

**F2012 to F2014 Revenue Requirements Application, Project No. 3698622****Association of Major Power Customers of BC (AMPC)****Response to BC Hydro Information Request No.1****May 15, 2012**

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**1.0 Reference:**

AMPC Intervener Evidence

- 1.1 Please identify the witness(es) for the evidence submitted and provide a Curriculum Vitae for each witness.

**Response:**

Please see the curricula vitae of Richard Stout and Lloyd Guenther in Attachment 1.

- 1.2 Please identify the specific components of original evidence (i.e., evidence excluding quotations from Government Review Panel Report) attributed to each witness.

**Response:**

The evidence will be spoken to by the witnesses as a panel.

**2.0 Reference:**

The AMPC evidence, at page 9, lines 16 to 17, states that “Overtime amounts to the equivalent of another 800 employees.” AMPC references Schedule 16.0 of Appendix A as the source of this information (footnote 20). However, line 43 of Schedule 16.0 shows that in F2011 there were 600 overtime FTEs, and that the planned overtime FTEs in the test period range from 512 to 518.

- 2.1 Please identify the evidence that is the basis of AMPC’s statement that overtime amounts to the equivalent of another 800 employees.

**Response:**

The number of overtime FTEs should be 600.

### **3.0 Reference:**

The AMPC evidence, at page 12, lines 3 to 4, states that “The unfunded pension liability is now \$762 million (down from \$855 million). AMPC estimates that a 20 year recovery will require an approximately 1.1% rate increase.”

- 3.1 Please provide the derivation of the 1.1 per cent rate increase, including all assumptions regarding load growth and rate increases over the next 20 years.

#### **Response:**

The annual amortization is \$38.9 million in F2013 (Ex B-1-3, App. A, Sch. 2.2). The revenue subject to a rate increase is 3,323.0 + 245.0 Interim (Ex B-1-3, App. A, Sch. 1.0). An approximation of 1.1% rate increase was used and is a one-time rate increase included in F2013 revenue requirements.

- 3.2 Please confirm that recovery of the pension liability is already included in the proposed rates for the test period. If not confirmed, please explain fully.

#### **Response:**

AMPC confirms that the recovery of the pension liability is included in the Revenue Requirements commencing in F2013. However, given the deferral of current period energy costs and deferrals for rate smoothing, the actual inclusion of the costs of the pension liability in rates is questionable.

### **4.0 Reference:**

The AMPC evidence, at page 22, lines 3 to 5, states that “In addition, BC Hydro has recently deferred \$433 million in current period non-water inflow related energy costs and rolled in operating and maintenance costs.” The response to BCUC IR 1.9.1 provides a breakdown of the additions to the NHDA since the regulatory account was created.

- 4.1 Please define what AMPC means by “non-water inflow related energy costs”.

**Response:**

Non-water inflow energy related costs include purchases for inventory (market purchase in place of hydro generation), changes in prices and changes in sales and costs of sales.

- 4.2 Please confirm that variances in all energy-related costs are subject to deferral in the CoE deferral accounts. If not confirmed, please explain fully.

**Response:**

AMPC understands that all cost of energy variances are deferred and that no such risks are assumed by BC Hydro.

- 4.3 Please confirm that the \$222.5 million transfer to the NHDA in F2011 and the proposed transfers to the NHDA of \$65.9 million in F2012, \$103.2 million in F2013 and \$46.2 million in F2014 all relate to increases in the forecast cost of energy between the original application and the respective updated application, and do not include any operating and maintenance costs. If not confirmed, please explain fully.

**Response:**

Confirmed.

- 4.4 Please confirm that the non-energy additions to the NHDA have resulted in a net credit of \$25.2 million to the NHDA, as shown in the response to BCUC IR 1.9.1. If not confirmed, please explain fully.

**Response:**

Confirmed. The BC Hydro response to BCUC IR No. 1. 9.1 shows that non-energy costs are a net credit.

**5.0 Reference:**

The AMPC evidence, at page 22, lines 14 to 17, states that “AMPC believes that a 10 year recovery of variances in the CoE deferral accounts will reasonably reflect the precipitation and water inflow cycles and the period of time over which the rate volatility is minimized.” Figure 1 on page 6 of Appendix H of the Amended Application shows that the probability distribution of the annual transfers to the Deferral Accounts is not symmetric.

- 5.1 Is it AMPC's view that symmetric water inflow cycles will result in symmetric annual transfers to the Deferral Accounts? If so, please provide AMPC's quantitative evidence that supports this view.

**Response:**

If the dollar transfers were symmetrical the Deferral Account would not require a recovery rider. AMPC understands that historically and based on BC Hydro assumptions and projections it would not or may not be symmetrical. The rate rider can be set to mitigate asymmetric effects by using a variable rider over a longer period. The water inflow cycles may or may not result in symmetrical dollar transfers to Deferral Accounts.

