



Jonathan Erling, P.Eng.

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Function and specialization

Jonathan is a member of the Global Infrastructure Projects Group specializing in the energy and regulated utility sectors.

Representative clients

- Enwave Energy Limited
- Manitoba Hydro
- NB Power
- Ontario Energy Board
- Ontario Ministry of Environment
- Ontario Power Generation
- Toronto Hydro
- Union Gas

Professional associations

- International Association of Energy Economics
- Toronto Association of Business Economists

Languages

English

Education, licenses and certifications

- B.E.Sc. (Mechanical)
- M.B.A.
- Professional Engineers Ontario

Background

Jonathan Erling is a Partner in the Infrastructure practice of KPMG's Toronto office. He specializes in energy and utility economics, regulatory issues, statistics, and forecasting. He also provides financial modelling, cost allocation and strategic planning services for utility clients.

Professional and industry experience

His project experience covers the electricity, water and wastewater, and natural gas distribution sectors. Specific areas of focus include:

- Evaluation of future financial returns and complex financial modeling.
- Business case assessments for new infrastructure development.
- Cost allocation and rate design.
- Various forms of transaction support, including analysis of regulatory issues and energy pricing risks.
- Assistance in negotiating long-term agreements for infrastructure development or for power purchase.

Jonathan graduated from the University of Western Ontario with a Bachelor of Engineering Science (Mechanical Option). He also has an M.B.A. in Finance from the University of Toronto. He is a member of Professional Engineers Ontario, the International Association of Energy Economics, and the Toronto Association of Business Economists. He has over 28 years of advisory services experience with KPMG.

Cost Allocation and Rate Design

- **Union Gas – Cost Allocation for LNG Supply**– Jonathan helped Union Gas develop rates for the supply of LNG to competitive trucking markets from the utility's LNG plant at Hagar. The plant is currently used only for peak shaving purposes and all of its costs are recovered from distribution customers as part of the system integrity function. To allow the sale of LNG externally, we developed a methodology to allocate costs between the utility's embedded customers and the new service. Jonathan appeared as an expert witness on behalf of Union Gas at an Ontario Energy Board (OEB) hearing and our approach was then accepted as the basis for cost allocation.
- **Nova Scotia Utility and Review Board— Wholesale Gasoline Margins.** KPMG acted as the consultant to the Board during a NSUARB hearing to review an application by Irving Oil for an increase in the regulated allowance for wholesale gasoline margins in Nova Scotia. Jonathan was the primary author of our report, which was a formal review of Irving Oil's application. Our report addressed, among other issues, shifts in shipping costs for crude oil, basis differentials with New York Harbor prices, and the rate-setting framework for determining wholesale costs.
- **Manitoba Public Insurance — Review of Cost Allocation Approach.** On behalf of this client, Jonathan assessed the reasonableness of its methodology for allocating corporate overhead costs between regulated and unregulated lines of business. KPMG's report was submitted by MPI to the Manitoba Public Utility Board as part of its annual rate filing.

