

# **Industrial Electricity Policy Review Task Force Final Report**

Tim Newton  
Peter Ostergaard  
Chris Trumpy

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# Table of Contents

<b>Executive Summary</b>	<b>3</b>
<b>1. Strategic Context</b>	<b>8</b>
<b>2. Rationale and Mandate for Review</b>	<b>12</b>
<b>3. Industrial Electricity Policy Objectives</b>	<b>13</b>
<b>4. Effective Utility Regulation</b>	<b>14</b>
<b>5. Task Force Assessment of Policy and Legislative Framework</b>	<b>18</b>
<b>6. Task Force Assessment of Issues in Terms of Reference</b>	<b>22</b>
<b>7. Additional Issues for Government Consideration</b>	<b>34</b>
<b>Appendices</b>	<b>37</b>

## **Executive Summary**

### **Introduction**

Electricity drives our provincial economy. Its production, delivery, use, and conservation is in itself a source of economic activity, social well being, and provincial revenues. Its development and use may contribute to a clean environment and greenhouse gas emission reduction. Policies and programs that attempt to reconcile tradeoffs among these goals may need to change as circumstances and priorities evolve.

Because electricity is important to the economy, it's important to government. Successive governments have released five separate energy plans since 1980, responding to the issues of the day and their economic development and environmental priorities, and each of these has impacted subsequent energy policy.

Our focus in conducting this review was on industrial electricity policy. We were asked to review the existing policy framework to determine how it supports government's broad policy objectives of economic development, GHG reduction and conservation. In doing so, we met with and received input from representatives of utilities, industry, other customer groups, independent power producers, the British Columbia Utilities Commission (the Commission), First Nations, and others.

We are making a series of recommendations to provide policy clarity, ratemaking process improvements, and rate options for industrial customers. Our recommendations, if accepted, will take several years to fully implement and require some major adjustments. However, we have identified a few key changes that government could implement today.

### **Process**

Following the Terms of Reference issued in January 2013, the task force had over 30 meetings with 18 groups and received 35 submissions.

The task force provided a backgrounder and nine issues papers for comment initially, and received three rounds of comments on this material. When the task force's mandate was extended in mid 2013, it provided another round of four issues papers for comment by stakeholders. In October 2013 it released its interim report, without recommendations, to stakeholders for comment. Some suggested revisions, and task force recommendations, are included in the final report to the Minister of Energy and Mines.

### **Expectations for Industrial Electricity Policy**

Our view is that government has three broad objectives with respect to Industrial Energy Policy:

- Economic development

- Environment (GHG reductions)
- Effective regulation

Low cost, reliable electricity supports economic development. Rates should be kept as low as possible, given legal and policy requirements. A transparent process is important in setting electricity prices, allowing all options to be considered and helping to build acceptance of any rate adjustments that are required.

Government should pursue the least cost opportunities to achieve the GHG reductions it has enshrined in legislation. The current rules-based approach to the electricity generation sector may not be the best.

Over the years government has refined and expanded its list of priorities to the point where it is difficult for BC Hydro and the Commission to function effectively. BC Hydro ratepayers are expected to pay for government's broader public policy priorities, transferring responsibility from taxpayers.

## **Recommendations**

Our report includes 17 recommendations, covering policy changes, process changes, rate design, and other issues raised by stakeholders that merit consideration.

Our first category of changes is in policy. The current set of policies is confusing and we are recommending elimination of a number of policy priorities which we do not think serve a useful purpose. We also recommend some replacement policies which in our mind will provide clarity. The most important of these are the establishment of a carbon price to use when considering alternative generating sources and the elimination of the legislated objectives specifying a floor on renewable generation and conservation.

The second category of recommendations are changes in process. Government use of directives to drive public policy has increased dramatically over the years, decreasing public scrutiny and creating controversy around BC Hydro's procurement and capital investments. We are recommending some changes in the traditional regulatory compact which, if accepted, would affect the way government acts.

The third set of recommendations is around rate design and rate options. Although stakeholders cautioned the task force against getting into detailed rate design, we identified a number of elements of and potential options for industrial rates that should be looked at in a transparent hearing type process.

The major ones are Tariff Supplement 6 that sets out new industrial customer contribution policies, time of use and interruptible rates, and retail access. Existing policies do not offer the industrial sector some of the options to reduce their costs that are available in other jurisdictions. Any rate redesign should be done through a public process as these are complex issues.

Several additional issues surfaced during our discussions with stakeholders. For example, while stakeholders generally support a return to Commission regulation of BC Hydro, many express reservations about the Commission’s capacity to deliver clear, timely decisions. There is also a lot of confusion about the size and impact of BC Hydro’s regulatory account balances.

Legislation needs to change to fully implement a number of our recommendations. However, in our view this does not mean that they cannot be adopted or that existing processes could not be amended. The requirement that the BC Hydro Integrated Resource Plan (IRP) be approved by Cabinet is in legislation. Cabinet could agree that it will only consider future IRPs with a recommendation from the Commission. Similarly, a public review could begin on establishing a long-term carbon price.

However, we want to highlight two recommendations that government can implement quickly.

First, we recommend that government adopt four principles in any decision-making process involving BC Hydro’s public policy role. These are:

- Clearly Articulated Policy
- Appropriate Risk Allocation
- Market Based Solutions
- Public Scrutiny of Costs and Benefits

These are articulated in Table 1 below, and in Section 4.3.

Second, we recommend a review be undertaken to evaluate the Commission’s resource needs, review processes, and performance. Its purpose would be to ensure that the Commission can deliver on its responsibilities under the regulatory compact in a timely way.

Other high priorities for action in the near term include the development of a revised retail access program at BC Hydro. BC Hydro should also look at potential arrangements for industrial power consumers to take advantage of their flexibility, such as industrial time of use or interruptible rates, where these rates could benefit both those customers and BC Hydro. If BC Hydro’s surplus management plan proposes to put additional costs on ratepayers, it should be brought forward in a Commission-led process.

**Table 1: Task Force Recommendations**

<b>Policy Recommendations:</b>	
<b>Recommendation:</b>	<b>Timing</b>
Government should assess any directions or exemptions against the expanded regulatory compact recommended in Section 4.3.	Immediate
Acquire all possible conservation up to the cost of new supply. There is no need for the BC Hydro-specific 66 per cent conservation objective in the <i>Clean Energy Act</i> .	Short term

A long-term carbon price should be used in evaluating all electricity supply proposals and the price should be determined by Government after a public process. This would eliminate the need for the objective to generate at least 93 per cent of the electricity in British Columbia from clean or renewable resources.	Consultations beginning in 2014, implementation before next IRP
Government should provide clarity on the role carbon offsets will play in meeting Government’s greenhouse gas reduction goals.	Before 2016
As BC Hydro’s surplus diminishes, Government should consider whether a requirement for self-sufficiency is consistent with a long-run approach to least cost electricity prices.	Before 2020
<b>Process Recommendations:</b>	
<b>Recommendation:</b>	<b>Timing</b>
Government should adopt four additional principles beyond the “regulatory compact” –which allows a utility to earn a fair return on its investment in exchange for providing safe, reliable service at rates based on costs – in any decision-making process involving electricity policy. Our expanded compact includes the following principles: <ul style="list-style-type: none"> <li>• <u>Clearly Articulated Policy</u>: Government should determine the provincial public interest and set clear, understandable policy objectives, and apply them consistently to all utilities;</li> <li>• <u>Allocating Risk</u>: Utility owners (including the Province) make decisions based on an evaluation of risks, and the costs and benefits associated with these risks should be allocated to the party taking the risk;</li> <li>• <u>Market Based Solutions</u>: Market based solutions are generally preferable to those imposed by Government, provided externalities are priced and predictable, because they send appropriate price signals to drive decision-making and behaviour; and</li> <li>• <u>Public Scrutiny of Costs and Benefits</u>: Ratepayers should be provided with an opportunity for public review, either by the Commission or government, of any policy-driven initiatives that could significantly increase costs before these are implemented.</li> </ul>	Immediate
BC Hydro should ultimately bring its surplus management plan forward in a Commission-led process if the management plan proposes to put additional costs on ratepayers or transfer costs between ratepayers.	When management plan developed
BC Hydro’s future Integrated Resource Plans should be reviewed and accepted by the Commission after a public process. As the owner of BC Hydro, Government may wish to review the Integrated Resource Plan before it is submitted to the Commission.	Before next IRP
<b>Rate Design Recommendations:</b>	
<b>Recommendation:</b>	<b>Timing</b>
Continue using postage stamp rates.	N/A
BC Hydro should develop a revised retail access program.	Over the next year

