

**VIA RESS and EMAIL**

December 16, 2015

Ms. Kristen Walli  
Board Secretary  
Ontario Energy Board  
P.O. Box 2319  
2300 Yonge Street, 27th Floor  
Toronto, ON M4P 1E4

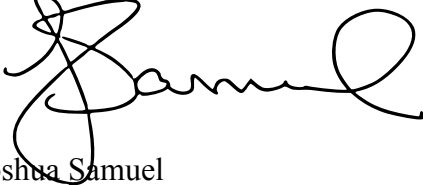
Dear Ms. Walli:

**Re: EB-2015-0179 – Union Gas Limited Community Expansion**

Pursuant to Procedural Order 3, dated December 10, 2015, please find herewith the description of evidence and explanation of intended purposes by Northeast Midstream LP.

Northeast looks forward to explaining the intended purpose and objective of the intervenor evidence, and scheduling matters related to that evidence, on the Pre-Hearing Day on December 18, 2015.

Yours truly,



Joshua Samuel  
President and CEO of the General Partner

cc Chris Ripley, Union Gas [cripley@uniongas.com](mailto:cripley@uniongas.com)

**IN THE MATTER OF** the *Ontario Energy Board Act, 1998*, S.O. 1998, c.15, Schedule B, and in particular S. 36 thereof;

**AND IN THE MATTER OF** the *Ontario Energy Board Act, 1998*, c.15, Schedule B, and in particular, S. 90 thereof;

**AND IN THE MATTER OF** an Application by Union Gas Limited for an Order or Orders for approval of Union's Distribution System Expansion Project proposals;

**AND IN THE MATTER OF** an Application by Union Gas Limited for an Order or Orders granting leave to construct natural gas pipelines and ancillary facilities required to serve the communities of Milverton, Prince Township, and the Chippewas of Kettle and Stony Point First Nation and Lambton Shores.

**Description of Evidence and Explanation of Intended Purposes  
by Northeast Midstream LP**

**1. Preamble**

Union Gas Limited (Union) filed an application with the Ontario Energy Board (the Board) on July 23, 2015, seeking approval to provide natural gas service to certain rural and remote communities in Ontario (the Application). Union has also proposed changes to how it recovers revenues to meet the investments required and is seeking a change to the financial viability tests established by the Board for natural gas distribution system expansion (E.B.O. 188), which would result in existing Union customers paying a portion of the costs to serve the new communities.

Pursuant to Procedural Order 2, dated November 30, 2015, Northeast Midstream LP (Northeast) wrote to the Board on December 7, 2015, identifying that Union has not recognized the full extent of the capital costs associated with the proposed projects. Northeast also indicated that it would lead evidence to help inform the Board of these costs.

Northeast has stated that the significant purpose of raising the issue of cost recognition was to facilitate a comprehensive and transparent economic comparison of alternative approaches to introducing gas service to remotely located communities. The two alternative approaches that have been identified in the Application material for providing gas service to rural and remote communities are (1) a pipeline can be constructed to connect a community to an existing gas network, and (2) the community can be served with liquefied natural gas (LNG) or compressed natural gas (CNG) that is procured and transported to the community by truck and injected into the local distribution system.

Pursuant to Procedural Order 3, dated December 10, 2015, Northeast duly submits the following detailed description of its evidence to the Board. Northeast is prepared to explain the intended purpose and objective of the intervenor evidence, and scheduling matters related to that evidence, on the Pre-Hearing Day on December 18, 2015.

## **2. About Northeast**

Northeast is a limited partnership, established pursuant to the *Limited Partnership Act* (RSO 1990, c.L-16) on March 22, 2013, with its principal place of business at 150 Connie Crescent, Unit 4, Concord, Ontario.

Northeast is an intervenor in the Application by Union to the Board.

Northeast's business is to construct and operate LNG infrastructure and to market its LNG services on a competitive basis to meet various requirements, including:

- Providing peak shaving for utilities using LNG storage facilities situated in close proximity to the market rather than developing remote underground gas storage and constructing expensive incremental pipeline capacity to meet such needs;
- Delivering gas to rural and remote communities situated a distance from existing pipeline infrastructure and that otherwise would not have economic access to natural gas; and
- Reducing greenhouse gas emissions associated with certain heavy-duty transportation applications, thereby helping Ontario meet its climate change goals.

