HQUS

A subsidiary of Hydro-Québec

November 6, 2013

Heather Hunt
Executive Director
New England States Committee on Electricity
4 Bellows Road
Westborough, MA 01581

RE: Comments on Phase III Gas-Electric Study

Dear Heather:

H. Q. Energy Services Inc. (HQUS) is writing to provide comments on the New England States Committee on Electricity (NESCOE) study to identify possible solutions to address New England's gas electric interdependency issues. We support the consideration of hydroelectric imports as a solution to the current infrastructure and supply challenges facing the region but believe that the Black & Veatch (B&V) analysis likely understates the benefits that can be achieved with new electric transmission to enable such imports.

Background: Hydro-Québec and HQUS

As you are aware, HQUS is a long-term electricity supplier to New England providing significant quantities of energy and capacity to the region for many decades. HQUS delivers supplies over two direct transmission interconnections to New England and through New Brunswick and New York. In 2005 Hydro-Québec (HQ) began implementation of a significant build out of its hydroelectric system. To date, approximately 2500 MW of new capacity has successfully come online and an additional 1550 MW is under construction in the eastern part of the province. The completion of this effort not only adds significant new quantities of electricity generating capacity but also enhances the geographic diversity of our overall supply portfolio.

HQUS appreciates the significant work and effort that has been made by NESCOE and many New England stakeholders and offers these comments to add to the ongoing analysis and discussions of regional infrastructure issues and challenges.

HQUS' comments are focused on the assumptions associated with the Economic-Based Canadian Electric Import Case (Economic Import Case) and the Firm Contract-Based Canadian Energy Import Case (Firm Import Case) -- followed by some perspectives on other important factors that should be considered in the analysis.

Economic-Based Imports Undervalued

The B&V report correctly explains that economic-based imports from HQ's system into New England occur when prices in New England are such that they are more favorable than other HQ alternatives. It also correctly explains that the existence of transmission service charges to export energy to New England on certain transmission lines may constrain economic imports available to New England because they have the effect of reducing market revenues for suppliers. However, it appears that the Economic Import Case assumes the existence of transmission service charges for suppliers ***and*** allocates the full estimated cost of building a 1200 MW transmission line to New England consumers in the cost benefit analysis. This approach double-counts the transmission cost and has the effect of lowering economic imports over the line and thereby understating the benefits of the line.

As an example, if New England consumers fund the new 1200 MW transmission line assumed in the study, the costs will be socialized and suppliers will not be subject to additional costs to use the transmission line. In this way, economic imports will be maximized. Alternatively, if a merchant developer proposes to fund the new transmission line they would require commitments in advance from suppliers to purchase the transmission service for a period of time. In this case, HQ would seek to purchase transmission service rights on a long-term basis. It would treat these costs as "sunk" when evaluating their energy export decisions. So, in both cases, the cost of transmission is a sunk cost from the perspective of the supplier and therefore the cost of transmission construction or use of transmission does not factor into the economic export decision.

HQUS suggests that the study would be improved by removing the transmission cost constraint on economic imports and only assuming the estimated cost of funding the transmission line in the cost-benefit analysis.

Winter Supply Outlook Understated

The B&V study assumes that winter peak imports could not exceed 700 MW. HQ feels this assumption is too low particularly for the later years of the study period when the four-unit La Romaine project is fully operationalized[1]. Today, HQUS is qualified by ISO-NE to provide approximately 800 MW of capacity in New England's Forward Capacity Market during the winter months[2]. This quantity reflects all of the transmission capacity available to HQUS to deliver capacity into New England via its existing direct interconnections and wheel-through links through New York and New Brunswick. The development of an additional 1200 MW transmission line combined with the completion of the La Romaine project, which will add 1550 MW to our 40,000 MW system, suggests that HQUS would exceed the 700 MW of assumed imports included in the study in the longer term.

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[1] La Romaine is a 1550 MW hydroelectric facility that will become fully operational by 2020.
[2] FCA #8

If NESCOE feels that the 700 MW capacity level is appropriate based on its view of market conditions in Quebec, HQUS suggests that it would also be appropriate to analyze a scenario that assesses the costs and benefits of a 700 MW transmission line as part of the analysis. Transmission developers will be incentivized to ensure that new transmission infrastructure is sized appropriately to the demand for transmission service from potential suppliers.