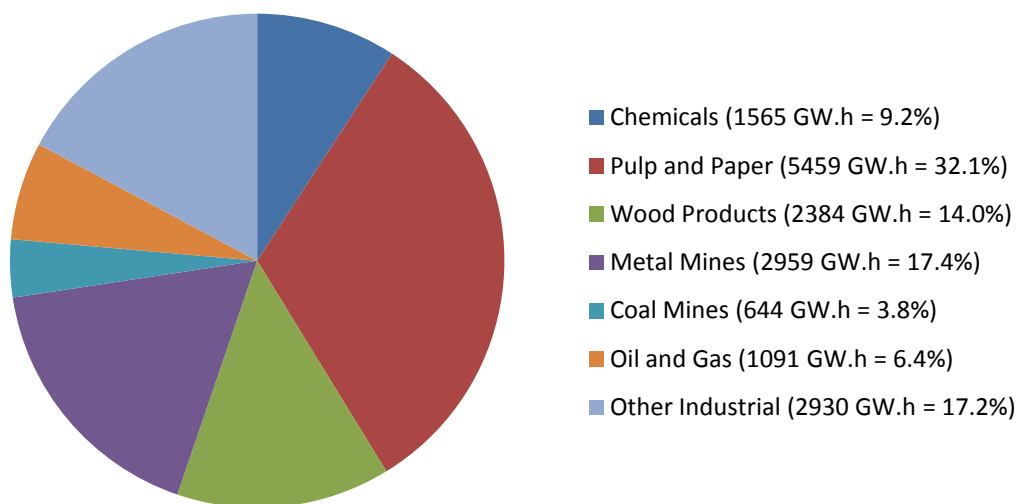
BC Hydro should work with its industrial customers and the Commission to develop options that take advantage of industrial power consumption flexibility, such as time of use rates and interruptible rates.	Over the next year
The industrial tariff supplement that sets out the terms and conditions of connections, Tariff Supplement 6, is over 20 years old and should be reviewed in a Commission public process.	Before next IRP
End use rates which have no impact on ratepayers could be considered but those which impact ratepayers and are directed by Government should be paid for by taxpayers and not ratepayers.	Before next IRP
Government need not act on the Commission's 2009 Transmission Service Rate report until BC Hydro's surplus has diminished and the effect of the other recommendations in this report can be seen.	Before 2020
<b>Other Recommendations:</b>	
<b>Recommendation:</b>	<b>Timing</b>
An independent review of the Commission should be undertaken to evaluate resource needs, review processes, and performance.	Immediate
BC Hydro should host a workshop on its regulatory accounts to improve understanding of the balances and the provisions in place for dealing with them.	Over the next year
BC Hydro should benchmark and publicly report on its transmission interconnection turnaround times for both new generation and new load.	Before next IRP

## 1. Strategic Context

British Columbia Hydro and Power Authority's (BC Hydro) 2013/14 Load Forecast estimates industrial customers will purchase approximately 17,032 gigawatt-hours (GW.h) of electricity. This accounts for about 32 per cent of BC Hydro's domestic sales. Transmission Service customers (i.e., customers that take service at 60 kilovolts (kV) or higher) such as chemical producers, pulp and paper mills and mines comprise over 75 per cent of the total industrial sales volume. Large General Service (LGS) customers (i.e., customers that take service at 60 kV or lower) such as sawmills, wood manufacturers and natural gas producers consume the remainder.

Figure one includes a breakdown of BC Hydro's industrial customers based on 2013/14 projected industrial demand.

**Fig. 1: 2013/14 Industrial Power Sales Forecast in Annual Gigawatt Hours (GW.h)**



Industrial customers are typically price-takers in competitive global commodity markets with limited ability to pass increased costs to customers. Proximity to natural resources, access to capital and market competitiveness have driven, and will continue to drive, investment decisions. Particularly for energy intensive industries, electricity costs heavily influence decisions to invest, expand, contract, or close. Industrial electricity demand declined sharply in 2008/2009 and current industrial use is 2% below 2007 levels. A summary of BC Hydro's industrial customers is included in Appendix 1.



The Province created BC Hydro in 1962 to provide reliable, low cost electricity to residential, commercial and industrial customers in British Columbia. Access to competitively-priced electricity has been a part of provincial economic development policy since that time. However, there are several drivers that place upward pressure on electricity rates: capital reinvestment in BC Hydro's assets; BC Hydro's projected energy supply surplus; depressed export market conditions; recovery of growing regulatory account balances; and achieving legislated greenhouse gas (GHG) reduction targets. An additional driver that has been placing upward pressure on rates is a changeable and increasingly complex policy and regulatory environment.

## **1.1 Capital Reinvestment in BC Hydro's Assets**

Some of BC Hydro's infrastructure is nearing the end of its economic life. While reinvestment has been deferred to keep rates low, BC Hydro cannot delay any further and must invest capital to safely refurbish and expand its system to meet demand as well as North American reliability standards. Excluding Site C, BC Hydro plans to spend approximately \$2 billion per year for the next 10 years on sustaining and growth capital projects. A \$2 billion capital program translates into roughly a 5 per cent annual rate increase to pay for amortization, borrowing costs and return on equity. This level of increase does not include any other cost pressures faced by BC Hydro.

## **1.2 Projected BC Hydro Energy Surplus**

A policy of the 2007 Energy Plan was to ensure British Columbia would be electricity self sufficient by 2016, and BC Hydro would acquire additional "insurance power". The fact that BC Hydro had been a net importer in some prior years was the result of BC Hydro making the prudent choice --consistent with approved system planning and reliability criteria--to import electricity at a lower price than the cost of generating it from intraprovincial resources. Government issued a regulation directing BC Hydro to be self-sufficient under historically low, or critical, water conditions. It also directed BC Hydro to acquire 3,000 GW.h of insurance power by 2026.

The 2010 *Clean Energy Act (CEA)* advanced the insurance power acquisition deadline to 2020. The updated Electricity Self Sufficiency Regulation also confirmed the critical water planning requirements. BC Hydro continued to acquire resources to meet the legislated requirement. In February 2012, the legislation and regulation were amended: the 3,000 GW.h insurance requirement was eliminated and the planning criteria changed from critical water levels to average water levels, a 4,100 GW.h reduction. The planning requirements, in conjunction with aggressive demand side management (DSM) targets and slow load growth, create an energy surplus expected to last to 2021. This is based on a load forecast that does not include any significant demand for electricity from the liquefied natural gas sector.

### 1.3 Weak Export Markets

To optimize its system, BC Hydro buys and sells electricity in markets outside of British Columbia such as the Mid-Columbia Electricity Market (Mid-C). System optimization enables BC Hydro to buy and sell electricity when market conditions are most advantageous. Money made from trading reduces electricity rates in British Columbia. As shown in the table below, Mid-C prices are depressed due to low natural gas prices, an oversupply of subsidized United States wind energy, and the slow economic recovery, particularly in California. BC Hydro's draft Integrated Resource Plan (IRP) forecasts export market prices of between \$25 and \$40 per MW.h over the twenty year planning period. Depressed market conditions combined with the relatively high cost of power in BC Hydro's recent calls means BC Hydro will likely receive low export revenues for surplus power.

