Northeast Midstream LP

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March 21, 2016

DELIVERED BY EMAIL AND RESS

Board Secretary
Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4P

Attention: Ms. Kirsten Walli, Board Secretary

Dear Ms. Walli:

Subject: Ontario Energy Board Generic Proceeding – Natural Gas Community Expansion (EB-2016-0004) – Submission of Evidence and Request for Costs

Pursuant to Procedural Order 2, dated March 9, 2016, please find herewith the evidence of Christopher Gulick, the Form A signed by Mr. Gulick and the resume of Mr. Gulick.

Northeast Midstream LP ("Northeast") also respectfully requests its costs related to the filing of Mr. Gulick's evidence on the grounds that such evidence relates directly to public policy issues arising from Northeast's participation in EB-2015-0179. Pursuant to Procedural Order 2 of that proceeding, Northeast filed a letter with the Board Secretary, dated December 7, 2015, advising that Northeast intended to submit evidence. At that time, Northeast indicated that the evidence would address broader policy and public interest issues, as opposed to only representing Northeast's own commercial interests. As such Northeast indicated that it would seek the Board's approval to recover costs associated with the filing of evidence.

Pursuant to Procedural Order 3 of EB-2015-0179, Northeast filed a description of evidence and an explanation of its intended purposes on December 16, 2015. Northeast's filing included a formal request for its costs citing significance to matters of public policy.

At the pre-hearing on December 18, 2015, all intervening parties supported the rationale for hearing Northeast's evidence.

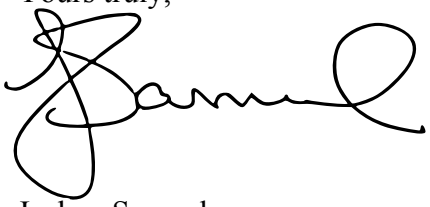
In a letter dated January 20, 2016, the Board informed all parties that it intended to proceed with a generic hearing on community expansion in part because the issues raised by Northeast and others extended beyond Union's application and were in fact public policy issues.

On February 10, 2016, the Board issued Procedural Order 1, stating that Northeast and others must file their evidence with the Board and deliver it to all other parties on or before March 4, 2016. This order was superseded by Procedural Order 2, dated March 9, 2016, to which Northeast is responding with Mr. Gulick's evidence.

Northeast is grateful for the opportunity afforded by the Board to present evidence in relation to public policy as part of the generic hearing proceeding, and would appreciate an expeditious decision relating to costs. Of course, Northeast will abide by any decision made by the Board in this regard.

We thank you and look forward to the Board's further directions in respect of this matter.

Yours truly,



Joshua Samuel

Attachments

cc All parties to EB-2016-0004

Application under the Ontario Energy Board's own motion to consider potential alternative approaches to recover costs of expanding natural gas service to communities that are not currently served.

Evidence of Christopher G. Gulick,

On Behalf of

Northeast Midstream LP

March 21, 2016

Q. Please state your name and business address.

A. Christopher G. Gulick, 120 North Auburn St. #213, Grass Valley, CA 95945.

Q. By whom are you employed and in what capacity?

A. I am employed by Gulick Consulting, Inc. as its president.

Q. Please summarize your qualifications and the focus of your consulting work.

A. I have worked in the energy industry since 1981 in a number of capacities. While employed by Bay State Gas Company, Boston Gas Company, and their respective affiliates, I worked in the areas of natural gas operations, with responsibilities for natural gas supply planning and demand forecasting, gas control, and natural gas resource portfolio management, including pipeline, underground storage, liquefied natural gas ("LNG"), and propane. I also held responsibilities in business development, market analysis, natural gas demand and price forecasting, and acquisitions of natural gas, oil, and propane distribution companies. In my consulting role, I have worked on a numerous engagements related to the natural gas, LNG, oil, and electric industries, including the market evaluation of planned LNG terminals, the acquisition of natural gas supplies and pipeline transportation capacity, and specification of risk management systems. I have provided testimony on commercial and operational issues before U.S. state and federal agencies and courts, and to arbitration panels. I hold an M.B.A. from Boston College and a B.A. in Economics from the University of Massachusetts at Boston.

Q. Have you previously presented evidence or testimony before the Ontario Energy Board (the "OEB" or "Board")?

A. No, I have not.

Q. Please explain the purpose of the evidence you are providing in this proceeding.

A. I have been retained by Northeast Midstream LP to provide my opinion regarding the costs that a local gas distribution company ("LDC") should consider when evaluating a service territory expansion not proximate to its existing infrastructure. Accordingly, my testimony is focused primarily on item 4(b) of the "Issues List" issued as Schedule B to Procedural Order No. 2, dated March 9, 2016, by the OEB in this proceeding.