Northeast has appeared once before the Board, acting as an intervenor/moving party in Union's application to dispense LNG from its Hagar facility (EB-2014-0012). Northeast, pursuant to Section 29 of the *Act*, submitted a motion arguing that it would be appropriate for the Board to refrain from regulating and approving the terms, conditions and rates for the interruptible natural gas liquefaction service requested by Union. Northeast's motion was supported by expert testimony. Union strongly opposed the motion, but it was unanimously endorsed by all intervenors. In its Decision, the Board ruled in favour of Northeast and approved Northeast's request to recover its costs related to the motion.

### **3. Issue of Policy**

The policy issue that Northeast is now asking the Board to address relates to the requirement of a natural gas distributor to present a comprehensive and transparent long-term economic comparison of the alternative approaches to gas supply as part of a community expansion application, in addition to the facility-related costs associated with providing service to a community.

Northeast believes that it is important, as a matter of policy, that such a comparison of gas supply alternatives be prepared and presented to the Board in accordance with criteria established by the Board.

In fact, the issue of comprehensive and transparent economic comparison of alternatives, as identified by Northeast, is entirely consistent with the issue that triggered the current Board consultation to review the gas supply and transportation planning process undertaken by the gas distributors in Ontario (EB-2015-0238). In both cases, the challenge before the Board is three-fold: (1) to better understand the risk/cost trade-offs of gas supply plans; (2) to enable the Board and stakeholders to compare and contrast the plans side by side, and understand the basis for any differences that exist; and (3) to increase the understanding of the implications of the plans and distributor actions.

### **4. Union's Position**

Union's application proposes for the first time a number of novel approaches to facilitate the expansion of natural gas service to rural and remote communities in Ontario. For the most part, Union is advancing financial innovations to fulfill the government's goal to complete the maximum number of projects while ensuring that expenditures are deemed prudent by the Board.

In response to interrogatories by Northeast and others, Union has acknowledged that it has and continues to consider the use of CNG and LNG as potential substitutes for pipeline laterals for rural and remote communities in order to reduce project costs, a fact not set out in the Application (FRPO.1, Northeast.1, SEC.15).

In the interrogatory responses, Union raises the prospect of using CNG or LNG to lower project costs, only to state dismissively of CNG or LNG: "While they may represent reduced up-front investment requirements in comparison to pipeline supplied projects, they may be more costly over the life of the assets, may offer less reliability than pipeline supply to communities, and will require a long lead time to work through a number of regulatory considerations" (FRPO.01).

Union does not elaborate on the regulatory considerations relating to CNG or LNG that would require a long time to work through, even though it has relied on the Hagar LNG

facility for system reliability for almost 50 years. But it does cite the Milverton project as a case where it explored a CNG model and found it to be more expensive relative to a traditional pipeline lateral to Union's existing distribution system (FRPO.1). Union then provides the following summary about its inquiry into alternative gas delivery solutions in Northeast.1:

Union assessed costs to use CNG for several of the larger Community Expansion Projects identified in the Opportunity Assessment and found that the capital costs were approximately 60% of an equivalent traditional pipeline supplied project. However, O&M costs would be over \$600 per customer higher each year than what would exist for a traditional pipeline supplied distribution system. Approximately half of this operating cost increase is the cost of transporting the CNG from a compressor to a decanting station located near the edge of each community. A distribution system from the decanting station to each home or business would still require additional regulatory flexibility as proposed by Union in this application, or alternatively, would still require significant levels of Aid to Construction. An assumption made in Union's analysis was that the CNG Compressor would be a regulated asset attributable to the project.

Union also assessed costs to use an LNG supply for the same large Community Expansion Projects and found that the capital costs were approximately 50% of an equivalent traditional pipeline supplied project. However, gas supply and O&M costs would be over \$1,500 per customer higher each year than what would exist for a traditional pipeline supplied distribution system. The majority of this incremental cost is a result of the need to liquefy and vapourize the natural gas, along with the cost of transporting the LNG from the liquefaction plant to the vapourization sites. Union's analysis assumed that the liquefaction plant was unregulated.

## **5. Northeast's Position**

Northeast agrees with Union that CNG and LNG represent a significant reduction in gross capital costs of a project, notwithstanding Union's assumption that it would rate base the CNG compression equipment after the Board's Hagar decision (EB-2014-0012). Northeast also agrees that CNG and LNG carry higher variable costs than traditional pipelines delivering the equivalent capacity.

But upon careful review of the Application materials, Northeast believes that Union has not recognized the full extent of the capital costs associated with the proposed pipeline option. Specifically, Union has considered only the capital costs from the city gate to the customer. Union has not accounted for the marginal cost of new upstream pipeline capacity required to serve the communities, even if Union has unabsorbed demand charges as part of its portfolio. These upstream investments are real costs related directly

to the proposed projects. The costs would be included in rates at the next system expansion for Union's own facilities, subject to terms of Union's Incentive Rate Mechanism, or factored into the weighted average cost of gas (WACOG) and passed through to all general service customers, if the costs are related to third-party transmission costs.