**Table 2: Summary of Mid-C Annual Average Prices  
(Firm on Peak, US Dollars per Megawatt Hour (MW.h))**

<b>FY 2009/10</b>	<b>FY 2010/11</b>	<b>FY 2011/12</b>	<b>FY 2012/13</b>	<b>Total Change</b>
\$37.13/MW.h	\$31.08/MW.h	\$27.96/MW.h	\$23.63/MW.h	-36%

### 1.4 Regulatory Accounts

BC Hydro has 27 regulatory accounts. One purpose of regulatory accounting is to align the costs and benefits of utility expenditures over time. This supports intergenerational equity by matching costs to ratepayers who directly benefit from the expenditure without unduly large rate increases for current ratepayers. Another purpose of regulatory accounts is to smooth out the rate impact of volatile revenue or cost items.

Total account balances are \$4.67 billion as of June 30, 2013, up from the April 1<sup>st</sup>, 2013 balance of \$4.43 billion due primarily to the Powerex settlement agreement with California parties. The account balances are forecast to grow slightly before settling back to current levels and ultimately declining. In April 2012 the British Columbia Utilities Commission (Commission) directed BC Hydro to increase the 2.5% rate rider to 5.0% to accelerate recoveries for three regulatory accounts.

Given the magnitude of the regulatory accounts, a rate rider is expected to be in place for a number of years so that BC Hydro can collect sufficient future revenue to pay down the regulatory accounts. Ministry of Energy and Mines staff advise that recovery mechanisms built into current rates have been established to recover about 80 per cent of the outstanding regulatory account balances.

## 1.5 Legislated Greenhouse Gas Targets

The Province passed the *Greenhouse Gas Reduction Targets Act* in 2007. The statute directs a six per cent GHG emission reduction below 2007 levels by 2012, an 18 per cent reduction by 2016, a 33 per cent reduction by 2020 and an 80 per cent reduction by 2050. These targets are repeated in the *CEA*.

British Columbia's electricity generation sector accounted for two per cent of provincial GHG emissions in 2010. This is a relatively small GHG emissions footprint compared to the stationary combustion sources (including heating) of 26% and transportation's 38%. Meeting the 2050 targets would require British Columbia to virtually decarbonise its economy. Electrification of the industrial and transportation sectors would be part of the suite of actions necessary to meet this objective. Once the current surplus is exhausted, electrification would likely accelerate the procurement of zero-carbon electricity (hydro, wind, solar, biomass, natural gas with offsets, etc.) as well as triggering a large transmission and distribution build out.

## 1.6 Policy and Legislative Environment

The *Utilities Commission Act (UCA)* operates to ensure that utilities provide safe, reliable energy services at the lowest reasonable cost while enabling shareholders the opportunity to earn a fair return on invested capital.

The 2007 Energy Plan signalled Government's desire to value environmental objectives, such as GHG reductions, in Commission decision-making. The *UCA* was amended in 2008 to accomplish this. Section 2 of the *CEA* introduced 16 Provincial Energy Objectives to guide Commission decisions, covering issues such as rate competitiveness, economic development, GHG reductions, and clean or renewable electricity requirements. Competing *CEA* objectives have introduced complexity to the regulatory regime.

The *CEA* also exempted several projects, programs and contracts that the Government deemed to be in the provincial public interest from Commission oversight. These have contributed to BC Hydro's revenue requirements and rates.

## **2. Rationale and Mandate for Industrial Electricity Policy Review**

Concerns about rising electricity costs, the suitability of BC Hydro's industrial tariff, outstanding Commission recommendations about the Transmission Service Rate (TSR), and policy and scope matters arising from the Dawson Creek/Chetwynd Area Transmission Reinforcement Project review, pointed to the need for some sort of systematic evaluation. The then Minister of Energy, Mines and Natural Gas launched the Industrial Electricity Policy Review (Review) in January 2013. The Terms of Reference (ToR) require the task force to review the current industrial electricity policy and legislative framework, and advise Government on changes that may be required to achieve provincial policy objectives.

We are to identify how transmission voltage rates contribute to the Province's conservation, environmental policy and economic development objectives. We have also been directed to assess the tradeoffs that may be necessary between the three objectives as well as provide principles to guide the Province's use of its directive powers related to BC Hydro and the Commission in order to pursue provincial policy objectives.

The ToR further requested us to consider the following specific items:

- Allocation of embedded cost resources between new and existing customers;
- Whether postage stamp rates remain appropriate for industrial customers;
- Whether end use rates would be appropriate for industrial customers;
- Whether retail access would be appropriate for industrial customers;
- What action(s) the Province should take in relation to the Commission's 2009 TSR report;
- A comparison of effective industrial electricity costs in relevant jurisdictions; and
- Any other issues related to current or future transmission voltage rates the task force determines relevant to its recommendations.

In June 2013, the Review ToR were supplemented to include:

- A review and evaluation of industrial time of use pricing;
- A review of utility interconnection policies and timelines;
- Approaches to interconnecting large loads in hydroelectric based jurisdictions; and
- A review and evaluation of retail access policies.

The ToR and the June supplement are included as Appendix 2 and the task force process and consultation summaries are included in Appendix 3.

### **3. Industrial Electricity Policy Objectives**

Government has three broad policy objectives for industrial electricity policy: environmental; economic development; and effective regulation.

We defined the “environmental objective” as Government’s GHG reduction targets and their implications for industrial customers. Government has legislated targets for GHG emissions which require substantial decreases over time. We recognize that environmental policy extends beyond climate policy and that electricity-related non-GHG environmental issues deserve full consideration, but felt that Government has other regulatory and consultation processes, particularly the Ministry of Environment’s regulations and the Environmental Assessment Office, to address these issues.

We defined “economic development” as the creation of new and/or maintenance of existing economic activity. Low priced, reliable power supports this objective.

We defined “effective regulation” as a regime with understandable policy direction and clear role definition, as well as fair, transparent, inclusive and timely decision-making based on sound evidence. Section 4 explains in detail what we mean by effective regulation.

The Terms of Reference requested us to review the extent to which industrial rates may be used to contribute to provincial electricity conservation objectives. The task force did so and concluded that conservation is not a discrete policy issue, but a tool to implement the other policy objectives depending on how it is used. For example, conservation programs that cost less than adding new supply-side resources keep rates lower and avoid adding potentially GHG-producing new generation.

## **4. Effective Utility Regulation**

In considering changes to the industrial electricity policy and regulatory framework, it is useful to understand the main components of the existing framework—namely the role of the regulator and the role of the government—and the tensions arising from the differing roles. In addition to the standard regulatory compact, additional principles to help define effective utility regulation in circumstances where a government shareholder wishes to use its utility to advance an active public policy agenda are identified.

### **4.1 The Role of Utility Commissions**

A significant energy policy decision of the 1980 Energy Plan was to place BC Hydro under full British Columbia Utilities Commission (Commission) regulation. The *Utilities Commission Act*, and similar provincial and state legislation, delegates powers to energy regulatory tribunals, following the “regulatory compact”. In exchange for an exclusive right to serve a defined area:

- A regulated utility must provide safe, reliable, non-discriminatory service to its ratepayers at rates that are based on costs; and
- The regulator must allow the regulated utility an opportunity to earn a fair return on its invested capital.

Tribunals make decisions based on evidence, and abide by standards of procedural fairness. Significant decisions are based on open hearings with interveners offering testimony. A tribunal’s role in providing openness and transparency in its reviews of utility applications also helps remove perceptions of political interference from controversial decisions.