- **Ontario Clean Water Agency—Cost Allocation Review.** OCWA provides contract operating and maintenance services to over 80 municipal utilities and other water system operators in Ontario. Services are provided through a network of regional offices. Jonathan reviewed the process used by OCWA to allocate corporate overhead costs to regional offices and to individual contracts.
- **Ontario Energy Board—IFRS Transition.** On behalf of the OEB, KPMG prepared a report on the impacts of IFRS on regulated utilities in Ontario. The report identified accounting differences that will arise upon transition to IFRS and the range of alternatives available to utilities and the OEB to address these differences. The report then assessed the implications of the alternatives on ratepayers, utilities, and the rate making process. The report helped inform OEB policy setting on this issue. Jonathan played a key role on this assignment, acting as an advisor on cost allocation and rate setting issues. Jonathan helped to present KPMG's findings at consultation sessions with industry stakeholders.
- **Union Gas (Spectra Energy) — Separation of Gas Storage.** KPMG completed a major project to help this company change its accounting and cost allocation processes in response to the Ontario Energy Board's decision to separate the company's gas storage operations from its regulated gas distribution business. Jonathan advised the engagement team on issues related to cost allocation and OEB processes for rate regulation.
- **Major Gas Utility—Overhead Capitalization Policies.** Jonathan recently helped this client update its policies and models for the capitalization of overhead costs. The company has moved to reporting results under US GAAP. In our work, we integrated the overhead capitalization process with an ongoing parallel initiative to identify the costs of specific functions through an Activity-Based Costing (ABC) approach.
- **New Brunswick Power—Overhead Capitalization and Corporate Cost Allocation.** Jonathan helped this client update their policies and models for the capitalization of overhead costs and for the allocation of general corporate costs to a number of operating entities. Our work included the development of appropriate cost drivers for the allocation of operating and maintenance costs between capital and operating expenses. This study also included a review of the approach that the company used to charge direct labour burdens to capital projects at the company. An initial study was complete in 2007, and then updated in 2014 for filing with NB Power's subsequent GRA.
- **Hydro Ottawa—Overhead Capitalization and Corporate Cost Allocation.** Jonathan helped this client update its policies and models for the capitalization of overhead costs. This study was filed by the utility as part of its 2008 EDR application for rebasing.
- **Union Gas—Overhead Capitalization Policies.** Jonathan helped this client update its policies and models for the capitalization of overhead costs. Our work included the development of appropriate cost drivers for the allocation of operating and maintenance costs between capital and operating expenses. This study also included a detailed assessment of the linkage between various support functions and capital activity at the company.

- **Enwin Utilities—Development of Cost Allocation Methodology.** Jonathan managed this project to develop a cost-allocation methodology for Enwin Utilities (EwU), which is an affiliate of the local electricity distribution company in Windsor. EwU provides a variety of shared services to the electricity LDC, the water commission, a telecommunications provider, and a competitive energy affiliate. Services provided include finance, human resources, customer service, stores management, and fleet management. Our cost allocation methodology takes into account the underlying cost drivers in various departments, and calculates end-user shares based on a detailed assessment of services provided.
- **Toronto Hydro—Review of Rate Impacts of Real Estate Consolidation.** On behalf of this client, Jonathan reviewed the model used by the utility to assess the impact on consumer rates of changes in Toronto Hydro's property strategy. Toronto Hydro was investing in new facilities to reduce its ongoing operating costs. Jonathan evaluated the treatment of operating costs and investments under the OEB's rate-setting methodology.

Preparation of Expert Evidence

- **Direct Energy— Identification of Stand-Alone Costs.** KPMG developed an estimate of the additional costs that would be incurred if the default commodity supply function now operated by Direct Energy were provided by a stand-alone entity. Direct Energy currently provides these default services from a broad-based organization that provides competitive retail services across a number of jurisdictions, in addition to the default option in Alberta. KPMG assessed the additional IT, risk management, financing and other overhead costs that the default supply function would incur if it was operated by a smaller, dedicated organization. Our report has been filed as evidence in a regulatory proceeding and is currently part of an interrogatory process.
- **Calgary Energy Centre—Calculation of Damages.** On behalf of Calpine Canada, KPMG prepared expert evidence on the value of damages sustained by facility owners when long-term contracts for the purchase of power from the Calgary Energy Centre were repudiated as part of a bankruptcy proceeding. Facility owners were required to sign contracts with other market participants to mitigate damages. KPMG prepared a report on damages for facility owners. Our analysis took into account:
 - Differences in contract terms, including approaches to operating cost pass-through, inflation escalation, and payment structure.
 - Changes in forward prices for electricity and natural gas over the period between repudiation and mitigation, and resulting changes in facility spark spread.
 - Duct-fired versus base load capacity.
 - The option value associated with the ability to take advantage of future price movements on capacity not sold under contract.