It is important that Union has identified alternative gas supply options for remotely located communities; that Union has compared the alternatives with traditional pipelines and found the alternatives uneconomical; and that Union will continue to evaluate the alternatives options in order to ensure the most cost-effective way to expand gas service. But Union has not disclosed the framework it has used to conduct the economic comparisons that inform its decision-making; it has declined to provide the model to calculate the present value of the project costs, as requested by Northeast; and it is silent on many of the assumptions it has made and will continue to make with respect to identifying least-cost alternatives to serve rural and remote communities.

In the past, it is understandable that rigorous comparisons of total project costs have not been made in proceedings relating to endogenous system growth. That is because in the vast majority of cases there were no viable alternatives to pipeline extensions. But remotely located communities are different, highlighted by the fact that Union is seeking an exemption from E.B.O 188. For such projects, as Union has acknowledged, there are alternatives to traditional pipelines, and the alternatives involve mature technology capable of providing deliverability and reliability similar to traditional pipelines.

Union itself has indicated that it will continue to evaluate CNG and LNG options for future projects. It is reasonable to assume that Enbridge Gas Distribution and possible new entrants will do the same. Therefore, it is a matter of public interest that the Board be presented with analysis of alternatives in a form and manner that allows for effective comparison.

## **6. Evidence to be Presented**

Northeast intends to file testimony by Mr. Christopher Gulick, President of Gulick Consulting Inc. From a policy perspective, Mr. Gulick will establish and support the type and nature of costs that should be considered by the Board when comparing alternatives in order to expand service to new customers in areas outside the footprint of the existing service territories. Mr. Gulick will not offer evidence on the specific costs related to any individual Leave to Construct Application.

Mr. Gulick has 35 years of experience in the North American energy industry, with a primary focus on natural gas, LNG and oil markets, and specific experience with local distribution companies in New England, where LNG is an essential part of the gas supply portfolio. Previously, Mr. Gulick was Managing Director, Berkeley Research Group

(2013-2015), Principal, Bates White, LLC (2007-2013), and Director, Navigant Consulting, Inc. (1999-2007). He has direct experience in natural gas supply management and operations, in assessing natural gas markets and prices, in evaluating pipeline and distribution expansions, and in contracting for natural gas supplies and transportation. He has testified a number of times as an expert witness in state regulatory proceedings and in U.S. Federal Court. A current copy of his resume is provided as an attachment.

## **7. Request to the Board**

In its Decision for the policy phase of this Application, and prior to hearing the specific Leave to Construction portion of this proceeding to serve four communities, Northeast intends to request that the Board require that Union provide a comprehensive and transparent economic comparison of alternative approaches to introducing gas service. The two alternative approaches that have been identified in the Application material for providing gas service to rural and remote communities are (1) a pipeline can be constructed to connect a community to an existing gas network, and (2) the community can be served with liquefied natural gas (LNG) or compressed natural gas (CNG) that is procured and transported to the community by truck and injected into the local distribution system. Northeast will also respectfully request its costs related to its evidence and its request to the Board.

# Christopher Gulick

## ***Experience Summary***

Chris Gulick provides independent expert analyses of commercial transactions and disputes in domestic and international energy markets, with a focus on natural gas, liquefied natural gas (LNG), and oil markets. He has applied his experience and training to the evaluation of a number of complex transactions, including the acquisition of natural gas (LDCs), propane, and oil distribution companies; analyzing the competitive position of energy-related projects; providing due diligence assessments of energy-related assets and businesses; the analysis of utility rates and rate filings; and the evaluation and development of fuel supply portfolios. Mr. Gulick has served as a consulting and testifying expert in a number of litigation matters and regulatory proceedings, providing expert testimony at deposition, arbitration, and trial.