Commissions set rates which allow utilities to recover costs of providing service and earn a reasonable return on its investment. These costs must be necessary and/or prudently incurred to provide utility services, without compromising safety, reliability, environmental stewardship and First Nations obligations. Integrated resource plans are intended to guide the selection of the lowest cost resources that would yield the best overall outcome for ratepayers.

Commissions are also charged with ensuring that significant capital additions and energy supply contracts are in the “public interest”. The definition of “public interest” in the context of utility regulation is narrower than in a public policy context. Unless directed otherwise, energy utility regulators tend to interpret their jurisdiction as extending to include social and environmental considerations only if these considerations are likely to impose financial costs or benefits in the future.

### **4.2 The Role of Government**

Provincial governments have overall responsibility for electricity and energy policy. As with most provinces and territories, British Columbia periodically prepares Energy Plans that reflect

governments' vision for the future of its energy sector and its contribution to provincial prosperity. Provincial Energy Plans from 1980, 1990, 1994, 2002, and 2007 contain common themes of energy security, economic development, environmental sustainability, clean energy, and energy efficiency. These plans were prepared with varying degrees of input from the public, stakeholders, and advisory groups.

Governments implement many of the components of energy plans through their energy utility tribunals, through "hard wired" legislation and regulations, and through softer policy statements. All of these can be appropriate tools for introducing public interest criteria that extend beyond the traditional least-cost mandate of regulators.

In British Columbia, the Government has the ability to displace BC Hydro's and the Commission's discretion on matters through directives, directions, exemptions, and regulations under several sections of at least four Acts. Government's use of its regulatory powers has increased over time. There have been 87 BC Hydro-related regulatory directives since 1980. Almost one third of them were issued since 2010, as the *Clean Energy Act* created a number of enabling powers that were exercised by regulation. Many have had the effect of imposing costs onto BC Hydro ratepayers. A breakdown of the number and type of regulatory directions is in Appendix 4.

Government also has the ability to introduce statutes when the existing regulatory powers are deemed inadequate. Some examples include rate freezes and exemptions of BC Hydro projects, programs and contracts from Commission review and approval. Government also can direct BC Hydro activities through non-legislative ways such as the annual Government Letter of Expectations.

Subjects covered by regulatory directions have also changed over time. Directives can provide helpful articulation of government policy on BC Hydro's capital structure or guidance on environmental matters. Some important policy matters (e.g. industrial stepped rates) were made through government directive, after a report and recommendations by the Commission. The trend in recent years has been to remove or change the Commission's authority over BC Hydro rates, contracts, and projects.

The number and range of government policy instruments has impacted the effective regulation of BC Hydro in three ways:

- There can be considerable confusion over their interpretation. The policy decision to phase out Burrard Thermal is the subject of five separate enactments; another example was the prolonged debate over the scope of the Dawson Creek/Chetwynd Area Transmission Reinforcement Project proceeding.
- The use of directives and legislation to determine energy resource and technology choices means decisions may not be supported with the information that would normally accompany an evidence-based process. This creates a risk that a growing portion of BC Hydro's revenue requirements is no longer based on least cost planning.
- As BC Hydro's shareholder, the government has the ability to insulate itself from risks that shareholders of an investor owned utility would bear, and also transfer costs from the taxpayer to the ratepayer. For example, a 2009 Order (OIC 205) directed the Commission to establish a regulatory account to recover the costs of the Government-imposed Tsawwassen home purchase program arising from the Vancouver Island Transmission Reinforcement Project.

### **4.3 Additions to the Regulatory Compact**

BC Hydro impacts British Columbia's economy, environment, and government revenues. As noted above, this has led to a complex regulatory environment.

BC Hydro, other utilities, and stakeholders have raised concerns about the Commission's capacity to deliver clear, timely decisions. Some utilities have sought Government's use of its authority to displace Commission jurisdiction to achieve timeliness and certainty. Most stakeholders, including utilities, seek a strengthened, better resourced Commission. We discuss Commission capacity matters in Section 7.3.

We have identified four principles that will augment the regulatory compact and lead to more effective utility regulation.



**Recommendation:** Government should adopt four additional principles beyond the “regulatory compact” –which allows a utility to earn a fair return on its investment in exchange for providing safe, reliable service at rates based on costs – in any decision-making process involving electricity policy. Our expanded compact includes the following principles:

- Clearly Articulated Policy: Government should determine the provincial public interest and set clear, understandable policy objectives, and apply them consistently to all utilities;
- Allocating Risk: Utility owners (including the Province) make decisions based on an evaluation of risks, and the costs and benefits associated with these risks should be allocated to the party taking the risk;
- Market Based Solutions: Market based solutions are generally preferable to those imposed by Government, provided externalities are priced and predictable, because they send appropriate price signals to drive decision-making and behaviour; and
- Public Scrutiny of Costs and Benefits: Ratepayers should be provided with an opportunity for public review, either by the Commission or government, of any policy-driven initiatives that could significantly increase costs before these are implemented.

## **5. Task Force Assessment of Policy and Legislative Framework**

Historically, the *Hydro and Power Authority Act* and the *Utilities Commission Act* set out the electricity policy and legislative framework. This was later supplemented by the *BC Hydro Public Power Legacy and Heritage Contract Act*, the 2007 Energy Plan, and the *Clean Energy Act (CEA)*. These collectively constitute the current policy and legislative framework for the purposes of this Review.

We have used the principles in Section 4.3 to assess the industrial electricity policy and legislative framework. We selected what we thought were the key requirements of the electricity policy and legislative framework and summarize them below.

Our assessment of the complete list of commitments can be found in Appendix 5.

### **5.1 BC Hydro to be Self-Sufficient by 2016**

Government's policy statement related to self sufficiency is clear in both the Energy Plan and *CEA*. However, policy implementation has changed with the revised definition of self sufficiency and the removal of the requirement for BC Hydro to acquire insurance power (low market prices and limited premiums for clean and renewable generation have limited the value of surplus power and the likely cost of an electricity deficit in low-water years). Self sufficiency policy and legislation applies to BC Hydro and not to other utilities. It is unclear whether there is an appropriate allocation of risk between the shareholder and ratepayers because the policy does not appear settled. It is also likely that the policy will have the effect of increasing costs to ratepayers by acquiring power that may be sold in the export market at a loss in high water years.

**Recommendation:** As BC Hydro's surplus diminishes, Government should consider whether a requirement for self-sufficiency is consistent with a long-run approach to least cost electricity prices.

### **5.2 Government Review and Approval of BC Hydro's Integrated Resource Plan**

Government's policy statement concerning BC Hydro's Integrated Resource Plan (IRP) is clear. However, BC Hydro is the only utility required to submit its IRP to Government for review and approval rather than the Commission. The process for BC Hydro does not meet our test for risk allocation because the *CEA* directs BC Hydro to base its IRP on the Provincial Energy Objectives which limit BC Hydro's planning options. Neither government nor Commission review of the IRP would be market-based. BC Hydro has made great efforts to engage stakeholders in the IRP development process. However, the engagement process is not a proxy for a Commission review.

**Recommendation:** BC Hydro’s future Integrated Resource Plans should be reviewed and accepted by the Commission after a public process. As the owner of BC Hydro, Government may wish to review the Integrated Resource Plan before it is submitted to the Commission.

### **5.3 93% Clean and Renewable Standard for Total Provincial Electricity Generation**

Government’s policy intent for the 93% clean objective is to maintain British Columbia’s low-carbon electricity generation sector in order to support British Columbia’s legislated GHG reduction targets. It applies generally to British Columbia’s electricity generation sector rather than specifically to BC Hydro. This objective allocates risk to the ratepayer rather than government. The policy was implemented with minimal public scrutiny of costs and does not consider alternatives.