Legal Counsel to Alectra—Calculation of Damages. On behalf of this client, KPMG has prepared expert evidence to quantify the potential damages associated with a decision not to proceed with a proposed portfolio of solar

rooftop projects. Jonathan is a co-author of our report, which has just been filed as part of a litigation proceeding. Our analysis takes into account IESO FIT rules and industry practices with respect to solar rooftop projects. A key issue in the report is the approach to allocating project profits given the contractual arrangements between various project participants.

- **Toronto Hydro—Treatment of Tax Variances.** During the OEB's 2006 EDR process, KPMG prepared a report for Toronto Hydro on the treatment of tax variances in the LDC rate-setting process. At issue was the treatment of variances between actual and forecast taxes in a regime where revenue and expense variances are not subject to true-ups. Jonathan then provided expert testimony at OEB hearing on our findings and conclusions. Our report was supported by a number of major players in the LDC sector, including Hydro One, Hamilton Utilities Corporation, and PowerStream. The OEB adopted the treatment that was recommended in our report.
- **Enwin Powerlines—Regulatory Asset Assistance.** On behalf of this client, KPMG developed a detailed estimate of the costs that would have been incurred, under normal project management conditions, to install a Customer Information System (CIS) to meet the requirements for opening of the retail market. This counter-factual estimate was needed because the actual circumstances of the client's implementation process did not meet certain tests required by the OEB for cost recovery. Jonathan served as a key member of the project team, and provided input on regulatory issues associated with this estimate.
- **Manitoba Hydro—Acquisition Review.** In pursuit of operating cost reductions, Manitoba Hydro purchased the gas distribution assets of privately-owned utility in the province. Combining electricity and natural gas activities was expected to lead to efficiency improvements. Manitoba Hydro retained KPMG to review the results of this acquisition, and to help assess whether forecast cost reductions had actually been achieved. Jonathan played a key role in this assignment and acted as an expert witness at the Manitoba Public Utilities Board (PUB).

Financial and Management Reviews

- **Manitoba Hydro – Financial Target Review** –KPMG completed a review of the financial targets used by Manitoba Hydro (MH) in its forecasting and rate setting process. MH sets rates in order to meet a number of financial targets over time, rather than basing rates in each period using a formal Rate of Return methodology. Our conclusions were based on three streams of analysis: benchmarking of other Crown utilities, scenario testing to quantify MH's major financial risks, and analysis of capital market requirements. KPMG's report was filed with the Manitoba Public Utilities Board (PUB) in 2015. An update to this report was recently filed in 2017 in preparation for an ongoing MH General Rate application. Jonathan was one of two primary report authors.
- **Manitoba Hydro – Comprehensive Risk Management Review** – KPMG undertook a comprehensive review of Manitoba Hydro's (MH's) processes for risk management and export sales contracting. Jonathan led the project team responsible for reviewing the models used by MH to estimate available energy resources and to optimize system operations in the face of price volatility and

water flow uncertainty. Manitoba Hydro relies primarily on hydro-electric resources that are energy-limited and subject to significant variation from year to year. KPMG's report was submitted to the Audit Committee of the Board of Directors and to the Public Utilities Board (PUB). Jonathan participated in a KPMG panel that provided expert testimony at a subsequent PUB Hearing.

- **Ontario Energy Board—Review of Asset Management Practices.** On behalf of the OEB, KPMG completed a major review of asset management practices in the Ontario electricity distribution sector. This study encompassed activities for inspection, maintenance and capital planning.. The study included the development of a framework for evaluating decision-making approaches. It was based on field visits to a number of participating LDCs, a survey questionnaire, a review of practices in other jurisdictions, and a review of utility filings on the issue of asset management. Jonathan was the manager of this project.
- **Ontario Power Generation—Financial Review.** KPMG was retained by the Board of Directors of OPG to undertake a review of the variance between the company's actual and planned financial performance over the 5-year period from 1999 to 2003. Jonathan played a major role in this assignment, and was responsible for validating OPG's methodology and findings with respect to price and volume variances. Jonathan also led the investigation of the impact that fuel price increases, particularly for coal, had on achieved net income.