**6.0 Reference:**

The AMPC evidence, at page 23, lines 22 to 23, states that "Consumption data for the last 10 years shows little or no decline in per capita electricity use, despite large and growing costs of BC Hydro's DSM programs."

- 6.1 Is it the position of the AMPC that DSM is only effective if it reduces per capita electricity use? Is it the position of the AMPC that in the absence of DSM, per capita electricity use would not change over time?

**Response:**

No. The true impact of DSM spending is the difference between actual consumption with and without DSM. In most cases this cannot be measured or verified.

The impact of DSM spending can only be inferred through the use of forecast assumptions, inspection of trends and comparisons with other jurisdictions where other factors influence customer choices to consume electricity or substitute for the end-use service they actually require. The trend in per capita energy use is one such observation.

- 6.2 Please confirm that it is appropriate for BC Hydro to offer an incentive payment to an AMPC member to support the customer's investment in energy efficient technology as part of the design of the customer's plant capacity increase project. Please confirm that providing an incentive to support the customer's investment in energy efficient technology (e.g., energy efficient variable speed drives) would be appropriate even if the plant expansion project resulted in an overall net increase in electricity consumption compared to the level of consumption before the expansion project. If not confirmed, please explain why not.

**Response:**

AMPC confirms that such investments may be appropriate, however it is impossible to provide a general answer that covers all situations.

Confirming or not confirming the appropriateness of a particular incentive in a specific situation would require critical assumptions about the AMPC member's plant design absent the DSM program. These assumptions include:

- the costs of the specific technologies available, the expected performance of the technology (e.g., variable speed drives) including the risks of production losses, and
- the level and structure of industrial Tariffs that in themselves may incent the desired measure.

The size of the increment of productive capacity is not relevant to the incentive decision.

- 6.3 Similarly, please confirm it is appropriate for BC Hydro to offer an incentive payment to a residential customer to support the customer's investment in energy efficient technology as part of the design of the customer's new home construction. Please confirm that providing an incentive to support the customer's investment in energy efficient technology (e.g., Energy Star products) would be appropriate even if the new home is larger, resulting in an overall net increase in electricity consumption compared to the level of consumption by the previous home on the same property. If not confirmed, please explain why not.

**Response:**

As indicated in AMPC's response to BC Hydro IR No. 1.6.2, such investments may be appropriate in some circumstances, however it is impossible to provide a general answer that covers all situations. The question suffers from the same lack of information on which to base assumptions. AMPC cannot confidently say what choices the residential customer would make absent the particular DSM program. In the case of residential customers, these assumptions are more difficult to validate than industrial customers because electricity consumption for each residence is many orders of magnitude smaller than an AMPC member and there are many more residential customers. Energy efficient technology investments are relatively minor considerations for residential homeowners when compared to industrial users. Also, complex life-style choices are involved that do not warrant the individual attention of BC Hydro.

6.4 Is it not possible for DSM to be effective if it reduces the growth in per capita electricity use that would occur in the absence of DSM?

**Response:**

Please see AMPC's response to BC Hydro IR No. 1.6.1.

6.5 The AMPC statement referenced above purports to rely on BC Hydro's responses to TV IRs 1.1.1 and 1.4.2. Please confirm that BC Hydro's responses to TV IRs 1.1.1 and 1.4.2 show that residential average use declined in each of F2009, F2010 and F2011 compared to the previous year. If not confirmed, please explain why not.

**Response:**

The data does not show any clear trend. TV IR 1.1.1 shows an increasing sales level with 2009 to 2011 stable. TV IR 1.4.2 shows that per customer consumption could be interpreted as increasing or stable consumption with unknown weather effects. When considered along with high-rise stock increases, the unit consumption is a concern. Consumption since 2004 and 2005 has still increased despite the expenditures on DSM.

TV IR 1.1.1

	Residential Sales (GWh)
F2001	14,573
F2002	15,090
F2003	15,287
F2004	15,899
F2005	15,620
F2006	16,241
F2007	16,853
F2008	17,462
F2009	17,813
F2010	17,650
F2011	17,898

TV IR 1.4.2

<b>BC Hydro Fiscal Year</b>	<b>Average Annual Consumption per Residential Customer (kWh/year)</b>
<b>2011</b>	<b>10,818</b>
<b>2010</b>	<b>10,857</b>
<b>2009</b>	<b>11,258</b>
<b>2008</b>	<b>11,290</b>
<b>2007</b>	<b>10,906</b>
<b>2006</b>	<b>10,846</b>
<b>2005</b>	<b>10,722</b>
<b>2004</b>	<b>10,761</b>

## **ATTACHMENT 1**

**Curricula Vitae of Richard Stout and Lloyd Guenther**

## **Richard Stout**

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Vancouver, BC V6E 4R9  
roninconsult@live.com

### **Overview**

Richard Stout has been a member of the senior executive teams of multiple major Western Canadian electricity generation and transmission utilities. His nearly forty year career comprises positions of responsibility in Western Canada and the United Kingdom, and features post-graduate training in all aspects of the planning, construction and operation of electricity transmission systems and electricity generation. Mr. Stout has regularly testified before energy and utility regulatory boards and commissions in the provinces of Alberta and British Columbia, and the Northwest and Yukon territories.

