THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

IN THE MATTER OF the *Public Utilities Act*, R.S.N.L. 1990, Chapter P-47 (the "Act");

AND

IN THE MATTER OF an Application (the "Application") by Newfoundland and Labrador Hydro for the approval, pursuant to Sections 70 (1) and 76 of the Act, of the Rate Stabilization Plan components of the rates to be charged to Industrial Customers.

PRE-FILED EVIDENCE
OF
C. DOUGLAS BOWMAN

September 30, 2009

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Evidence Outline

List of Tables and Exhibits

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My name is Doug Bowman. This document was prepared by myself, and is correct to the best of my knowledge and belief. I have been retained by the Government appointed Consumer Advocate to provide expert advice and evidence to the Consumer Advocate in response to Newfoundland and Labrador Hydro's ("Hydro's") Application concerning the Rate Stabilization Plan ("RSP") components of the rates to be charged Industrial Customers.

A summary of my background and qualifications is provided in ***Exhibit CDB-1***. I have both a B.S. and an M.S. in Electrical Engineering from the State University of New York at Buffalo and 32 years experience in the electricity services and consulting industry. My primary expertise includes electricity services costing and pricing and power sector restructuring, regulation and markets. I am currently an independent Energy Consultant working out of my office located in Warrenton, Virginia.

Prior to becoming an independent consultant, I was employed by KEMA Consulting, Nexant Inc., Pace Global Energy Services, International Resources Group, CSA Energy

Consultants and Ontario Hydro. I have testified before this Board six times previously as an expert witness on cost of service and rate design at Newfoundland Power's 1996 *Application by Petition for Approval of Certain Revisions to its Rates, Charges and Regulations*, at Newfoundland and Labrador Hydro's 2001 *General Rate Proceeding*, at Newfoundland Power's 2003 *General Rate Application*, at Newfoundland and Labrador Hydro's *2003 General Rate Application*, at Newfoundland and Labrador Hydro's *2006 General Rate Application* and at Newfoundland Power's *2007 General Rate Application*. I have also appeared twice before the Nova Scotia Utility and Review Board as an expert witness on cost of service and rate design, and while at Ontario Hydro, I was involved with the regulatory process in the areas of generation and transmission planning, demand/supply integration, operations, rate design and customer service.

Section 1 of my Pre-filed Evidence provides a summary of my review of Hydro's evidence with regard to this Application and ***Section 2*** provides a more detailed review of the evidence relating to disposition of the RSP balance owing to customer load variation.

1. Summary of Evidence

A summary of my review of Hydro's Application follows:

a) The balance in the RSP owing to the customer load variation component has been accumulating since January 1, 2007, and has become very large resulting in significant rate impacts and inter-generational equity concerns. I therefore recommend that the Board order Hydro to disburse these funds effective January

1, 2010, and only upon disbursement of these funds should the Industrial Customer rates be made final.

b) As recommended by Hydro in its response to PUB-NLH-15, the balance in the RSP owing to the net load variation component should be allocated between Newfoundland Power and the Industrial Customers based on customer energy ratios. Allocation of the net load variation balance in this manner more closely aligns with rate design objectives, particularly the fairness objective that has been based on cost of service for many years in this Province.

c) The change in allocation of the net load variation balance should be effective January 1, 2007 and should be disbursed to customers on January 1, 2010 with disbursements based on actual amounts accumulated to that point. The net load variation amount as of December 31, 2009 should be disbursed to Newfoundland Power and Industrial Customers based on actual 2009 customer sales, with the credits currently estimated as shown in PUB-NLH-25 (Rev 1 July 31-09). The balance should be conveyed through reductions in Newfoundland Power and Industrial Customer rates staged in a manner that reduces rate volatility.

2. Disposition of the RSP Balance Owing to Customer Load Variation

2.1 The Need to Address the RSP Plan Balance Issue Now

Hydro filed an Application on June 30, 2009 for approval of the Rate Stabilization Plan components of the rates to be charged Industrial Customers. In the covering letter to the Application, Hydro states: "*Although the attached Application does not contain any*

proposed changes, the Board may wish to consider suspension of the existing load variation allocation rules and holding in abeyance current and future load variation amounts until such time as Hydro can develop a proposal to address the current anomalies in the RSP. Hydro anticipates that an application with regard to the RSP load variation can be made prior to the end of 2009."