**Recommendation:** A long-term carbon price should be used in evaluating all electricity supply proposals and the price should be determined by Government after a public process. This would eliminate the need for the objective to generate at least 93 per cent of the electricity in British Columbia from clean or renewable resources.

### **5.4 Meet 66 Percent of BC Hydro’s Incremental Load Growth through Conservation**

Government’s policy intent for the 66 per cent objective is to reduce future electricity procurement costs through Demand Side Measures (DSM). It applies only to BC Hydro and no other utility. It is unclear whether risks are assigned appropriately, or if the policy is market-based. The definition of cost-effective DSM is set by regulation. Risks and benefits may be assigned appropriately if the Government’s definition remains below the marginal cost of incremental electricity supply. Strong energy conservation price signals and continued utility investment in DSM programs may make the 66% objective unnecessary.

**Recommendation:** Acquire all possible conservation up to the cost of new supply. There is no need for the BC Hydro-specific 66 per cent conservation objective in the *Clean Energy Act*.

### **5.5 Pursue All Cost-Effective Demand Side Management Investments**

Government’s policy statement is clear. It applies to all utilities, including BC Hydro. Risks would be assigned appropriately provided the correct market signals are put in place. It is unclear whether the Government’s definition of “cost-effective DSM” is market-based. However, BC Hydro has put forward three conservation rates and received approval for DSM expenditures from the Commission, so it meets the public scrutiny requirement.

## 5.6 Encourage Utilities to Design Rates that Encourage Efficiency and Conservation

Government's policy objective is clear, risk is allocated appropriately to ratepayers, conservation rates are a market-based mechanism and utility rates are typically reviewed and approved through a Commission process.

## 5.7 Net-Zero and Zero GHG Emission Requirements for Thermal Generation (Natural Gas and Coal)

Three policies of the 2007 Energy Plan require that all thermal electricity generation must have net-zero or zero GHGs. This would need to be achieved through offsets, or in the case of coal-fired generation, carbon capture and sequestration. However, it appears the requirements will be applied unevenly across fuel uses. For instance, the net-zero requirements do not apply to natural gas-fired direct drive technology, or gas space and water heating. It is not clear why GHG emissions from fossil fuel combustion should be offset, at ratepayer expense, for electricity generation if emissions are not offset when fossil fuels are used for other purposes. The 2016 offset requirement is legislated in the *Environmental Management Act*, but there is no regulation to implement it. This policy uncertainty potentially removes a low-cost resource option from consideration by BC Hydro and other potential gas-fired generation because of the unsettled GHG liability.

The policy does not allocate risk effectively because it applies to only part of the economy. Offsets are a market mechanism to support GHG reductions, but the mechanism's utility is limited as qualifying offsets have not been defined and it is unclear what long term costs will be. Costs associated with this policy were not subject to public scrutiny.

**Recommendation:** Government should provide clarity on the role carbon offsets will play in meeting Government's greenhouse gas reduction goals.

## 5.8 Project, Program and Contract Exemptions from Commission Oversight

Government's intent is clear because it uses its legislative authority to establish that a project, program and/or contract is in the provincial public interest. Examples from the *CEA* include: the Northwest Transmission Line (NTL), Mica 5 and 6, Revelstoke 6, Site C Dam and the Electricity Purchase Agreements (EPAs) from the Clean Power and Bioenergy Calls. However, there are distinctions among these projects.

The NTL and clean energy EPAs apply only to BC Hydro, transfer risk from the shareholder to ratepayers to achieve Government objectives, and were not subject to Commission review of costs. The power calls were market-based to the extent there was a competitive bidding process, but the policy decision to limit the calls to clean and renewable power limited the bidding pool. Similarly, there was a competitive bidding process to award the NTL construction

contract, but Government legislated many aspects of the project, so it is unclear whether it can be considered market-based.

It is unclear whether the risk allocation of NTL, Mica, Revelstoke, and Site C is appropriate because there was no Commission assessment of potential alternatives or scrutiny of costs. However, it is possible that these projects are in fact the best projects for BC Hydro to pursue to meet its future energy and capacity requirements.

**Recommendation:** Government should assess any directions or exemptions against the expanded regulatory compact recommended in Section 4.3.

## **6. Task Force Assessment of Issues in Terms of Reference**

### **6.1 Contribution of Transmission Voltage Rates to Provincial Conservation Objectives**

#### **Analysis**

Conservation programs support provincial environmental objectives by avoiding the need to add new electricity sources, and economic development objectives as long as program costs are lower than the cost of adding new supply.

The vast majority of transmission service customers operate under the Transmission Service Rate (TSR), a stepped rate that sends a price signal to conserve. Large General Service (LGS) customers are also subject to a conservation rate. Recent changes to the TSR under Tariff Supplement 74 (TS 74) provide customers with certainty about the application of Customer Baseline Load (CBL) adjustment and reset provisions to ensure the CBL is “right-sized”. These changes should improve the effectiveness of the TSR over the long-term. BC Hydro uses economic tests and follow-up audits to verify that industrial Demand Side Measures (DSM) investments are cost-effective.

#### **Conclusion**

Overall, BC Hydro’s industrial customers have responded to the conservation price signals in the TSR and LGS Rate. Industrial customers still have strong interest in BC Hydro’s industrial PowerSmart programs and they want to see these programs continue and diversify. This suggests there are still cost-effective conservation opportunities in the industrial sector available, regardless of the 66 per cent conservation objective.

### **6.2 Contribution of Transmission Voltage Rates to Provincial Environmental Policy**

#### **Analysis**

British Columbia’s electricity generation sector has low GHG emissions, unlike many other jurisdictions in North America which rely on coal or natural gas. As noted, electricity generation in British Columbia accounted for two per cent of GHG emissions in 2010. Transmission voltage rates do not contribute to meeting provincial GHG objectives, but rates are affected by acquisition strategies driven by the GHG reduction targets. Other electricity policies covered below have a more direct impact. Since the 2050 goal is for an 80% reduction in the 2007 level of GHG emissions, any transmission rate policy which supports these goals would have to ensure that carbon impacts of any new electricity supply are fully factored in.

### Conclusion

It is unclear whether additional transmission and distribution investments to support electrification, higher volume acquisition of zero-GHG generation resources, or more aggressive conservation actions would be among the lowest-cost initiatives to implement provincial environmental policies.

## **6.3 Contribution of Transmission Voltage Rates to Provincial Economic Development Objectives**

### Analysis

Low, stable and predictable rates combined with reliable service support economic development. Average Transmission Service rates rose by over 40 per cent between 2006 and 2012 (see Appendix 6). Future increases will place pressure on electricity-intensive industrial customers. BC Hydro's F2012 Fully Allocated Cost of Service study shows both Transmission and LGS >150 kW customers pay slightly more than their costs of service, with revenue/cost ratios of 104% and 106% respectively. (These compare to revenue/cost ratios of 90% for residential customers and 126% for small commercial customers). At this time the residential class of customers does not pay for its costs of service and if future Commission rate design decisions transition rate classes toward 100% revenue to cost ratios, there could be a contribution to economic development from some commercial and industrial class customers.

Industrial customers appear to have a degree of operational flexibility to reduce peak demand. This may provide value to both customers and BC Hydro under the proper circumstances.

### Conclusion

Future rate increases may lead some industrial customers to invest in efficiency, but may prove difficult for others to absorb. In those cases, rate increases may lead to decisions to close or reduce production in British Columbia, or move production out of the province.