## ***Selected Expert Testifying Experience***

- **Gas Transportation Rate Dispute** On behalf of a shipper on an intrastate pipeline, submitted direct and rebuttal testimony in a private arbitration that addressed the typical costs included in transportation rates and the proper consideration of *ad valorem* surcharges on the value of the transportation service provided. Subsequent testimony before the Maine Public Utilities Commission involved the appropriate rate to be charged for transportation service. (This latter case is MPUC 2012-00598.)
- **Natural Gas Royalty Dispute** On behalf of a consortium of producers, provided expert analysis and a report, in a matter before ICSID, regarding the appropriate method for determining the reference price necessary to calculate the royalty payments for natural gas produced and exported as LNG.
- **Gas Procurement Matters** On behalf of Nicor Gas, submitted rebuttal and surrebuttal testimony in support of the Company's natural gas management and procurement practices during 2000 – 2002, when it operated under performance based regulation, and for the 2003 gas cost reconciliation.
- **Force Majeure Dispute** On behalf of Eni Gas Marketing, submitted an expert report and testified in deposition and at trial regarding the appropriate declaration of *force majeure* under a firm NAESB contract.
- **Pipeline Rate Cases** Served as a rebuttal witness in the Portland Natural Gas Transmission System (PNGTS) rate cases (RP08-306-000 and RP10-729-000) filed at the Federal Energy Regulatory Commission on behalf of the PNGTS Shippers Group. Provided competitive analyses of the pipeline systems serving the northeastern United States, risk faced by PNGTS due to market conditions, and testified that the decline in natural gas exports from Canada would be replaced by additional production from the United States.
- **Class Certification** Submitted an expert report and deposition testimony in support of the defendants' opposition to the plaintiffs' motions for class certification in the matter *In re Western States Wholesale Natural Gas Antitrust Litigation* MDL1566.
- **LNG Contract Price Arbitration** Served as an expert witness on behalf of an LNG supplier seeking a price adjustment under an LNG supply agreement. Analyses and testimony covered netback calculations, loss estimates, and the calculation of the embedded option value of the buyer's right to divert cargoes.



- **Forward Sales Contract Litigation** On behalf of JPMorgan Chase, provided expert testimony in a civil litigation regarding the enforcement of guarantees of Enron's performance under a number of forward crude oil and natural gas sales contracts. *JPMorgan Chase v. Liberty Mutual Insurance Co.*, No. 01 Civ. 11523 (S.D.N.Y.)
- **Integrating Gas Portfolios and Operations** For the New England Gas Company (a division of Southern Union), provided expert testimony in regard to integrating the gas portfolios and operations of four recently acquired local distribution companies (LDCs). *In re New England Gas Company's Rate Consolidation Filing*, Docket No. 3401, State of Rhode Island and Providence Plantations, Public Utilities Commission.
- **Gas Marketing Dispute** Served as an expert witness in a gas marketing dispute on behalf of an energy marketer. Provided analyses that quantified the forward margins lost by the client due to a dispute with its supplier.
- **Regulatory Proceedings** While employed by Bay State Gas Company and Boston Gas Company, served as a company-sponsored witness in regulatory proceedings regarding integrated resource plans, natural gas portfolio management, natural gas costs, and transportation rates.

#### ***Selected Consulting Experience***

- **Natural Gas Price Manipulation** On behalf of a natural gas marketer accused of attempting to manipulate natural gas prices, provided expert consulting services, analyses of plaintiff's expert's reports, and estimates of alleged damages.
- **Market Analysis for Proposed LNG Terminals** On behalf of multiple project sponsors, analyzed the natural gas markets and expected market impacts associated with the development of new LNG receiving and re-gasification terminals located on the U.S. West Coast. Estimated changes in gas prices and relevant basis values, and developed strategies for penetrating target markets. Estimated the price indifference boundaries for each terminal as a proxy for estimating the likely market penetration.
- **Fueling Equipment** On behalf of an equipment manufacturer, evaluated market penetration of client's versus competitor's vehicle fueling equipment following allegations of lost market share due to false advertising.
- **Natural Gas Advisory Services** Provided analyses, recommendations, and staff support to various entities in conjunction with their natural gas purchasing and risk management activities, and in support of related disputes.
- **Natural Gas Storage Investment Assessment** For an institutional client, estimated the revenue potential associated with the planned acquisition of underground gas storage fields. Using a probabilistic modeling approach in conjunction with an analysis of existing contracts, estimated the intrinsic and potential extrinsic revenue of the storage fields.
- **Power Plant Transactions Due Diligence** Provided fuel market and infrastructure support to sellers and buyers of electric generation facilities. Evaluated fuel requirements and infrastructure commitments, and provided gas and oil price forecasts for use in developing forward power curves for valuation purposes.