However, Hydro in fact made a recommendation for addressing customer load variation balances in its June 30, 2006 report entitled "*Review of the Operation of the Rate Stabilization Plan*" (attached to Application). In the report Hydro recommends that the net load variation balance of the RSP be allocated between Newfoundland Power and the Industrial Customers based on customer energy ratios. In its response to PUB-NLH-15 Hydro reiterates this recommendation. Since January 1, 2007, the balance has become substantial, estimated at $41.3 million by year end 2009, and estimated to increase to $58.1 million by year-end 2010 (see response to CA-NLH-24). At year-end 2009, the estimated rate impact of this balance exceeds 12% for NP and 20% for the ICs (see response to CA-NLH-23 (f)). The current RSP methodology is clearly not meeting the objective of reducing rate and revenue volatility as shown in Schedule B of the Application, and with the large balances that have built up since 2007, inter-generational equity becomes a concern.

Since:

1) A proposal for disbursement of these funds has been on the record since 2006,

2) A large balance has accumulated since January 1, 2007, and

3) The large balance has significant rate impacts and inter-generational equity concerns, I recommend that the Board order Hydro to disburse these funds on January 1, 2010.

2.2 Disburse Funds Consistent with Rate Design Objectives

RSP balances should be disbursed consistent with the rate design objectives that have been adopted and utilized for many years in this Province. As stated in Hydro's response to CA-NLH-22, the principle objective of rate design is to meet the revenue requirement, while three other objectives merit close consideration, including: 1) fairness: rates should be based upon cost causation and should reflect an equitable distribution of cost recovery amongst customer classes and amongst customers within each class, 2) economic efficiency: rates should provide appropriate price signals for the conservation of capital and natural resources, and 3) rate and revenue stability. Hydro has been using these rate design objectives since the 1992 GRA proceeding.

The primary rate design objective relating to recovery of the revenue requirement does not come into play in this Application. Rates have generated the revenue requirement – in fact, they have generated too much revenue, and the point at issue is how to disburse this surplus in a manner that best meets rate design objectives.

The rate design objective relating to fairness is met by apportioning the revenue requirement based on cost of service to ensure that the revenue recovered from each class is equitable and non-discriminatory (see response to CA-NLH-22, page 3 of 3). As stated in the response to NP-NLH-9:

> *"One measure of fairness when it comes to evaluating the customer allocations performed in the RSP is the degree to which the RSP adjustment rate anticipates a re-setting of customer base rates using a Cost of Service study. If the change were to be incorporated into a new test year, the RSP adjustment rate should be representative of the change to base rates. Hydro has evaluated both the previous and the existing RSP allocation of customer load variation against the Cost of Service treatment. This evaluation showed that both the previous and existing methods produce widely different results which led Hydro to conclude that the customer allocation for the load variation should be revised so that it is more closely aligned with Cost of Service treatment."*

The current RSP methodology is clearly inconsistent with the fairness objective. It is unfair to expect the Industrial Customers to pay for the entire load variation balance when a new customer comes on line, and it is similarly unfair to disburse to Industrial Customers all RSP balances arising when an Industrial Customer load comes off-line. For example, if Vale Inco were to come on line prior to Hydro's next rate application, the load variation component of the IC RSP would increase by over $29 million (see response to NP-NLH-8). Hydro recommends in PUB-NLH-15 that the net load variation be allocated between Newfoundland Power and the Industrial Customers based on customer energy ratios as this methodology more closely aligns with the Cost of Service treatment so is a fairer allocation method.

The rate design objective relating to efficiency is met through cost-based rate design and marginal cost considerations in designing electricity rates (see response to CA-NLH-22, page 3 of 3). Under the current RSP methodology, average Industrial Customer rates would be about (–3) cents/kWh in 2011 and about 6 cents/kWh in 2012 even though the forecast price of the marginal generation fuel is the same in each year at $88/bbl (see response to PUB-NLH-21). These rates compare to the average cost to supply the Industrial Customers of 4.5 cents/kWh (based on current demand and resulting adjustments for Holyrood fuel costs as shown in NP-NLH-14), and the marginal cost of supply of 11 cents/kWh in 2010 (see response to CA-NLH-1). Clearly, the current RSP mechanism is not remotely consistent with the efficiency objective. This is particularly unsettling when one considers the Province's objectives relating to energy efficiency and the Five-Year Energy Conservation Plan: 2008 - 2013 created by Newfoundland Power and Hydro, and filed with the Board in June of 2008.

