February 10, 2014

Heather Hunt, Executive Director
New England States Committee on Electricity

RE: NESCOE's Request for ISO-NE Technical Support and Assistance with Tariff Filings Related to Electric and Natural Gas Infrastructure in New England

Dear Heather:

The New England Natural Gas Industry[1] appreciates the opportunity to respond to the January 27, 2014 memorandum from NESCOE seeking additional data or analyses regarding how much additional pipeline capacity is needed in New England to address the region's pressing electric market challenges. The request sought input regarding pipeline capacity levels relative to the level indicated in the Black and Veatch study sponsored by NESCOE. Specifically, NESCOE seeks information regarding a possible 1,000 mmcf/day of pipeline capacity above 2013 levels or 600 mmcf/day beyond what has already been announced for the AIM and CT expansion projects. This is a joint response of gas distribution companies, interstate gas pipelines and LNG importers operating in the New England region.

The New England Natural Gas Industry is encouraged that NESCOE and the states agree that more natural gas infrastructure is needed in the region for the power generation sector, among others, and that the Governors are urging that prompt action be taken toward the implementation of concrete solutions. We will work with you to provide information, support your efforts, and implement the chosen course of action for gas infrastructure as expeditiously as possible. The New England Natural Gas Industry agrees that natural gas is an excellent fuel for power generation and one that provides a high degree of reliability if properly reflected within the electric pricing structure. Gas can be used most efficiently, reliably, and at the lowest cost if supply, transport and possibly storage are considered in concert, as part of portfolio development. The New England Gas Industry will also work with other energy market participants to develop a range of solutions to the problems facing New England.

[1] The members of the New England Natural Gas Industry are Algonquin Gas Transmission, LLC,
Iroquois Gas Transmission System, L.P., Maritimes & Northeast Pipeline, L.L.C., Portland Natural Gas Transmission System, and Tennessee Gas Pipeline Company, L.L.C.; National Grid; Northeast Gas Association; New England Local Distribution Companies (Bay State Gas Company, d/b/a Columbia Gas of Massachusetts; The Berkshire Gas Company; EnergyNorth Natural Gas, Inc, d/b/a Liberty Utilities; Connecticut Natural Gas Corporation; Fitchburg Gas and
Electric Light Company; City of Holyoke, Massachusetts Gas and Electric Department; Northern Utilities, Inc.; NSTAR Gas Company; The Southern Connecticut Gas Company; Westfield Gas &
Electric Department; and Yankee Gas Services Company), Repsol Energy North America and GDF Suez Gas NA LLC.

We believe the range of solutions available (including gas infrastructure, electric transmission, dual fuel, customer self generation, demand side management) all are helpful to some degree and each contributes to the overall solution to New England's electric reliability problem. Even if all of the solutions are implemented to some extent, as the Governors, NESCOE and ISO-NE have all concluded, New England will need more pipeline capacity in order to fully realize the reliability and other benefits of natural gas a primary fuel source for generation. While all possible alternatives will take time to implement to have new pipeline capacity in service by the 2017-2018 timeframe, forward progress must start now. Toward that end, nothing is more critical and time sensitive than an effective tariff mechanism to provide the cost recovery and contracting vehicle for new gas pipeline infrastructure.

Summary

In this response, we convey historical and other pertinent information we feel will be helpful to NESCOE and the states. While the New England Natural Gas Industry believes natural gas is an excellent fuel for power generation from every consideration, including price, environmental, ease of use and flexibility, it is not in a position to suggest an optimal level of new pipeline capacity for the power sector. The power sector and ISO, as recommended by NESCOE, need to determine fuel requirements for their generation fleet; the natural gas industry will then work to provide the supply as determined and demanded by the market. These sectors are in the best position to assess the capabilities and requirements of the power generation fleet, incorporating such factors as unit capacity, heat rates, hourly and daily fuel profiles, unit efficiencies, maintenance schedules, and electric transmission capabilities. Furthermore, there are other considerations and assumptions that would affect the right amount of capacity, including but not limited to the following:

- Fuel diversity
- Environmental concerns
- Renewable generation and the means by which such generation will be balanced
- Transmission alternatives
- Customer level generation (i.e. CHP, fuel cells)
- Retirements of existing generation and replacements
- Peaking versus base load generation and the type of capacity required
- The role of existing capacity held by some generators
- Capacity increases already moving forward sponsored by LDCs
- The role of LNG imports vis-à-vis gas west-to-east capacity.

