of Fracked Gas Is Borne by Property Owners

On June 30, 2014, I attended a Regional Energy Forum at Saint Anselm College in Manchester, NH. I was surrounded by pipeline engineers and constructors, gas industry lobbyists, and the Director of Maine Governor's Energy Office. There was a lot of talk about MONEY, but no mention of COST - the cost to the people whose property happens to be above a natural gas deposit, the cost to someone whose property is in the way of a pipeline, or the cost to our environment.

Boston Globe Editorial: [New England's Energy Brokers Must Look Beyond Natural Gas](http://www.bostonglobe.com/opinion/editorials/2015/04/09/new-england-energy-brokers-must-look-beyond-natural-gas/axqBhIpyv0yDBxii0GKoJO/story.html)

<http://www.bostonglobe.com/opinion/editorials/2015/04/09/new-england-energy-brokers-must-look-beyond-natural-gas/axqBhIpyv0yDBxii0GKoJO/story.html>

“Improving the region’s gas infrastructure, however, is a short-term fix. New England’s over-reliance on this fuel for electricity generation puts ratepayers at the mercy of fluctuating gas prices, and the problem will only get worse as older power plants close in the coming years. New England’s challenge is in ensuring that plant retirements don’t put the reliability of the grid at risk, and that the gap between supply and demand is plugged responsibly.”

Boston Globe Editorial: Don't Fall in Love with Natural Gas: A nonrenewable energy that's fraught with risk, gas should be no more than a bridge to sustainable energy sources.

“But allowing natural gas plants to plug the gap would only expose businesses and residents to more price hikes. A better approach would be for the region to aggressively pursue renewable energy. Maine is experiencing a boom in investment in wind power — according to the ISO, over 3,300 megawatts worth of new wind farms has been proposed in the Pine Tree State.”

CONCERN: Natural Gas: A Bridge to Where?

One of Time Magazine's “People Who Mattered”, Professor Anthony Ingraffea, remarks that natural gas, instead of being a bridge fuel, is a “gangplank to more [global] warming.”

With this pipeline, we are considering a “bridge” solution that will involve massive expense on invasive new infrastructure. The time for seeking bridge fuels is over. It is time to stop studying alternatives and, instead, implement them.

CONCERN: Invest in Our Future, Not Our Demise: New Hampshire is at a fork in the road. It would seem that, instead of massive investments in infrastructure that only increase our dependence on climate-changing fossil fuels, we should be going all-out to build an escape route, to develop systems that will wean us from those fossil fuels. Sooner is better. Make New Hampshire a leader in alternative energies.

ALTERNATIVES: Changes Required to Achieve Long-Term Energy Sustainability

Investing heavily in more fossil fuel infrastructure seems very short-sighted at this point in time.

Quote: "Building gas-fired powerplants near gas fields, sometimes called "gas-to-wire," offers the benefit of safer transport for electricity than for high-pressure natural gas. In addition, the wires can also be used to carry electricity from wind or other clean-energy sources, providing added long-term flexibility.

"Incentives can be provided to encourage municipal and individual solar installations. Consider that anything done to reduce peak demand frees up generation capacity for other purposes and reduces the need for building more infrastructure."

The PUC needs encouragement to implement grid modernization to accommodate recent innovations such as distributed energy sources and smart-metering. I believe there's great potential in the **New Hampshire Solar Garden** project (see www.nhsolar garden.com). That program could use some legislative help to become even more effective. **This** project exhibits the creative thinking we need in establishing New Hampshire's energy vision.

From SNAKE OIL, page 117

Tim Morgan, of the London-based brokerage Tullett Prebon (whose customers consist primarily of investment bankers, states "[T]he critical relationship between energy production and economy as we have known it for more than two centuries is beginning to unravel. ...Failing to notice this historic shift, while celebrating a temporary breakout in oil and gas production numbers in Texas, Pennsylvania, and North Dakota, seriously hampers our ability to adapt to dramatically and quickly changing circumstances."