As a general matter, HQUS urges against an overly simplistic view of winter delivery capability. While Quebec is a winter peaking system, we have observed that Quebec does not peak at the same time in winter as New England and data provided in NESCOE's Fall 2013 whitepaper *Incremental Hydropower Imports* illustrates significant energy deliveries during the winter months in 2012[3]. Average hourly flows were approximately 1400 MW from January to March of 2012 and as high as 1700 MW in December.

Firm Import Costs Should be Determined by Competitive Procurement

B&V assumes transmission *and generation* costs in the Firm Import Case. Presumably the reason for assuming the full cost of a new hydroelectric plant in this case is because of the potential that new generation would need to be built to supply the transmission line -- and that signatories to a firm contract would have exclusive claim to the new generating capacity. From a general industry perspective this is a valid approach.

However, HQ's development approach is such that it builds towards a system of very large, long-lead time and long-lived hydro plants (some as long as 100 years) that will be needed to serve internal Quebec load at a future time. In this regard, HQUS suggests that it may be appropriate to consider including some portion of the cost of a new hydroelectric facility but not the *total* cost as a way of considering the impact of a "cost sharing" approach that could meet some of the near term needs of New England and longer-term needs of Quebec. This concept is also consistent with B&V's approach in the Firm-Import Case, which does not take into account the capacity value of the new facilities. In this regard, New England may be able to negotiate favorable terms for the output of resources that HQ is building now but may not need for many years.

Alternatively, if NESCOE believes it is appropriate to consider the full cost of a new hydroelectric plant as well as the full cost of new transmission in its assessment of the costs and benefits of firm imports, then it is also logical to include the full estimated value of the new capacity that will be created in the region by building these projects.

Ultimately the best approach for determining the actual cost of new facilities and for evaluating and selecting the most cost-effective all-in solution for resources and transmission will be to implement an open procurement process. NESCOE has long been an advocate for the benefits of a competitive solicitation process and we urge continued effort and progress on the initiative for a regional competitive procurement process.

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[3] NESCOE hydro whitepaper (p41) "While total flow is higher on average in the summer than the winter, this data, albeit one snapshot in time, does not support the assumption that there is no excess power available from Canada in the winter."

Carbon Costs and Fuel Diversity Benefits Should be Included

NESCOE's RFP for its study work specifically states that the environmental impacts should factor into the consideration of solutions. However, environmental impacts were not considered or quantified in the study. HQUS understands that NESCOE intends to include a full analysis of the benefits of hydroelectric imports in its pending Hydro Study but feels it is an important factor for consideration in this study because the cost implications are likely to be significant and different for each solution. In particular it will be important to evaluate the ***overall*** impact of carbon emissions (i.e., those that will be created and/or offset under each proposal) before conclusions about preferred solutions can be drawn.

One of the primary issues facing the region, and the primary reason for the NESCOE study work, relates to New England's growing reliance on natural gas for power generation and the resulting lack of fuel diversity in the generation portfolio. HQUS urges that the study should consider how each solution would create costs and/or benefits as it relates to the goal of increasing fuel diversity. One example might be consideration of how each of the solutions provides for increased or decreased flexibility in terms of allowing a range of fuel sources to enter the power generation market. Flexibility and fuel diversity have monetary value as insurance against changes in fuel prices or technology costs that should be included in the study.

Conclusion

HQUS appreciates the opportunity to comment on what is a very important analysis for NESCOE and the region. We recognize that the issues and challenges are highly complex and interdependent and require many assumptions about the future. We urge consideration of these comments in this study and for the Hydro Study which we understand is in process and due for release later this year.

Please don't hesitate to contact me directly at 860-241-4021 or HQUS' Director of External Affairs, Carolyn O'Connor at 413-531-4353.

Sincerely,

Stephen Molodetz
Vice President, Business Development
HQ Energy Services Inc.