## **6.4 Trade-offs Required When Reconciling Provincial Policy Objectives**

### Analysis

Because electricity generation infrastructure can remain in service for 20-40 years or more, it is not clear what the optimal trade-off between achieving Government's GHG reduction target and economic development goals is without a long-term price for carbon. The carbon tax is not a proxy for a long-term price for carbon consistent with Government's legislated GHG targets. BC Hydro forecasts costs to rise under almost any scenario, but they would likely rise faster if Government aggressively pursues GHG emission reductions relative to pursuing rate mitigation.

The current policy and legislative framework does not explicitly recognize the current and future costs it imposes on BC Hydro ratepayers. Clean energy requirements within the *Clean Energy Act (CEA)* limit BC Hydro's ability to acquire low cost resources but the *CEA* simultaneously directs BC Hydro to be a low cost utility and support provincial economic development objectives.

### Conclusion

A known long-term carbon price and clear offset policy that can be used to compare different long-term electricity resource options would support Government climate policy goals.

## **6.5 Principles to Guide Government's Use of its Legislative Authority Related to BC Hydro and the Commission**

### Analysis

When Government uses its legislative authority to achieve provincial public policy objectives, this imposes costs on ratepayers and can limit due diligence. Some provincial energy policy objectives were presented in legislative form rather than in Government policy documents such as an updated Energy Plan. Enshrining these objectives in legislation may ease implementation of Government's policies, but limits Government's flexibility to adapt its electricity policy to reflect changing economic, energy market and fiscal circumstances.

### Conclusion

Government's role to determine the provincial public interest should be separated from its role as shareholder of BC Hydro. Principles could provide government with guidance on what costs should be allocated to ratepayers, and those that should be allocated to government as shareholder. Public scrutiny of BC Hydro's expenditures by the British Columbia Utilities Commission (Commission) will increase public acceptability of the results. Adoption of our recommended expanded regulatory compact will provide Government with guidance on considering its use of legislative authority to supersede the Commission.

## **6.6 Allocation of Embedded Cost Resources Between New and Existing Customers**

### Analysis

The Heritage Contract states that BC Hydro ratepayers are to share the benefit of BC Hydro's embedded cost resources. This is accomplished through cost-of-service rates so that customers with similar characteristics (ratepayer classes) pay the same price for electricity. This premise holds true for new customers under 150 megavolt amperes (MV.A), but not for those over this threshold. Under Tariff Supplement 6 (TS 6), approved by the Commission in 1991, customers



requesting service at 150 MV.A or higher are required to pay the full incremental cost of any generation procurement they trigger.

It appears the purpose of this limit was to prevent very large loads from diluting BC Hydro's embedded cost resources and driving up rates for existing ratepayers, however we were unable to find definitive proof because of the tariff's age. The 150 MV.A threshold presents a cost barrier not found in other jurisdictions, and sends a signal that new large electric loads are not supported in British Columbia.

New customers are also required to pay for system upgrades to BC Hydro's bulk electric system if their load triggers the need to do so. However, some of these costs are absorbed by all ratepayers (i.e., rolled in to rates) if the new customer generates sufficient revenue to BC Hydro in its first seven years of operation.

### Conclusion

The underlying principles and operational aspects of TS 6 could be reviewed in a forum where all interested stakeholders may participate and provide input. We received several different approaches to a contribution policy that require technical review to determine their feasibility.

We could not find a firm rationale for the implementation of the 150 MV.A threshold in TS 6. The only similar threshold we've been able to find is a 50 MW threshold for Hydro Quebec. Hydro Quebec is only required to serve up to this threshold but can choose to serve beyond this. The tariff would not necessarily treat customers above or below the threshold differently. It also appears that nothing similar exists in other jurisdictions based on the cross-jurisdictional analysis provided by BC Hydro. However, we also understand the ultimate goal of the threshold is to protect existing ratepayers from unreasonable electricity cost increases.

**Recommendation:** The industrial tariff supplement that sets out the terms and conditions of connections, Tariff Supplement 6, is over 20 years old and should be reviewed in a Commission public process.

## **6.7 Whether Postage Stamp Rates Remain Appropriate for Industrial Customers**

### Analysis

Postage stamp rates are the standard approach to utility rate setting in North America. Stakeholders unanimously supported the continuance of postage stamp rates. However, this support depends on a contribution policy that balances the interests of new and existing customers.

### Conclusion

There is little support to move away from postage stamp rates for customers taking service at transmission voltage rates.

**Recommendation:** Continue using postage stamp rates.

## **6.8 Whether End Use Rates Would be Appropriate for Industrial Customers**

### Analysis

There are two types of end use rates: those that follow established rate-making principles and process, and those that do not. The former are subject to Commission approval, such as “Irrigation Rates” and “Street Light Rates”. Stakeholders considered that these produced benefits to BC Hydro through using electricity during periods of surplus in the case of irrigation and by saving the costs of metering when the actual use could be easily determined from the actual use pattern in the case of street lighting. Since all customers benefitted, or were kept whole, these rates should be treated as other cost based rates.

If rates are set to meet government objectives, where the rates are not based on established rate making principles, and the costs of the rates are not covered by projected revenue, then stakeholders believed the shortfall in revenue should not be covered by other rate classes.

### Conclusion

End use rates may make sense under specific circumstances. End use rates should not be subsidized by ratepayers. Stakeholders have indicated that they do not support end-use rates unless those rates are cost-based.

**Recommendation:** End use rates which have no impact on ratepayers could be considered but those which impact ratepayers and are directed by Government should be paid for by taxpayers and not ratepayers.

## **6.9 Whether Retail Access Would be Appropriate for Industrial Customers**

### Analysis

Retail access would enable industrial customers to buy some or all of their electricity from third party providers and delivered over BC Hydro’s transmission system at regulated rates. BC Hydro’s Retail Access Program (RAP) was operational from 2006 to 2011. It was intended to enable Tier 2 electricity to be purchased from domestic IPPs, from TSR customers with surplus self- generation, or from power marketers sourcing electricity in the US or Alberta. The Program was comprised of a Program Agreement (TS 71) and Energy Imbalance Schedule

(RS 1890), billing and CBL treatment under RS 1823, and the CBL Determination Guidelines (TS 74). Program customers would retain their existing Contract Demand and Electricity Supply Agreements with BC Hydro.

No customers participated in the Program for reasons relating to BC Hydro's traditional role as least cost supplier, and the risks and costs to obtain third party electricity. Intertie access is another limiting factor. However, as BC Hydro's rates increase and the gap between Mid-C prices and the Tier 2 rate widens, the economic incentive is growing for industrial customers to seek alternatives.

The Province's 2011/12 Shareholder Letter of Expectations asked BC Hydro to enhance open access tariffs to facilitate direct purchases of electricity by large users. However, BC Hydro was concerned that the Program needed to be modified to address several shortcomings, and sought Government and Commission approval to suspend it. The Commission approved the suspension in early 2012, but directed BC Hydro to file a status report and then bring forward a proposal on a RAP by late March 2014.

The ability to access market priced electricity when prices are low may improve industrial competitiveness, but it also may expose remaining ratepayers to risks. Perhaps the most common "no harm" provisions are exit fees and re-entry rules. Exit fees are imposed by utilities on departing customers if the departure creates, or risks creating, stranded assets. Exit fees are usually calculated as the anticipated revenue from the departing customer less the market value of the "freed-up" electricity. Re-entry rules also build off a utility's obligation to serve: a retail access tariff may require a minimum commitment period by departing customers, or responsibility for any costs directly associated with their return.

A consultant surveyed retail access programs in seventeen utilities across North America for BC Hydro: details on or links to retail access program eligibility, exit fees, and commitment periods are included as an Appendix to BC Hydro's March 28, 2013 submission to the task force. Of the seventeen jurisdictions surveyed, only British Columbia and Newfoundland have no active market access program, although Quebec's would only be triggered by a Hydro Quebec proposal, and no such proposal has ever been made. Eligibility restrictions seem more prevalent in major Canadian utilities than in the US utilities surveyed, and are only completely absent in Alberta and Ontario, which are characterized by competing generation companies bidding into power pools.