In his 2014 State of the Union address, President Obama stated "...and when our children's children look us in the eye and ask if we did all we could to leave them in a safer, more stable world with new sources of energy, I want us to be able to say 'Yes, we did!'"

Thank you for your attention to this important issue, and thank you for considering my comments.

Douglas Whitbeck

References:

A Bridge to Nowhere: Methane emissions and the greenhouse gas footprint of natural gas A study by Robert W. Howarth, Department of Ecology and Evolutionary Biology, Cornell University, Ithaca, NY, and available at:

http://www.eeb.cornell.edu/howarth/publications/Howarth_2014_ESE_methane_emissions.pdf

Drilling Deeper, a Post Carbon Institute publication available at:

<http://shalebubble.org/drilling-deeper/>

Is climate change humanity's greatest-ever risk management failure?, an article by Dana Nuccitelli at <http://www.theguardian.com/environment/climate-consensus-97-per-cent/2013/aug/23/climate-change-greatest-risk-management-failure>

Massachusetts and Federal Government Team Up to Tap Abundant Offshore Wind Energy Resources, a fact sheet from Conservation Law Foundation at www.clf.org/blog/clean-energy-climate-change/

Natural gas is a gangplank, not a bridge fuel An online article from treehugger.com available at:

<http://www.treehugger.com/fossil-fuels/ingraffea-natural-gas-gangplank-not-bridge-fuel.html>

Natural Gas Pipelines: Problems from Beginning to End, a fact sheet from food&waterwatch at: www.foodandwaterwatch.org

New Hampshire 10-Year State Energy Strategy (2014)

<http://www.nh.gov/oep/energy/programs/SB191.htm>

New Hampshire Climate Action Plan (2009), at

http://des.nh.gov/organization/divisions/air/tsb/tps/climate/action_plan/nh_climate_action_plan.htm

Planned Enhancements, Northeast Natural Gas Pipeline Systems, a summary of the current pipeline projects in the northeastern United States at http://www.northeastgas.org/pdf/system_enhance0315.pdf

Snake Oil by Richard Heinberg, published by Post Carbon Institute, Santa Rosa, CA, 2013, www.postcarbon.org

The State of New Hampshire Public Utilities Commission IR 15-072 Electric and Natural Gas Utilities Energy Efficiency Investigation, at <http://www.puc.state.nh.us/Regulatory/Orders%20of%20Notice/031315onIR15-072%20Energy%20Efficiency%20Investigation.pdf>

This Federal Report Underestimates Renewables Every Year, an online article at:

<http://thinkprogress.org/climate/2015/04/15/3646658/eia-report-ignores-renewable-potential/>

While some of the following publications were developed in Massachusetts, the reasoning applies across the border in New Hampshire too.

A Bridge Too Far - The Climate Case Against Natural Gas in Massachusetts, a 27-page document prepared by The Better Futures Project, available at: <http://www.betterfutureproject.org/2014/06/check-out-our-newest-report/>

Burden of Proof: The case against the proposed Northeast Energy Direct (NED) fracked gas pipeline, at www.nofrackedgasinmass.org

Catching the Wind: State Actions Needed to Seize the Golden Opportunity of Atlantic Offshore Wind Power, a report from the National Wildlife Federation available at www.nwf.org/offshorewind

Critical Wind Power Incentives, a fact sheet from the National Wildlife Federation at www.nwf.org/OffshoreWind

It's not needed, an online article at:
<http://www.nofrackedgasinmass.org/its-not-needed/>

New Study Shows Value of Solar for Massachusetts, an article from the Acadia Center at:
<http://acadiacenter.org/new-report-shows-value-of-solar-in-massachusetts/>

Additional Resources:

Climate Progress website:
<http://thinkprogress.org/climate/issue/>

Northeast Energy Efficiency Project / Regional Energy Efficiency Database
www.neep.org

RealClimate, Climate Science from Climate Scientists website:
<http://www.realclimate.org/>

Post Carbon Institute website:
www.postcarbon.org

Skeptical Science website:
<http://www.skepticalscience.com/>