Q. Please describe how the remainder of your testimony is organized.

A. I discuss how the PI measures the expected profitability from the perspective of the LDC, but does not consider potential changes in gas costs or the structure of the all-in costs faced by customers. The cost structure affects the level of risk allocated to an LDC's customers, and gives rise to differing economic effects of customer consumption

decisions. I note that if changes in gas costs are not part of the expansion consideration, then use of PI as the sole metric leads to the conclusion that the portfolio with the highest PI above the threshold should be selected, regardless of the source and cost of gas.

I. The Profitability Index is used to measure whether existing customers will suffer a rate increase over the long term as a result of a distribution system expansion.

Q. The OEB's guidelines currently require that incremental projects be evaluated using a rolling PI. What does this index measure?

A. For a given system expansion, the PI compares, on a rolling 12-month basis, the expected revenue, net of gas commodity costs, to the capital invested and incremental operating and maintenance costs, plus income and municipal taxes, and discounts those annual values to the present using an LDC's marginal after-tax cost of capital as a discount factor. A PI of less than one indicates that existing customers might have to subsidize some future revenue shortfall; a PI greater than one indicates a surplus that might be able to offset future revenue requirements.

Q. Does the PI measure the entire cost effect of the planned expansion on the LDC's other customers?

A. No, not entirely. The PI provides an index of the relative profitability of the expansion investment from the point of view of the LDC. It does not consider whether the expansion will result in a change to the entire rate charged to the LDC's customers, including the weighted-average cost of gas ("WACOG").[1] The PI also does not consider whether an alternate method of supplying gas to expansion customers could have a lower capital cost, result in a higher PI, and not materially affect the WACOG paid by the LDC's other customers.

II. Incremental gas-related costs, including commodity costs, should be included when evaluating the options for supplying a system expansion.

Q. What costs should be included in the economic assessment for providing natural gas service to communities?

[1] I recognize that the OEB considered whether incremental gas storage and pipeline transmission costs should be included in the expansion analyses, but concluded that "although theoretically correct, the inclusion of forecast incremental costs for the transportation and storage of gas will add unnecessary complexity to the DCF calculations for distribution system expansion projects." E.B.O. 188, *Final Report of the Board*, January 30, 1998, paragraph 3.3.4.

A. To understand the potential cost incidence for LDCs and customers, all of the costs associated with providing the incremental service – the incremental capital invested, incremental expenses (taxes, operating, labor, etc.), incremental gas, storage and transportation costs (fixed and variable), etc. – should be included in the economic analysis.

Q. How should these costs be determined and calculated?

A. The incremental costs should be estimated by the LDC based on (i) the project-specific capital costs and (ii) the other costs typically incurred by the LDC in the normal course of its business, both as described in the Board's EBO 188 Final Report dated January 30, 1998. In my opinion, an expansion supplied by a new pipeline connection should consider the incremental gas transportation and commodity costs associated with the incremental pipeline, storage, and/or peak shaving capacity required to support the new load, and the projected amount of gas to be delivered using that incremental capacity.

Q. As noted above, the Board has previously rejected the estimation of incremental gas costs as adding too much complexity to the PI metric and its use as a management tool. Do you agree with this approach?

A. I understand the Board's concern, and agree that simulating changes in gas portfolio costs as part of calculating a rolling twelve-month PI would add an unnecessary level of complexity. However, I note that the LDCs in Ontario provide quarterly WACOG forecasts and submit annual gas supply plans to the Board; these submissions contain information on expected gas portfolio costs, which the Board could monitor for longer-term changes in fixed and variable costs, if it is not currently doing so.

Q. Please summarize your assessment of the incremental gas costs that should be included when evaluating a system expansion.

A. In my opinion, the full incremental effect on gas costs resulting from a system expansion beyond an LDC's service territory should be evaluated. If not, and if changes in WACOG are not a consideration, then the preferred expansion portfoilio is the one with the highest PI that clears the threshold, regardless of the source and cost of the gas supplying the expansion customers. My testimony now turns to an evaluation of the potential impacts of different gas supply options.

III. Different gas supply options often have different combinations of fixed and variable costs, have different economic impacts on the LDC, customers, and gas supplier.

Q. Should an LDC consider options other than a new pipeline for supplying gas to customers in the expansion territory?

A. In some cases, yes. The cost of building a new distribution system and attaching new customers would be very similar, if not the same, regardless of how gas was supplied to that system. However, supplying gas to more remote communities would require that pipelines be built a greater distance, resulting in a PI that might not pass the PI hurdle. However, the facilities needed to supply gas by LNG or CNG could require less of a capital outlay, and the cost of those facilities could also be embedded in the cost of the gas supplied.[2] If the cost of supplying LNG/CNG is reasonably less expensive than building a pipeline to supply gas, then the LNG/CNG option should be considered.