The other rate design objective that merits close consideration is rate and revenue stability. As stated in the Application (Paragraph 23), "*Having updated and completed its analysis of the fuel and load variations caused by recent events, Hydro confirms that application of the existing RSP rules to calculate rates for Industrial Customers would result in significant and unreasonable rate volatility*". Schedule B to the Application shows that under the current methodology if rates had been made final on January 1, 2008, Industrial Customer rates would have increased 43% on January 1, 2009, and then decreased by 102% to 0.0 cents/kWh on January 1, 2010. The significant volatility in the IC rates under the current RSP rules is contrary to a primary objective of the RSP which

is "*To provide for acceptable levels of rate and revenue stability for consumers and Hydro*" (see response to NP-NLH-2, Attachment 1, page 7).

The Industrial Customers themselves have supported modifications to the load variation component of the RSP. In fact, they have recommended that it be terminated altogether. In Pre-filed Testimony dated September 2, 2003 at Hydro's 2003 General Rate Application, Messrs. Osler and Bowman state that the load variation component of the RSP should be terminated (page 4, lines 1-4). They cite three "major" problems with the load variation component of the RSP, as follows (page 60, lines 22-26):

- It removes Hydro's risks with respect to its load forecast;
- It results in inappropriate price signals and cost allocations to customers; and
- It necessitates complicated IC versus NP accounting and collection.

On page 61, lines 26 – 28, Messrs. Osler and Bowman state that "*the operation of the load variation component of the RSP means that rates paid by customers for incremental increases or decreases in consumption compared to the load forecast are counter-intuitive and without any reasonable foundation*".

With regard to their statement that the RSP load variation component provision necessitates complicated IC versus NP accounting and collection, Messrs. Osler and Bowman state (page 63, lines 21-23 and page 64, lines 1-5) that for utilities that either maintain fuel price and/or hydraulic stabilization accounts, such as Yukon Energy or the Northwest Territories Power Corporation, there is no accounting required to separate the

charges to any particular group of customers. The amounts deferred in the various stabilization accounts are allowed to proceed until such time as a refund/collection is required. At that time, the adjustment is applied equally to all kWh sold without distinction between customer groups as the charges relate to an energy-related cost.

Further, the ICs note the importance of the rate design objectives in the framework and objectives outlined in the February 5, 2008 *Review of Industrial Customer Rate Design* report included as Attachment 1 to NP-NLH-6, as follows:

- On page 7 it is stated that marginal price signals should neither detract from economic growth in the province nor encourage reduction in IC operations. Clearly, the current RSP mechanism is not meeting this goal – in fact, it is accomplishing just the opposite. Under the current RSP mechanism, significant increases in IC load result in significant IC rate increases, while significant decreases in IC load result in significant IC rate decreases. The changes in load are in no way related to economic efficiency because they are not in response to a marginal price signal.
- On page 7 it is stated that new rate designs will continue to be based on recovering the full IC revenue requirement measured by the embedded Cost of Service study. Clearly under the current RSP mechanism IC rates are not recovering the full IC revenue requirement measured by the embedded cost of service study as stated by Hydro in its response to NP-NLH-9.

- Page A2, Appendix A states that practical issues to be considered include implications for IC to implement DSM or conservation activities to reduce net loads on Hydro's system and capture long-term system savings. There would be no such incentives in 2011 under the current RSP methodology when the ICs would be paid to consume energy. In fact, the price signal would vary wildly, making any conservation or demand management initiative difficult to justify.
- Page 8 states that if IC load decreases substantially Hydro would likely experience fuel savings, but customers would be protected from windfall profits by the over-earnings mechanism. It is important to point out that the report does not state that in such instances all of the over-earnings would be distributed to the ICs.