Mr. Stout currently consults in the areas of electric utility management and regulation and is the Executive Director of the Association of Major Power Customers of B.C. (AMPC). Formerly the Joint Industry Electricity Steering Committee (JIESC), AMPC represents major industrial load customers in matters of electricity policy and regulation.

Mr. Stout's notable responsibilities have included:

- Reliability and protection of high voltage (HV) utility and industrial electric systems
- Major generation facility design and construction
- Integrated resource and transmission planning
- Demand side management (DSM) program development
- Tariff design and application, including contribution policies
- Electricity market design and restructuring
- Incentive regulation development

### **Education**

#### Imperial College, London

- BSc. Electrical Engineering, 1974
  - Specialization in electric drives and power systems.

#### University of Calgary

- Masters of Business Administration, 1987
  - Specialization in finance and organizational theory.

## **Past Employment**

### Central Electricity Generating Board (CEGB), United Kingdom, 1974-1982

- **Engineer**, generation development and construction division
  - Responsibilities included the design and construction of various power plants, including coal, oil, gas and nuclear.
  - Specialized in the reliability of grid system and standby power supply to nuclear power plants.
- During this period the CEGB was the sole public sector electricity generation and transmission utility for England and Wales within the United Kingdom.

### TransAlta Utilities, 1982-1989

- **Supervisor, Customer Service and Rate Design.**
  - Developed and managed DSM programs and associated economic tests.
  - Managed cost of service development, rate design and applications for all customer classes.
- TransAlta Utilities is a major investor owned generation utility that operates generating facilities across North America and internationally.

### Alberta Power, 1989-1998

- **Manager of Regulation and Forecasting**
  - Held several senior positions of progressively increasing responsibility for an investor-owned electric utility.
  - Responsibilities included defense of revenue requirements, cost of service and rate design for ATCO Electric and subsidiaries in the Yukon and NWT.
  - Part of the team that advised the Alberta Government on resolving the complex technical and economic challenges of transforming vertically integrated utilities into a desegregated market model with many buyers and sellers of electricity.
- Alberta Power was a member of the ATCO group of companies and eventually split into ATCO Electric, a transmission and distribution utility, and ATCO Power, a generation company that operates regulated and non-regulated generation facilities in multiple jurisdictions.

### Alberta Transmission Administrator (TA), 1998-2003

- **Director of Regulation**
  - Lead the development of an Open Access Transmission Tariff (OATT) at the newly created TA that could accommodate intra and extra Alberta

- energy trades and provide appropriate “price signals” for efficient transmission and generation development.
- Developed and managed the first competitive transmission procurements and a competitive ancillary service market.
- The TA was responsible for transmission planning, auxiliary services and management of an open access transmission tariff. In 2002 the TA and the System Operator were merged to become the current Alberta Electric System Operator (AESO).

#### British Columbia Hydro Electric and Power Authority (BC Hydro), 2003-2005

- Recruited to serve as BC Hydro’s first **Chief Regulatory Officer (CRO)**
  - Responsible for filing and managing all BCUC applications including Revenue Requirements, CPCN applications and related planning filings such as Long Term Acquisition Plans (LTAP).
  - At that time the CRO was also responsible for all rate design, cost of service studies and implementation.
  - Managed BC Hydro’s first revenue requirement and rates application (RRA) in 10 years.
  - Lead the team that developed and implemented the stepped-rate industrial tariff.
- BC Hydro is the provincially owned generation and transmission utility in B.C.

#### EPCOR, 2005-2010

- Recruited by EPCOR to serve as **Vice President, Regulatory Affairs**
  - The regulatory role included diverse responsibilities, from filing regulated revenue and rate design applications to addressing market rules and transmission access in Alberta involving the “unregulated” side of the company, as well as dealing with and influencing many legislative changes as the Alberta market structure developed.
  - These responsibilities included addressing the regulatory risks of EPCOR’s strategic acquisition of generation assets across North America, and ultimately the restructuring into EPCOR and the generation-focused Capital Power “spin out” entity.
- EPCOR is a municipally owned generation and distribution utility (Edmonton Power). It expanded under the Alberta re-structuring to become a major generation builder/owner/operator across Canada and the U.S., and a major trader and retailer of energy in Alberta.