Utility Policy Studies

- **CAMPUT — Alternative Approaches to Regulation.** Jonathan is the lead author for a report that KPMG prepared for CAMPUT, which is the association of Canadian utility regulators. We reviewed the extent to which regulators in various jurisdictions are exploring the use of 'risk-based' and 'performance-based' approaches to utility regulation. Topics covered include the use of menu approaches, sliding scale sharing mechanisms, and output-based measures of utility performance.
- **Ontario Energy Board- Review of Models for Consumer Representation and Adjudicative Decision-Making.** KPMG recently undertook a two-stage project in which we looked first at alternative models for consumer representation across a number of jurisdictions. We then assessed the implications for these models of alternative mechanisms for administrative decision-making and the adjudication of utility rate applications. Our study included models in use at Ofgem, FERC, NEB, and the Australian Energy Regulator. (AER). Our review is being used to inform OEB policy deliberations with respect to enhancing consumer input into regulatory decision-making processes in Ontario. Jonathan was the Partner in Charge of this project and principal author of our report.
- **Ontario Energy Board-Jurisdictional Review of Natural Gas System Expansion.** KPMG recently undertook a review of best practices across a range of North American jurisdictions with respect to policies for the promotion of the expansion of natural gas distribution systems. We looked at policies encouraging both system expansion by existing utility providers as well as entry by new market participants. We then looked at the success of various

approaches, associated advantages and disadvantages, and the key lessons learnt. Jonathan was the Partner in Charge of this project.

- **Ontario Energy Board- Jurisdictional Review of Policy Options for Funding Capital Investment.** KPMG undertook a review of practices across a range of North American jurisdictions with respect to the use of the half-year rule for estimating depreciation expense, for determining allowances for working capital, and for estimating growth. These items were part of a broader examination of approaches to providing utilities with additional rate relief for capital investments made under an incentive rate-making regime. Jonathan was the Partner in Charge of this project.
- **Province of Ontario—Evaluation of Options for Hydro One.** KPMG was hired by a Task Force of the Province to assess options for the future ownership and strategic direction of Hydro One. This included consideration of both its transmission and distribution units and Brampton Hydro. On this engagement, Jonathan participated in meetings with Hydro One management and its regulatory group to assess Hydro One's regulatory strategy and approaches to cost reduction. This work helped to identify possible mechanisms for optimization of Hydro One operations going forward.
- **Ontario Energy Board—Regulatory Regime for Tax Compliance.** The OEB retained KPMG to review its policies and procedures with respect to electric utilities' recovery of corporate income taxes. Jonathan helped prepare worked examples of alternative regulatory treatments of tax expense. He also prepared an analysis that proved that there could be a disconnect between book depreciation expense and the allowances for depreciation expense that were implicit in the OEB's PBR methodology.
- **Integrated Energy Development Corporation—Development of Expert Testimony.** In support of this client's intervention at Ontario Energy Board Hearings, Jonathan critiqued Ontario Hydro's plans for incorporating sustainable development concerns in its planning process. Jonathan reviewed the consistency of economic development programs with proposals to integrate environmental externalities into costing methods. Jonathan also analyzed subsidies for energy efficiency programs and the impact of differences between rural and industrial rates.

Rate Setting Approaches and Costing

- **BC Hydro – Site C Development** – KPMG was retained by BC Hydro to assist in the development of a proposed hydro-electric dam at Site C along the Peace River in northern British Columbia. Jonathan led the Costing and Economics Team within the overall project team. This role includes reviewing consumer rate impacts and the calculation of levelized unit energy costs (LUEC) for BC Hydro's Integrated Resource Planning (IRP) process.
- **Ministry of Environment—Regulations for Full Cost Pricing.** KPMG was retained by the Ministry of Environment in Ontario to develop the content of regulations for full-cost pricing in the water and wastewater sectors. Regulations will also define the content of cost recovery reports, which will ensure that full costs are collected from utility users. Charts of accounts and

accounting procedures were developed during this engagement. Jonathan was the manager of this project.