2.3 Cost to Supply Industrial Customers

If the cost to supply Industrial Customers had decreased significantly relative to the cost to supply Newfoundland Power, returning all of the balance in the RSP owing to load variation to the Industrial Customers might be justified. However, there has been no evidence filed to support this scenario. In fact, evidence has been filed suggesting just the opposite, supporting Hydro's claim that the load variation component of the current RSP does not align with cost of service. Table 1, based on the response to CA-NLH-21, shows revenue requirement, energy and average revenue requirement under two scenarios: 1) the 2007 revenue requirement approved for the ICs in Order No. P.U. 8 (2007); and 2) the *pro forma* revenue requirement based on the 2009 load forecast. The currently approved average revenue requirement for the ICs is 4.82 cents/kWh. This compares to

the pro forma 2007 average revenue requirement of 4.68 cents/kWh. For Newfoundland Power, the corresponding figures are 6.48 and 6.07 cents/kWh. The cost of service for the ICs has decreased by 0.14 cents/kWh, or about 3%, while the cost of service for NP has decreased by 0.41 cents/kWh, or about 6%. Therefore, the cost of supply to the Industrial Customers has not decreased relative to the cost of supply to Newfoundland Power showing yet again the flaw in the current RSP methodology, and the need to disburse these funds on the basis of load ratio share.

Table 1: Cost of Supply Comparison

	Revenue Requirement ($)	**Energy (MWh)**	**Average Revenue Requirement (cents/kWh)**
2007 Approved Revenue Requirement in Order No. P.U. 8 (2007)			
NP	319,063,647	4,925,800	6.48
ICs	43,083,471	894,300	4.82
Pro Forma Revenue Requirement Using 2009 Load Forecast to Set Rates in 2007			
NP	299,049,437	4,925,800	6.07
ICs	19,250,907	411,600	4.68

2.4 No Element of Retroactive Ratemaking

There is no element of retroactive ratemaking if the Board were to order disbursement of RSP balances on the basis of load ratio share. As stated by Hydro in its response to PUB-NLH-18:

> *"The present Application does not seek retroactive rates per se. The rule against retroactive ratemaking prevents a utility from seeking to recover its past costs in a future period.*
>
> *To some degree, the RSP has always been an exercise in ratemaking with retroactive effects in that past commodity costs were deferred to be collected at a later time. As long as it remains in effect, it is intended that the RSP will continue to reflect the difference between the actual costs and the test year costs".*

As already discussed, previous testimony on behalf of the Industrial Customers at Hydro's 2003 GRA states that utilities such as Yukon Energy and the Northwest Territories Power Corporation defer amounts in stabilization accounts until such time as a refund/collection is required, and at that time, the adjustment is applied equally to all kWh sold without distinction between customer groups. Deferral accounts with accumulating balances are an accepted practice with no element of retroactive ratemaking.

The Board has made modifications to the collection of RSP balances in the past. As explained in Hydro's June 30, 2006 report entitled *Review of the Operation of the Rate Stabilization Plan* attached to the Application (page 17):

> *"In the order arising from that GRA, P.U. 7 (2002-2003), the Board fixed the outstanding historical RSP balance as of August 2002 and changed the recovery period for this balance from a perpetual annual one-third collection to a fixed five-year period. Outstanding RSP balances were again an issue at Hydro's 2003 GRA, due to an additional $61 million activity occurring between September, 2002 and December 2003. In Order P.U. 40 (2003), the Board rolled the December 2003 current plan balances in with the historical plan balance, and maintained the original 5-year recovery period for the revised historical plan."*

The historical plan balances for both Newfoundland Power and the Industrial Customers are now fully recovered.

As noted in Paragraph 12 (page 4) of the Application, Industrial Customer rates were made interim on December 20, 2007 when Hydro filed an Application to the Board for an Order continuing, on an interim basis, the rates then in effect for the Island Industrial Customers on the basis that the normal operation of the RSP could cause significant rate volatility. As stated in Paragraph 13 of the Application, Board Order No. P.U. 34 (2007) approved Industrial Customer rates on an interim basis until a final order of the Board with respect to Industrial Customer rates for 2008. No such order has been issued to date;

in fact, according to Paragraph 17 of the Application, the Industrial Customers themselves made a submission on December 17, 2008 requesting that the interim rates be continued. Therefore, it has been accepted since December 2007 that the funds accumulating in the RSP would be dealt with by the Board at a later date. It remains now for the Board to order disbursement of these funds by the means it determines reasonable and fair based on the evidence submitted.