**Lloyd G. Guenther, CMA, MBA**

**First Solutions Inc.  
FSI Strategies**

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Vancouver, BC, Canada  
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**Background:**

President and principal consultant of First Solutions Inc. with activities in utility regulation, energy strategies, business & financial analysis, project feasibility and financing proposals, public policy perspectives, economic impact studies, cost-benefit analysis, litigation support and forensic accounting. The principal clients are in forestry, mining, petro-chemicals, electro-chemicals, oil & gas, airlines, utility (natural gas, oil pipeline, water & waste water) companies and municipalities.

Previously held a variety of senior positions in a manufacturing & distribution company, a major Canadian holding company and in gas and electric utility companies including Vice President Finance, Controller and Treasurer, Manager of Accounting & Administration and Manager of Regulatory Affairs. Responsibilities included:

Strategic Planning	Power Supply Contracts	Acquisition Proposals
Budgeting	Gas Supply Contracts	Project Management
Treasury	Sales Contracts	Feasibility Studies
Administration & Accounting	System Development	Customer Service
Organizational Planning & Development		

Has appeared before the British Columbia Utilities Commission, National Energy Board, Alberta Public Utilities Board (AEUB), NWT Public Utilities Board, Manitoba Public Utilities Board, Ontario Energy Board, Minnesota Public Utilities Commission, the Federal Energy Regulatory Commission and at contract arbitrations. Testimony related to revenue requirements, cost of service & rate design, load retention, restructuring, cost of capital and project feasibilities.

Projects include:

- Software selection, modification, development and implementation;
- Cost of service, rate unbundling and rate design;
- Cost of service and rate evidence for IPP contract price arbitration;
- Review of cost of service and rate design proposals of electricity, natural gas and water & waste water utilities;
- Recommendations for water, effluent and energy utility costing, structures and relationships;
- Development of Financial Guidelines, Regulatory Reporting and Uniform System of Accounts for Water Utilities;

- Review and recommendations for water utility CPCN applications and rates;
- Natural gas pipeline toll model;
- Oil pipeline cost of service and toll design;
- Settlement negotiations;
- Natural gas pipeline and distribution project development;
- Acquisition studies and business plans;
- IPP project analysis, feasibility and prospectus;
- IPP cost and price analysis;
- Avoided cost analysis;
- Development of a multi-utility ownership and operating plan with a property developer;
- Project feasibilities and development for wood waste (biomass) and MSW projects;
- Electricity and natural gas bypass analysis;
- Economic impact studies for energy projects and commercial developments;
- Regional Economic Study for Northwest BC;
- Strategy and proposal for economic viability and re-opening of a petro-chemical facility;
- Natural gas supply, demand and delivery cost study;
- Hedging strategies for natural gas;
- Long-term electricity price forecasts;
- Capacity and transmission analysis for exports – BC to CA
- Electric Vehicle economic analysis;
- Review of electricity supply, demand and price forecasts;
- Monitoring of utility performance, planning studies and forecasts;
- Utility Comparative Performance Study and Strategic Recommendations;
- Venture capital monitoring & mentoring.

**Education:**

MBA	MBA in International Management at Asia Pacific International University Graduated in 1996	
CMA	Society of Management Accountants. Graduated with honours in 1977	
Undergraduate Studies	University of Manitoba	Economics
Professional Development and Presentations	Project Management Utility Cost of Capital Marketing Budgeting & Cost Control MIS Management Controllershship Advanced Rate Design Principles Electric Industry Restructuring	Forensic Auditing Depreciation Studies Cost of Service & Rate Design Operational Auditing Strategic Planning Activity Based Costing Electric Utility Cost Allocations Natural Gas Industry Restructuring

**Business & Professional Associations:**

Society of Management Accountants of British Columbia

**Clients – Past & Present:**

- Association of Major Power Customers (Forest Industry, Mining Association of BC, Electro-Chemical Producers)
- BC Gas (FortisBC)
- BC Hydro
- BC Ministry of Environment
- BC Ministry of Forests, Lands and Natural Resource Operations
- Acetex Corp.
- Airlines Fuel Committee
- Alcan (Rio Tinto)
- Birds Eye Cove Power
- Canfor
- Catalyst Paper
- Central Coast Power Corp.
- Cominco
- City of Grand Forks
- Methanex Corp.
- Natural Gas Steering Committee (Forest Industry, Mining)
- City of North Vancouver
- Pembina Pipelines
- City of Quesnel
- Tembec
- TransCanada Pipelines
- West Fraser
- Unocal
- Vancouver Island Gas Joint Venture (Catalyst Paper, Harmac, Howe Sound Pulp & Paper, Western Pulp)