Q. Is it your position that the alternate gas supply options would provide the same degree of safety and reliability as gas delivered by pipeline?

A. Each gas supply option has a different set of operational, safety, and reliability characteristics. I would expect that the alternate facilities would include sufficient redundancy in storage, vaporization, and related facilities to reflect the comparable level of service that would be expected from a pipeline connection. The configuration of the alternate gas supply facilities would vary with each application, and depend on a number of factors, such as distance to an LNG/CNG supply source, local storage and vaporization capacity, load characteristics on the expansion system, and expected weather and climate conditions. Further, alternate gas supply facilities can be more scalable than pipeline expansions. And, should the expansion load ever grow large enough to support a pipeline, then the alternate gas supply facilities could be deployed elsewhere, if no longer needed.[3] Each of the alternate gas supply options contain different costs and different types of costs, and have differing effects on the LDC's shareholders and its customers.

Q. Please explain.

[2] LNG is natural gas that has been liquefied by cooling to -162C, and is transported by ship, barge, rail car, or truck. CNG is natural gas that has been compressed to 2,900-3,600 psi, and is typically transported in specially designed containers (rather than by pipeline).

[3] As an example, FortisBC converted its propane distribution system serving the resort community of Whistler, BC to natural gas. http://www.fortisbc.com/MediaCentre/NewsReleases/2009/Pages/New-natural-gas-pipeline-brings-cleaner-energy-to-Whistler.aspx

FortisBC is also planning on converting its propane distribution system in Revelstoke, BC to natural gas supplied via LNG trucked from the Vancouver area.
http://www.fortisbc.com/about/projectsplanning/gasutility/newongoingprojects/revelstokeconversion/Pages/default.aspx

A. The different alternate gas supply options have different cost structures, risks, and benefits, depending on the option selected. For example, supplying the new distribution system with gas via a non-pipeline solution means that the cost of the pipeline extension would be removed from the PI calculation. If the LDC owned the alternate gas supply facilities, then the cost of those facilities would be substituted for the cost of the pipeline extension. If an alternate gas supplier owned the alternate facilities and sold gas to the LDC on a vaporized basis, then only the new distribution costs would be included in the PI. The delivered gas costs could be stated separately and passed through to the expansion customers, or they could be rolled into the system WACOG and passed through to all customers.[4] LDCs in the northeastern U.S. often use LNG and propane-air, in combination with piped natural gas, to meet local gas delivery requirements, and roll those costs into the their system WACOGs.

Q. Please explain why a consideration of cost structure is relevant.

A. Cost structure refers to the relative amount of fixed and variable costs incurred by the LDC (and paid by the customers) to provide gas service. The cost structure is relevant because it influences (i) the costs paid by a customer, (ii) the cost risk imposed on the customer, and (iii) the economic value of future decisions a customer might make.

Q. Please explain how the cost structure influences the costs paid by a customer.

A. The following Table 1 provides an illustration of a hypothetical bill under two separate scenarios – one with a low fixed cost and high variable cost, and one with a high fixed cost and low variable cost. Since, under either scenario, the fixed costs do not vary with changes in consumption, the change in the customer's is determined by the magnitude of the variable cost.

Comparing the Savings values in column (d) of Table 1, the change in the low fixed cost scenario ($154) resulting from a 20 percent change in consumption is 2.3 times that of the change in the high fixed cost scenario ($66). This is because the variable cost in the low fixed cost scenario ($0.35/M3) is 2.3 times the variable cost in the high fixed cost scenario ($0.15/M3). Conversely, the effect of increasing consumption would be 2.3 times greater under the low fixed cost than high fixed cost scenario.

[4] To clarify, alternate gas supplies could be sold to LDCs as vapor, as well as in liquid or compressed form. Either way, the cost would likely be a pass-through. Whether the Board would decide to roll these incremental, and likely higher, commodity costs into the system WACOG is a policy question, and would likely depend upon, among other things, the effect incremental gas costs would have on the system WACOG.

Table 1: Comparison of Annual Gas-Only Bills under Two Hypothetical Gas Cost Scenarios

	(a)	(b)	(c)	(d)
	Costs[1]	2,200 M3/year	1,760 M3/year	Savings
Low Fixed Cost				
Fixed Cost	$780	$780	$780	$0
Variable Cost/M3	$0.35	$770	$616	$154
Totals		$1,550	$1,396	$154
High Fixed Cost				
Fixed Cost	$1,300	$1,300	$1,300	$0
Variable Cost/M3	$0.15	$330	$264	$66
Totals		$1,630	$1,564	$66

1/ Assumed for purposes of illustration - not filed rates.