2.5 Recommendations

In the interests of meeting the long-standing rate design objectives in this Province, I recommend that the Board order disbursement of the net load variation balance in the RSP consistent with Hydro's response to CA-NLH-23. Specifically, I recommend the following:

- The net load variation component of the RSP be disbursed on January 1, 2010 between Newfoundland Power and the Industrial Customers on the basis of customer energy ratios as recommended by Hydro in its response to PUB-NLH-15 (and reiterated in responses to PUB-NLH-13, PUB-NLH-14, PUB-NLH-25 (Rev 1 July 31-09) and PUB-NLH-26 (Rev 1 July 31-09)).

- The change in allocation of the net load variation balance in the RSP be effective January 1, 2007.

- The balance as of December 31, 2009 that has accumulated since January 1, 2007 be disbursed to NP and the Industrial Customers based on actual 2009 customer

sales, with credits currently estimated as shown in Table 2 (from response to PUB-NLH-25 (Rev 1 July 31-09)).

Table 2: Load Variation Allocations Estimated for December 31, 2009

	Load Variation Allocation (includes interest) $
Newfoundland Power	(41,070,005.41)
Abitibi-Price GF	(53,008.45)
Corner Brook	(914,691.29)
North Atlantic Refining	(1,812,735.53)
Teck Cominco Limited	(502,115.32)
Total	(44,352,556.00)

- The balance be conveyed through reductions to Newfoundland Power and Industrial Customer rates, with the rate reductions staged in a manner that reduces rate volatility. Total rate reductions forecast as of December 31, 2009 in the response to PUB-NLH-26 (Rev 1 July 31-09) are shown in Table 3.

Table 3: Rate Impacts of Plan Balances Estimated for December 31, 2009

	Rate Increase/Decrease (%)
Newfoundland Power	-12.1%
Industrial Customers (excluding Teck Resources Limited)	-20.3%
Teck Resources Limited	10.1%

As Newfoundland Power's purchased power costs account for roughly 70% of the retail price of electricity sold to its customers, a 12.1% reduction in its rate would result in a reduction in retail rates of about 8% (see response to CA-NLH-26).

Industrial Customer rates should be made final upon Board direction that the net load variation balance in the RSP be disbursed as outlined in this Pre-filed Evidence.

This concludes my Pre-filed Evidence.

Exhibit CDB-1

C. Douglas Bowman Background and Qualifications

Profession *ENERGY CONSULTANT*

Nationality Canadian Citizen
U.S. Resident

Years of Experience 32

Education M.S./1977/Electrical Engineering/State University of New York, Buffalo, NY
B.S./1975/Electrical Engineering/State University of New York, Buffalo, NY

Key Qualifications

Mr. Bowman has 32 years of experience in the power industry both domestically and internationally. His primary areas of expertise include electricity services costing and pricing and power sector restructuring, regulation and markets. Mr. Bowman has played a leading role in numerous consulting projects in Canada, Australia, Central America, China, Colombia, Dutch Antilles, Egypt, Ghana, India, Indonesia, Macao SAR, Macedonia, Mexico, Mongolia, Pakistan, Russia, Saudi Arabia, Serbia, South Korea, Taiwan, Thailand, The Philippines, United States and Vietnam.

Expert Testimony at Newfoundland Power Inc.'s Rates Submission
Provided expert written and oral testimony on issues related to cost of service, rate design and distribution quality and reliability of service standards at Newfoundland Power's 2008 General Rate Application.

Expert Testimony at Newfoundland and Labrador Hydro's Rates Submission
Provided expert oral and written testimony and participated in negotiation sessions on issues related to cost of service, rate design and regulation at Hydro's 2006 General Rate Proceeding.

Expert Testimony at Newfoundland and Labrador Hydro's Rates Submission
Provided expert oral and written testimony and participated in mediation sessions on issues related to cost of service, rate design and regulation at Hydro's 2003 General Rate Proceeding.

Expert Testimony at Newfoundland Light & Power's Rates Submission
Provided expert written testimony and participated in mediation/technical sessions on issues related to cost of service and rate design at Newfoundland Light & Power's 2003 General Rate Application.