- **Ministry of Environment—Financial Guidelines.** MOE retained KPMG to help prepare guidelines for the preparation of Financial Plans by municipal water and wastewater utilities. These plans will include Capital Investment Plans, which identify appropriate levels of capital expenditure, and Funding Plans, which identify the approach used to raising the financial resources necessary. KPMG played a key role in the development of these guidelines; this has included the preparation of detailed examples to illustrate a forward-looking approach to financial planning.
- **Town of Innisfil-Wholesale Water Rate.** Jonathan helped this client to develop the principles to be used to charge a neighbouring municipality for the supply of treated water on a wholesale basis. The Town of Innisfil is making water treatment capacity available in order to optimize the use of surplus capacity at its existing water treatment plant. Our analysis took into account the fixed and variable cost structure of the facility and requirements for refurbishment and replacement.
- **Major University—Costing for Utility Services.** On behalf of a large Ontario university, Jonathan prepared a financial model to forecast expenditures for capital replacement and repair of the university's central utility plant. Our model estimates future replacement needs of systems for steam production and distribution, chilled water and electricity distribution services.
- **Vancouver General Hospital—Analysis of Rate Design Options.** On behalf of VGH, Jonathan prepared a paper analyzing the options for setting fees and charges at a new steam plant. The plant will supply steam to a number of outside facilities in addition to VGH's own internal operations. Accordingly, approaches for cost allocation were a major concern.
- **Municipal Electricity Distribution—Review of Rate Applications.** Jonathan helped a number of utilities in Ontario prepare their first rate application under new rules providing for the "unbundling" of electricity services. Jonathan provided guidance on issues that were not explicitly addressed in guidelines provided by the Ontario Energy Board (OEB).
- **Ontario Ministry of Energy—Utility Subsidies and Competitive Rate Options.** Jonathan estimated the impact on electricity rates of various types of government support to public and private utilities in the U.S. The types of support examined included income tax-based incentives, loan guarantees, and access to tax-exempt financing.

He also investigated the range of special incentive rates available to industrial power users in the U.S., and the regulatory environment that has encouraged their adoption. He documented arguments for and against such rates, and analyzed the potential for cross-subsidization among customer classes. This study was part of an effort to identify the trade distorting impacts of U.S. electric power subsidies.

Energy Economics

- **Ontario Power Generation—Review of Cogeneration Economics.** Over a two-year period, KPMG completed five separate studies for Ontario Power Generation (OPG) to review the financial feasibility of cogeneration and combined-cycle generating units at industrial plants in the province. OPG required third-party confirmation of the economics of such projects before it could provide rate discounts to electricity customers who would otherwise begin to self-generate. This project was undertaken prior to market opening in Ontario.
- **P3 Canada—Energy Sector Study.** On behalf of P3 Canada, KPMG compared contractual arrangements in the clean energy generation sector with those associated with P3 projects in other infrastructure sectors. We produced summary diagrams describing the structures, risk allocation matrices, and descriptive comparisons detailing similarities and differences between the two sets of models. We then provided our assessment of preferred models for P3 structure in the energy sector taking into account risk transfer, Value for Money (VFM), procurement complexity, ability to access project financing sources, and financial returns and benefits to proponents. This study was a key input to P3 Canada's development of a policy framework for support to energy projects.

Publications and speaking engagements

- APPRO Conference 2017 – The IESO's Market Renewal Process - Moderator
- CAMPUT Conference 2017 – The Role of Utility Regulators in Promoting Innovation – Moderator
- World Power 2006, Electricity Restructuring in Progress: The Ontario Example
- Presentation to Energy Council of Canada: Water and Finance: A Municipal Infrastructure Perspective
- World Power 2005, A New Model for District Cooling: The Enwave Deep Lake Water Cooling System