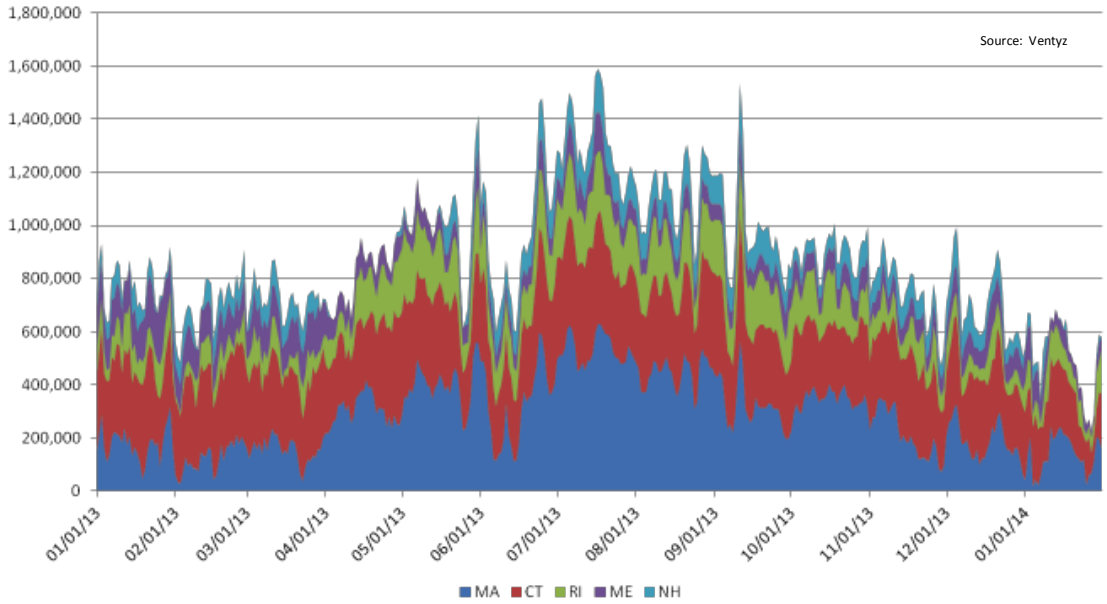
The New England Natural Gas Industry is well-positioned to note, based on this current winter and from experience over the past decade, that the power market in New England has remained over-reliant on non-firm pipeline capacity, thus leaving the region subject to concerns of both reliability and price volatility. As you know, recent pipeline “open seasons” for new transportation capacity have enlisted commitments from the natural gas utility sector alone, and none from the power sector. The Governors and NESCOE have good reason to seek infrastructure additions to address the electric market concerns.

Gas Usage for Power Generation Facts

Actual daily demand information for power generation in the region provides information relevant to how much gas the power sector has historically been using for power generation. That information is shown in the below chart by state and is the best available data. (Note: the data as presented is in fact lower than actual because it excludes LNG deliveries to the Mystic station and does not reflect power generators that receive gas through LDC meters.) In summary, the information indicates New England power generation has reached up to 1,000 mmcf/day and averaged 700 mmcf/day in the winter and reached up to 1,600 mmcf/day and averaged 1,000 mmcf/day in the summer, approximately.

A number of variables are at play in addition to the historical pipeline throughput. Primarily, a consideration of the greater gas market dynamics is needed to determine an appropriate infrastructure plan now and in the future.

NEW ENGLAND GAS DELIVERIES TO POWER GENERATORS
(Jan 2013 – Jan 2014)



NOTE: The volumes shown represent total daily deliveries (Dth/d) to New England power generation facilities from the regional interstate pipelines (TGP, AGT, IGT, M&NP, PNGTS, and Granite State Trans.). Volumes delivered directly to the Mystic plant from the Everett LNG facility and volumes to power generation facilities from LDCs are not included.