Expert Testimony at Newfoundland and Labrador Hydro's Rates Submission
Provided expert oral and written testimony related to cost of service and rate design issues at Hydro's 2001 General Rate Proceeding.

Expert Testimony at Newfoundland Light & Power's Rates Submission
Provided expert oral and written testimony related to cost of service and rate design issues at Newfoundland Light & Power's 1996 General Rate Proceeding.

Expert Testimony at Nova Scotia Power's Rates Submission
Provided expert oral and written testimony related to cost of service and rate design issues. Recommended and designed time-of-day rates for all customer classes and designed an alternative interruptible rate design for large industrial customers.

Expert Testimony at Nova Scotia Power's Rates Submission
Provided expert oral and written testimony regarding an Industrial Expansion rate design. Recommended approval of rate with modifications and submitted two alternative rate designs for approval including a real-time surplus power rate and a time-of-day expansion rate.

Cost of Service and Cost Reducing Rate Design Study
On behalf of the Nova Scotia Utility and Review Board, reviewed Nova Scotia's cost of service study, and developed rate designs consistent with Nova Scotia Power's integrated resource plan for all customer classes. Report was filed with Board, and reviewed as part of hearing on utility's subsequent rate submission.

Economic Policy Reform and Competitiveness Project – Mongolia
Developed tariff reform plan that has been accepted by the regulatory commission for implementation. Developed incentive based power purchase agreement for sales of generating company capacity and energy to the transmission company. Currently developing market rules for governing competitive electricity market.

Electricity Market Reform in Macedonia
Participated in development of competitive electricity market design for Macedonia consistent with European Union market design. Currently assisting with Market Rules development to govern operation of the competitive electricity market.

Competitive Electricity Market Design – Taiwan
Developed competitive market design for electricity sector in Taiwan. Drafted market governance documents including Market Rules and Grid Code. Managed market modeling component of project which simulated market operation under wide range of scenarios.

Alberta RTO Evaluation Project
The objective of the Alberta Regional Transmission Organization (RTO) Evaluation Project was to determine a business relationship with RTO West that will ensure Alberta's electricity needs are met by a competitive market. The project participants included the Alberta Department of Energy, ESBI Alberta Limited, and the Power Pool of Alberta. Developed supporting information and delivered a report to assist Alberta with formulation of a strategy relating to a preferred business relationship with RTO West.

Detailed Market Design and Market Rules Development, Western Australia
Served as project manager providing advice to the Government of Western Australia with regard to detailed market design, market rules development, and market power mitigation. Assisted with the stakeholder process, drafted position papers on various design topics, drafted market rules consistent with a bilateral contracts market, and designed a market power mitigation program.

Market Assessment of Generating Company in Korea
Provided advisory services to a client interested in submitting a bid for the purchase of a large generating company in Korea. Served as Project Manager for the market valuation component of the project. Revenues for the generating company were forecast using market simulation software both in the early years of the competitive market when it would be dominated by vesting contracts, and in later years when the market would become fully competitive with an independent system operator administering a power pool operating alongside a financial bilateral contracts market.

Expert Testimony in Kansas Civil Case Concerning IPP Development
Provided expert testimony concerning the independent power producer (IPP) programs in India and Colombia. The testimony related to the difficulties and hurdles that must be overcome in order to successfully develop an independent power project in a developing country.

Market Power Mitigation Strategy for Generating Company in Korea
Provided advisory services to a large generating company in Korea relating to a market power mitigation strategy. Served as project manager. The project included market simulation to determine if the generating company would have market power in the new competitive market, and if so, if its market power were any greater than other generating companies participating in the market.

Advisory Services on Electricity Market Design in Serbia
Developed a high-level, phased design for the internal Serbian electricity market consistent with the EU Directive. Project included three specific tasks: initial mobilization, organization of workshops, and report and presentation. The project intent was to provide institutional support to the Ministry of Mining and Energy to facilitate the phased development of the internal electricity market with competitive bilateral contracts taking into account Serbian Energy Policy, the draft Energy Law, European Union requirements and the Athens Memorandum 2002.