An industrial customer retail access program has three main potential benefits:

- It would provide a lower cost and customized pricing and delivery for a segment of a customer's supply, providing a hedge against competitors who have access to lower cost power
- A reduced reliance on BC Hydro for existing and future loads reduces its supply obligations, potentially lowering future rate increases
- Competition would encourage BC Hydro to become more efficient

Conversely, three main potential drawbacks to retail access are:

- It may be difficult to design a program that both delivers material value to participating customers and maintains a “no harm” principle
- Competing uses for the transmission system may limit BC Hydro’s ability to optimize its generation and transmission system, particularly in times of surplus
- Retail access may be inconsistent with the Province’s self-sufficiency and GHG reduction objectives by enabling the costs of these policies to be avoided

Stakeholders identified three potential approaches to retail access: from British Columbia generators other than BC Hydro; market access to both British Columbia and mid-Columbia generation; and market price indexing. Limiting access to intra-provincial generation would not provide the savings associated with currently low Mid C prices.

In addition to possible risk allocation (e.g. exit and re-entry rules) to ensure non-participating ratepayers are not adversely affected, any new retail access program would need to resolve the following issues and deficiencies of the former program:

- Agreement term (e.g. 1, 3, or 5 years?)
- Firm energy and firm transmission (customer’s obligation to deliver?)
- Designated point of delivery (e.g. border or elsewhere?)
- Coordination with Network Integrated Transmission Service Agreement (is title transferred?)
- Carbon liability
- Energy accounting and billing (e.g. does demand charge cover point to point transmission charges?)
- BC Hydro’s obligation, if any, to provide electricity when a retail access customer’s supply or transmission is unexpectedly curtailed.

### Conclusion

Retail access is a sound policy concept, in keeping with Government’s objectives to support industries. There is sufficient interest among stakeholders to develop a revised program, perhaps implemented as a pilot with defined limits to its duration and volume. A pilot program would also test rules crafted to avoid stranded costs and possible impacts on other ratepayers, as well as research and identify other conditions that would need to apply to a more permanent program.

**Recommendation:** BC Hydro should develop a revised retail access program.

## 6.10 Whether Government Should Take Action on the Commission's 2009 Transmission Service Rate Report

### Analysis

The 2009 Commission TSR Report contained eight recommendations. Rate design issues related to revenue neutrality and bill neutrality were key to these recommendations. Bill neutrality was pursued when the TSR was designed because it was determined that industrial customers should not pay more than what they paid at the time. Revenue neutrality was pursued to ensure other rate classes did not bear the costs of TSR implementation. While revenue neutrality and bill neutrality continue to make sense, they limit how much the current rate design can be altered to accommodate changing circumstances.

The inherent trade-offs in the rate design, in conjunction with greatly reduced electricity purchases due to the economic downturn, led to overly generous initial CBL calculations. BC Hydro and industrial customers appear to have addressed the issues related to CBL rules and the persistence of DSM investments through TS 74. Stakeholders agree that the rate design is not perfect, but it does send a conservation price signal that prompts customers to respond.

The Commission's recommendations included a caveat that no changes should be made to the TSR until either BC Hydro adopts Time of Use (ToU) rates or the economy stabilizes. It further recommended that any potential future changes should be considered in consultation with transmission service customers. These principles also remain sound given BC Hydro currently projects an energy surplus. BC Hydro does not appear to have a conservation problem in the near term, so there is little incentive to make drastic changes to a regime that appears to be working.

### Conclusion

The Commission's recommendations on bill neutrality and revenue neutrality are valid when BC Hydro returns to load/resource balance. However, there does not appear to be a pressing need to address these rate design issues at this time.

Recent changes to CBL calculations and the persistence of DSM expenditures will strengthen the conservation price signal in the TSR. However, this will need to be verified in the future to ensure the changes have achieved their goals.

**Recommendation:** Government need not act on the Commission's 2009 Transmission Service Rate report until BC Hydro's surplus has diminished and the effect of the other recommendations in this report can be seen.

## **6.11 Comparison of Effective Industrial Electricity Costs in Relevant Jurisdictions**

### Analysis

Appendix 6 contains data which compares BC Hydro's industrial rates to jurisdictions across North America. 'Apples to apples' comparisons are difficult; for example, the 5% rate rider is not included, nor are numerous rate adjustments in other jurisdictions. The data suggests that rates in British Columbia remain low relative to other jurisdictions although they have risen faster in recent years. In 2006 British Columbia had the second lowest rates of 22 jurisdictions and in 2012 British Columbia was fourth lowest. Over this period BC Hydro's average industrial rates increased by over 40 per cent which is amongst the highest rates of increase over that period.

### Conclusion

British Columbia's comparative advantage in industrial rates has diminished in recent years.

## **6.12 Whether Time of Use and Interruptible Rates Would be Appropriate for Industrial Customers**

### Analysis

While both ToU and interruptible rates can reduce the need for peaking capability the difference is that ToU relies on a less certain and slow price response, while utility directed interruptible rates can be implemented quickly and with greater certainty.

Industrial customers welcomed the idea of ToU and interruptible rates as an option to offset increases in rates, but cautioned that there were many factors that needed to be considered. The lack of use of BC Hydro ToU rate Schedule 1825 appears to be a result of the complexity of the rate in trying to address these factors. The need for customers to invest to be able to participate in ToU is an entrance barrier that needs to be overcome, requiring significant potential benefits and certainty over the time frame needed to recover the investment.

Stakeholders who were not industrial customers recognised that in some respects ToU is similar to energy conservation in that customers who adopt ToU reduce BC Hydro's cost of acquiring new peaking resources, reducing costs to all customers, and reducing the impact on the environment.

Some industrial stakeholders said they were not at all sure that the difference in either BC Hydro's costs or the short-run spread in market prices in neighbouring jurisdictions would

allow sufficient difference in ToU rates between low cost periods and high cost periods to be attractive enough to potential customers.

Industrial customers who might be interested in interruptible rates could face initial costs to invest in equipment to make interruptions possible and would likely face additional costs whenever they were interrupted. The number of interruptions a customer might face in a given time as well as the duration of each interruption would likely be factors increasing interruption costs. The reduction in rates or payments in return for interruptions will have to compensate the customer for these costs if there is to be any acceptance of the interruptible rate by industrial customers.

BC Hydro's ability to interrupt customer loads can meet increased reserve requirements, possibly reducing BC Hydro's costs. For an interruptible rate to be feasible, the savings to BC Hydro must exceed the incentives required to attract a potential customer.

### Conclusion

ToU and interruptible load rates may provide cost relief to some industrial customers and reduce BC Hydro costs. There are many variations of these rates in other jurisdictions. Careful program design will help avoid unintended consequences, so there should be detailed consultations and possibly use of pilot programs.

**Recommendation:** BC Hydro should work with its industrial customers and the Commission to develop options that take advantage of industrial power consumption flexibility, such as time of use rates and interruptible rates.

## **6.13 Utility Interconnection Timelines**

### Analysis

Delays in transmission availability are cited as an obstacle to industrial development in British Columbia. BC Hydro's transmission interconnection process is perceived as slow, cumbersome, unresponsive and expensive by customers. The risk of missing in-service dates could drive new industries to self-supply rather than take grid service.

Interconnection processes in British Columbia, like those in most jurisdictions, are governed by tariffs. While BC Hydro is subject to timelines on its open access transmission tariff, it is not on its tariff to connect large industrial customers. Fixing timelines for potential new industrial electricity customers could remove a source of investment uncertainty from projects.