The June 2012 ICF study for ISO-NE also contains useful information about seasonal gas demand. For example, Table A3 of the study projects total regional aggregate fuel consumption of gas and dual fuel generators (expressed in a MMBtu/day format) to be 1,549,000 MMBtu/day in the winter and 2,710,000 MMBtu/day in the summer for the period of 2017/2018. The ICF

study (Table A6), using the same method as expressed above in maximum gas demand (*i.e.*, reflecting severe conditions and hypothetical loss of a 1,200 MW nuclear plant), would equate to gas consumption of 2,270,000 MMBtu/day in the winter and 3,487,000 MMBtu/day in the summer. Repowering and retirements would increase these amounts to the extent gas was the fuel chosen to replace existing generation fuels. As such, as NESCOE considers how much capacity needs to be constructed, we suggest NESCOE needs to consider both current and future infrastructure needs – beyond just the 2017/2018 timeframe.

Another useful piece of information related to gas generation demand are the following numbers per the State of Connecticut 2012 IRP: Total gas fired capacity expressed in a winter MW base case scenario is 15,590 MW of which 5,283 MW is dual fuel and 1,679 MW is served by LNG from Everett, MA (Mystic Plant). As a rule of thumb a 540 MW unit at a 6500 heat rate would use about 84,000 MMBtu of gas if it runs for 24 hours.

The information regarding future gas capacity needs by the regional electric industry should also reflect the amount of pipeline firm transportation capacity contracted for by power generators. The amount of forward haul (generally west-to-east from non-backfeeding supply sources) per the pipeline index of purchasers as of January, 2014 is 74,778 MMBtu/day as follows:

Pipeline	*West to East Primary Firm Directly Contracted with Pipeline*
Algonquin Gas Transmission	35,338 MMBtu/day
Tennessee Gas Pipeline	4,140
Iroquois Gas Transmission	35,000
Maritimes and Northeast	0
Portland Gas Transmission	0

Further, an analysis of future gas capacity needs for the regional electric industry should also reflect strategic consideration of LNG imports. LNG imports can continue to play an important role in supplying the region given that there is significant (about 13 Bcf) LNG storage at two import terminals into the region. These import terminals can respond quickly and reliably to increases in natural gas demand, provided customers have made the necessary contractual arrangements for supply. Recent gas price spikes in the Northeast during high demand periods have been competitive with worldwide alternative market prices for LNG suppliers. LNG is not a direct substitute for permanent pipeline capacity additions, but can continue to be a valuable source of gas supplies to the region, particularly during peak periods.