Q. Please explain how the system expansion risks might affect the costs borne by LDC shareholders and customers.

A. Investments typically rely on forecasts, which inherently contain some degree of uncertainty. In the case of a system expansion, uncertainties reside in projections of construction costs, customer conversion rates, projected gas costs, timing of cost and revenue flows, permanence of DSM programs, and effects of climate change policies. The less certainty in forecasts, the greater the uncertainty in the return on the expansion investment. Investments that commit an LDC (or its customers) to high fixed costs in the face of high uncertainty carry a greater risk than those that require a lower level of financial commitment. There is, of course, a related dynamic: the level of fixed costs and marginal costs can also affect market penetration rates and, therefore, investment returns. As a result, the allocation of the investment and fixed cost risks between an LDC and its customers can affect the risks borne by the LDC's customers.

Q. Please explain how the cost structure influences the risk imposed on an LDC customer.

A. Assuming that the LDC's gas-related costs are passed through to its customers as incurred, LDC rates that reflect higher fixed costs shift the risk of paying those fixed costs to the customer because the customer cannot mitigate the fixed cost exposure by changing their consumption behavior.[5] As illustrated in Table 1, if the gas demand on an

[5] Recall from Table 1 that a one M3 change in consumption had a value of $0.15 in the high fixed cost scenario, as compared to the value of $0.35 in the low fixed cost scenario.

LDC's system was growing, then their customers would benefit from a high fixed/low variable cost scenario as the load increased and the fixed costs were allocated across an increasing quantity of gas. On the other hand, declining demand would result in the customers paying a larger proportion of the fixed costs allocated to the shrinking gas. One has to only look to how the long-haul tariffs on TransCanada Pipelines have changed as a result of declining throughput from western Canada to see a real-world example of this effect. In short, LDC rates that reflect higher marginal costs allow the customer to mitigate their cost exposure by changing their consumption behavior, yet do not shift the fixed cost exposure back to the LDC.

Q. Please explain how the cost structure influences the economic value of future decisions an LDC's customer might make.

A. If a customer were to consider changing their gas consumption through, for example, a change in behavior or incremental investment, that change would be valued using the marginal cost of gas. A low marginal cost would mean a change in use would have a lower value and have less influence consumption; a high marginal cost would have a greater value. I understand that the Province of Ontario is moving towards legislation that would use a cap and trade approach to price carbon emmissions as a way of using price signals to implement climate change goals. Under that type of system, higher marginal prices would provide a more clear and tangible signal to energy users, and reductions in gas consumption would result in a larger customer benefit.

Q. How would the different stakeholders be affected by the method gas was supplied?

A. If the LDC supplied the expansion territory by pipeline or alternate gas supply facilities, then the LDC would earn a return on its investment in the new pipeline facilities. If the alternate gas supply facilities were owned by a gas supplier providing gas to the LDC expansion, then the alternate supplier would presumably earn a return on that investment. The LDC's customers would pay gas costs that reflected the amount and structure of the costs incurred by the LDC. Whether or not the LDC's other customers were affected by the cost of supplying gas to the expansion customers would depend on whether or not those incremental gas costs were rolled into the system WACOG. Of course, different cost structures could materially affect penetration rates for the system expansion.

Q. Is one cost structure preferable to another? And, if so, why?

A. Each has their pros and cons. What is important is that an LDC proposing to expand into a new service territory, and the regulator overseeing that LDC's activity, understand the effects (reliability, safety, cost, cost structure, and feasibility) from both a shareholder and customer perspective, and whether or not an alternate way of supplying the new

customers with gas would allow the LDC to meet its PI targets and further the Province's policy objectives without having a material, negative effect on shareholders or existing customers. This approach is consistent with the OEB's goals of promoting an efficient, viable, and sustainable energy sector and upholding the public interest.

Q. Does this conclude your testimony?

A. Yes.

FORM A

Proceeding: EB-2016-0004

ACKNOWLEDGMENT OF EXPERT'S DUTY

1. My name is Christopher Gulick. I live at Grass Valley, in the state of California.

2. I have been engaged by or on behalf of Northeast Midstream LP to provide evidence in relation to the above-noted proceeding before the Ontario Energy Board.

3. I acknowledge that it is my duty to provide evidence in relation to this proceeding as follows:

   (a) to provide opinion evidence that is fair, objective and non-partisan;

   (b) to provide opinion evidence that is related only to matters that are within my area of expertise; and

   (c) to provide such additional assistance as the Board may reasonably require, to determine a matter in issue.

4. I acknowledge that the duty referred to above prevails over any obligation which I may owe to any party by whom or on whose behalf I am engaged.

Date: 26 February 2016

Christopher Gulick

Signature

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 *All*Energy), served as a member of the officer team that developed and implemented the retail energy concept that became *All*Energy Marketing Company, LLC.
- **Strategy Development** Identified and advocated strategies that supported growth of *All*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, *All*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