- **Natural Gas Integrated Resource Plans** On behalf of multiple natural gas utilities, assisted in the development of Integrated Resource Plans for natural gas resource portfolios. Assignments typically focused on identifying least-cost portfolios, describing methods for determining the avoided cost of gas, and modeling demand-side management measures as supply-side resources. The costs and risks associated with buying various combinations of gas, storage, and transportation resources were evaluated.
- **Fuel Procurement Risk Management Strategy** For Comisión Federal de Electricidad, co-led a team that provided advice on integrating fuel (natural gas, oil, and coal) procurement and risk management functions. Defined a risk management function and identified business models (and related software), as well as methods of transferring risk-managed benefits to customers. Reviewed fuel purchase and sales contracts, and made recommendations regarding the appropriate price references, indices, and structures, with a particular focus on basis differentials.
- **Energy Trading Litigation Damages** For a large energy trading company sued by a partner alleging mismanagement of a joint venture energy trading operation, the team calculated summary profit and loss across risk and hedge books by segment and entity, and generally tied these to audited financials. Demonstrated that a financial loss was not due to the client's actions. There were no financial damages allowed by the arbitrators against the client.
- **Regional LNG Market Assessment** Served as principle author of a comprehensive assessment of the Atlantic Basin LNG markets. This study assessed the potential demand, logistical costs and considerations, price forecasts, and longer-term development concerns, including the political stability associated with revitalizing the Atlantic Basin LNG market.
- **Alleged Price Gouging in Retail Gasoline Markets** On behalf of a provincial regulator, provided analyses that benchmarked gasoline prices at various sized, retail gasoline stations against prices derived from an empirical cost analysis. Demonstrated that higher prices were to be expected at gasoline stations with lower throughput, and that suspect prices were in line with expectations.

### ***Selected Operating Experience***

- **FTC Auditor** Tasked by the Federal Trade Commission to ensure that a third-party, natural gas marketer had non-discriminatory access to certain portions of the MichCon distribution system. Ensured that the LDC's policies and procedures did not create barriers to the third party, who held an easement to use the MichCon system, and that access was maintained.
- **Business Strategy, Gas and Oil Operations** While at Eastern Enterprises (then-parent company of Boston Gas and A//Energy), served as a member of the officer team that developed and implemented the retail energy concept that became A//Energy Marketing Company, LLC.
- **Strategy Development** Identified and advocated strategies that supported growth of A//Energy from startup to \$470 million in sales and 700+ employees in three years. Set up initial natural gas management function, including an asset management agreement covering gas deliveries and capacity management with an upstream partner. Led efforts to acquire retail oil and propane companies across the Mid-Atlantic and New England regions. Served as a member of the executive risk management committee responsible for overseeing risk management activities across all fuels. Served as an LLC member and officer of a joint venture engaged in the acquisition of retail oil and propane distribution companies.

- **Natural Gas Operations and Strategy** While at Boston Gas Company, participated in the development and evaluation of strategies related to the consolidation of natural gas utilities in Massachusetts. Also held responsibility for the safe and reliable operation of the distribution systems (Gas Control), natural gas portfolio management, restructuring the portfolio in response to FERC Order No. 636, and transactions with large end-users.
  - Responsible for gas system operations, including the safe and efficient operation of the gas distribution system, and management of pipeline transportation, gas supply, and LNG storage contracts and inventories.
  - Managed all natural gas and transportation and supply agreements to large end users and electric generation facilities.
  - Participated in the restructuring of the interstate pipeline sales, transportation, and storage services on a number of interstate pipelines, including the development of park-and-loan and pooling services.
  - Negotiated gas supply, transportation, and storage contracts across 10 interstate pipelines transporting gas supplies to New England from Mobile Bay, south Texas, and the Mid-continent in conjunction with the implementation of FERC Order No. 636.
  - Developed natural gas resource plans used to support company objectives; served as a company witness in a number of regulatory proceedings.
- **Gas LDC Management** Held successive staff positions at Bay State Gas Company in natural gas demand forecasting, supply planning, price forecasting, interruptible sales, project management, and market development for the company and its subsidiaries in three states.

### ***Professional Experience***

- President, Gulick Consulting, Inc. (2015-present)
- Managing Director, Berkeley Research Group (2013-2015)
- Principal, Bates White, LLC (2007-2013)
- Director, Navigant Consulting, Inc. (1999-2007)
- Vice President–Hydrocarbons, A/Energy Marketing Company, LLC (1996-1999)
- Vice President, Eastern Enterprises (1995-1996)
- Manager, Gas Supply Planning & Acquisition, Boston Gas Company (1991-1995)
- Manager, Market Analysis, J. Makowski Associates, Inc. (1989-1991)
- Manager, Market Development, Bay State Gas Company (1981-1989)

### ***Education***

- MBA, Carroll School of Management, Boston College (finance concentration)
- BA, Economics, University of Massachusetts at Boston (*magna cum laude*)

### ***Professional Affiliations***

- Western Energy Institute
- International Association of Energy Economists
- American Bar Association
- Energy Bar Association