Pipeline Capacity Considerations

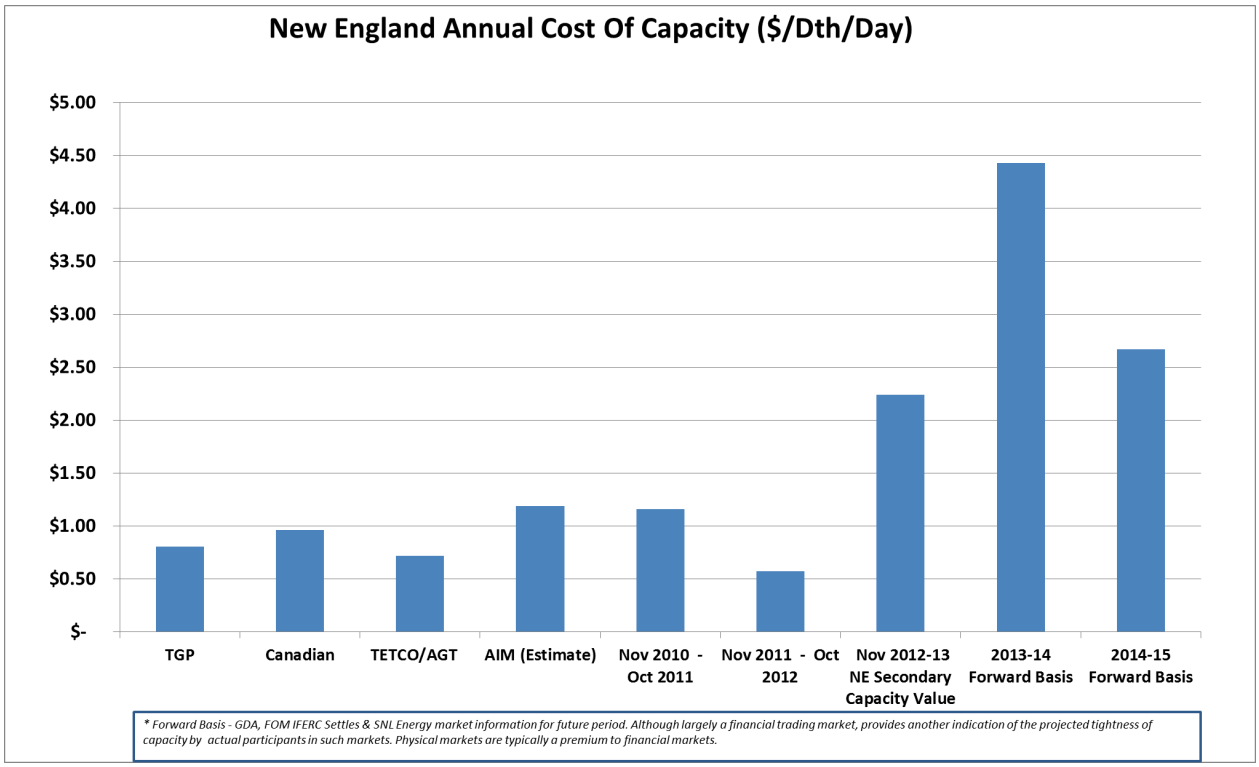
FERC Cost Versus Secondary Market Value

The table in this section is an updated analysis of the secondary market value of capacity compared to the actual cost of pipeline capacity. There is significant economic value and increased reliability attained by contracting for some primary capacity-multiples over the levels reflected in the NESCOE study, as demonstrated by secondary market prices last winter, this winter, and forward projections of such prices. The amount of capacity added would affect the

electric market design daily and real time energy market clearing price. The more capacity acquired the higher fixed cost but the lower number of days where the high secondary market price would set the market clearing price. We understand there is a multiplier effect of the electric market design energy clearing price that should be considered.

We believe there are substantial net savings that can be achieved by the electric industry by developing a portfolio of gas services, after paying the fixed cost of the capacity. Firm primary capacity would also be more reliable and flexible than secondary services.

This information is also useful for purposes of understanding the value of pipeline capacity and the ability to access low cost growing gas supplies to the southwest of New England.



Type of Gas Usage

The way gas is used is an important consideration related to pipeline capacity. Based upon historical operating information, gas-fired base load generation plants are well suited to a firm pipeline capacity scenario.

Generation plants that perform a rapid start/stop role with frequent intraday changes may find it advantageous to utilize flexible gas supply and/or underground or LNG storage in conjunction with pipeline capacity for that role. There are pipeline nominating and scheduling considerations that also must be taken into account.

LDCs in New England serve similar fluctuating (if more) predictable demands and are experienced at developing and operating a portfolio to serve such demands. Members of this

New England Natural Gas Industry Group have experience managing loads similar to these needs and can provide valuable assistance.

Other

There are other considerations that are important as part of the analysis of how much additional pipeline capacity is needed in New England to address the region's pressing electric market challenges. These issues include the location of such capacity, the process for obtaining necessary approvals, delivery point locations and source of supply, rates and costs, term of contract, timing, conditions precedent, and special terms and conditions.

The New England Natural Gas industry appreciates the opportunity to provide this information, and looks forward to working with NESCOE and the states on addressing further questions and issues, supporting your efforts, and implementing the chosen course of action for gas infrastructure as expeditiously as possible. We applaud NESCOE and the New England Governors for their leadership on the key energy issues challenging the region.

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