Expert Testimony in California Civil Case Concerning Breach of Contract
Provided expert testimony concerning the value of a company based on revenues generated less costs to manage and operate the business. Revenues were derived from a contract for energy services covering steam and electricity sales to an industrial client and its power purchase agreement covering electricity sales to a utility. Costs to manage and operate the business included administrative costs, the cost of a lease and the cost of an operation and maintenance contract with an O&M provider.

Workshop on Transmission Planning in a Competitive Power Market
Conducted workshop on transmission planning for proposed RTO West in Portland, Oregon. Workshop covered transmission planning responsibilities of Regional Transmission Organizations under FERC Order No. 2000 and experience with domestic independent system operators and international transmission organizations. Reliance on market mechanisms for transmission expansion was emphasized at workshop.

Workshop on Transmission Pricing in a Competitive Power Market
Conducted workshop on transmission pricing for proposed RTO West in Portland, Oregon. Workshop covered transmission pricing in Regional Transmission Organizations under FERC Order 2000 and experience with domestic Independent System Operators and international transmission organizations. Workshop addressed transmission services such as network, connection, import, export, and point-to-point service, and cost recovery such as postage stamp, zonal and nodal pricing.

Development of Terms and Conditions for Transmission Tariff
Assisted Ontario Hydro Services Company with development of terms and conditions for its new transmission tariff. The terms and conditions were filed with the regulatory authority as part of the utility's application for approval of the new tariff. Also assisted with preparation of responses to various discovery questions related to the tariff.

International Survey of Transmission Rates and Services
Conducted a survey of transmission rates and services provided in various domestic and international jurisdictions. Survey conducted in support of submission by Ontario Hydro Services Company to Ontario Energy Board on its new transmission tariff. Survey topics included: services offered such as network, point-to-point, connection, import and export service; cost recovery such as postage stamp, zonal and nodal pricing; treatment of generation; and transmission planning.

Feasibility Study of Merchant Co-generation Project
Participated with a team of consultants on a feasibility study for development of a merchant co-generation facility to sell power into the wholesale market and steam to the industrial plant. Directed market studies including analyses of forecasts for electricity demand, new generating plant construction, generation costs, market bid strategies, fuel costs, utility avoided costs, etc.

Advice to Mid-west Cooperative Concerning Role in Deregulated Power Market
Provided advice to a mid-west cooperative on positioning itself for a deregulated power market. Advice included the cooperative's future power purchasing strategy, transmission and distribution construction and operations and maintenance strategy and how it should position itself to compete in the future deregulated power market.

Advice to Cooperatives Concerning Power Purchase Strategy and Transfer Pricing Mechanism
Advised a group of cooperatives concerning implementation of a transfer pricing methodology that would enable each member to choose the supplier of its choice while leaving the remaining members harmless. The intent was to ensure that each member paid its fair share of the costs associated with the group's power purchase commitments.

Expert Testimony at Various Rate Hearings in Ontario
Participated in annual rate cases in Ontario, Canada. Extent and content of input varied with position at Ontario Hydro at time of rate hearing.

Experience

Independent Consultant, Warrenton, VA 2005 to Present

Nexant, Inc., Washington, DC 2004
Executive Consultant

KEMA Consulting, Fairfax, VA 1999 to 2004
Executive Consultant

Pace Global Energy Services, Fairfax, VA 1998 to 1999
Director, Power Services

International Resources Group, Ltd. (IRG), Washington, DC 1995 to 1998
Senior Manager, Energy Group

CSA Energy Consultants, Arlington, VA 1994 to 1995
Vice President (1995); Senior Manager, Power Supply Analysis (1994)

Ontario Hydro, Toronto, Ontario, Canada 1977 to 1993
Industrial Service Advisor, Field Support Services Department, 1992-1993

Senior Rate Economist, Rate Structures Department, 1990-1992

Planning Engineer, Demand/Supply Integration, System Planning Division, 1988-1990

Senior Engineer, Resource Utilization, Power System Operations Division, 1987-1988

Planning Engineer, BES-Resources Planning, System Planning Division, 1981-1987

Assistant Planning Engineer, Transmission System Planning Department, 1979-1981

Engineer-in-Training, 1977-1979

Professional Affiliations

Professional Engineers of Ontario