Information on connection timelines in other jurisdictions has been limited. Alberta's Electricity System Operator estimates a typical timeline of 24-36 months, but timelines can vary with project complexity, the number of projects active, stakeholder impacts, etc. Bonneville Power Administration staff indicate that utilities in the Pacific Northwest do not have fixed

interconnection timelines for industrial interconnections. Even with better information on other jurisdictions, the topography and amount of radial transmission in British Columbia may complicate transmission development in ways that make it difficult to directly compare timelines in British Columbia to other jurisdictions.

Fixed interconnection timelines would likely require that utilities devote more resources to the interconnection process or that they take on additional risks associated with delivery or less comprehensive analysis when multiple connection requests happen at once. Regulatory and consultation process requirements may mean any timeline is no longer under the utility's control. If the utility staffs up to deal with a rush of interconnection requests, it becomes difficult for the regulator to assess whether costs are appropriately allocated after the requests slow down. There is a risk of upward pressure on rates. If utilities do not devote additional resources to meet timelines, they must accept the risk that either they will not meet the timeline (and incur any penalty for failing to meet it), or reliability or cost overrun risks due to lack of study.

Public-private partnerships for the planning and development of transmission might offer utilities an opportunity to reduce their exposure to project cost risks as long as there are safeguards to ensure standards are met. Natural gas generation sited nearer to load may, in some cases, be another way to limit costs and risks associated with interconnection by limiting the need for transmission reinforcement.

### Conclusion

Limiting interconnection timelines would be useful to new industrial customers, but would involve costs to ratepayers and/or potential risks to utilities. It is not clear that current practices optimally weigh this trade-off. Careful consideration must be made of the appropriate targets and processes and the potential costs and benefits of any change.

**Recommendation:** BC Hydro should benchmark and publicly report on its transmission interconnection turnaround times for both new generation and new load.

## **6.14 Government Approaches to Attracting and Retaining Industrial Load**

### Analysis

Government has the ability to intervene by modifying interconnection policy or by setting rates to attract or retain industrial customers. British Columbia has done so in the past, notably with the Power for Jobs program in the 1990s. Ontario has a program to provide price relief for up to 5,000 GW.h per year to new or expanding loads to recover load lost through the 2008 economic downturn.

In its early days, the Bonneville Power Administration served several industrial customers directly, but has not issued new contracts of this type. The Government of Quebec has



legislative authorities to set electricity rates for certain customers and to grant load allocations at certain rates. It has apparently negotiated deals with large industrial customers in the past, offering lower electricity rates for things like employment guarantees, and may continue to do so.

Newfoundland and Labrador's Electrical Power Control Act (EPCA) specifies that rates should promote the development of industrial activity in Labrador, and specific industrial customers have lower rates assigned to them, offset by specific charges. However, the Public Utilities Board and not the government administers the EPCA and the charges. It's not clear what role government had in setting these.

The Government of Manitoba works with potential new large electricity customers who are considering locating in the province, but not on rate or interconnection issues. These are the responsibility of the Manitoba Public Utilities Board and Manitoba Hydro. If a new customer has a concern with Manitoba Hydro's execution of its policies or timelines, they can raise the issue through government.

One risk of using special electricity rates to encourage specific kinds of load arises from the fact that rate allocation is typically zero-sum: the revenue shortfall from one group of customers must be made up somewhere else. One option is to fund targeted rate cuts through a reduction in the dividend, but otherwise the revenue would have to come from other customers. Cross-subsidization of a favoured customer group by another can impact the disfavoured group's competitiveness. For example, a rate intended to attract new industrial load could shift costs to an existing customer and cause that customer to go out of business, taking its associated jobs, investment, tax revenue, and load with it.

Tax policy may be an alternative to using interconnection cost or electricity rates as a means to attract load. Few jurisdictions in North America apply state or provincial sales taxes to industrial electricity consumption; Manitoba has lower provincial sales tax rates on some trade-exposed industries, like mining and manufacturing. This approach would avoid cross-subsidization, and the costs of meeting government priorities would remain with the taxpayer. Government would assess whether the socio-economic benefits of the project justified foregoing tax revenues.

### Conclusion

Different jurisdictions each face their own unique geographic, market, and political pressures and have different approaches to policy as a result.

## 7. Additional Issues for Government Consideration

There were three issues that arose during the consultation process that fell under the “other considerations” provisions of the Review mandate: BC Hydro’s regulatory account balances, its energy surplus, and British Columbia Utilities Commission (Commission) capacity. We include them here to ensure the full range of stakeholder views are considered by Government.

### 7.1 BC Hydro Regulatory Account Balances

Almost every stakeholder referred to BC Hydro’s large regulatory account balances. Industrial customers generally expressed concerns about how much additional cost they would bear to pay down the accounts over time. We benefitted from meeting with BC Hydro staff to improve our understanding of the accounts.

**Recommendation:** BC Hydro should host a workshop on its regulatory accounts to improve understanding of the balances and the provisions in place for dealing with them.

### 7.2 BC Hydro Energy Surplus

BC Hydro projects an energy surplus until 2021 given current supply and demand forecasts. Weak export markets and slow near-term load growth limit BC Hydro’s options to reduce the surplus. The BC Hydro IRP includes measures to moderate current spending on demand side measures and to delay or cancel some independent power producer contracts where development has stalled. BC Hydro recently cancelled ten electricity purchase agreements, and delayed a further nine.

**Recommendation:** BC Hydro should ultimately bring its surplus management plan forward in a Commission-led process if the management plan proposes to put additional costs on ratepayers or transfer costs between ratepayers.

### 7.3 British Columbia Utilities Commission Capacity

While stakeholders generally support a return to Commission regulation of BC Hydro rates and projects, many express reservations about the Commission’s capacity to deliver clear, timely decisions. Similar concerns are cited as reasons for the growth in government’s use of its regulatory powers to displace Commission jurisdiction.

In the past decade, the number of Commission staff has increased by about 70 percent (from 22 in 2003/04 to 38 in 2012/13) and its expenditures by about 84 per cent (from \$4.3 million to \$7.9 million). The *Clean Energy Act (CEA)* has introduced complexity, the number of regulated utilities has grown with the addition of district energy systems, and the Commission’s duties have expanded to include such topics as First Nations consultation adequacy, mandatory reliability standards, and natural gas customer choice. Nonetheless, some stakeholders

consider the upward trend in staffing and expenditures outpaces the increases in the Commission's responsibilities.

Recent Commission initiatives to enhance regulatory efficiency include a Streamlined Review Process, a proposed Scaled Regulatory Framework and Guide for thermal systems, and a management committee to address compliance and reporting directives. In addition to staffing levels and expenditures, the Commission includes several performance indicators in its Annual Reports. Additional indicators that could be tracked are cycle times—the time between receipt of an application and the issuance of a decision—for applications requiring oral hearings, written hearings, and negotiated settlements. (Cycle times for these applications were graphed in detail in earlier Annual Reports.) This information would help support or refute concerns expressed by many stakeholders over what they perceive as increasingly prolonged cycle times. For quasi-judicial agencies like the Commission, expediency in processing applications can bring an increased risk of legal challenges.

Like other utility regulatory tribunals competing with higher-paying utilities for skilled staff, the Commission faces recruitment issues. Of the 38 Commission staff in June 2013, only four have been with the Commission for more than ten years, and 22 of the 38 have been with the Commission for less than four years. Some stakeholders raised concerns about the balance between the number of full time (1) and part time (10) Commissioners. Part time Commissioners are paid by the day, yet in 2012/13 three received remuneration comparable to that of a full time Commissioner. Most other energy utility tribunals have a more balanced complement of full vs. part time commissioners.

While periodic adversarial public hearings can provide useful detailed information in determining revenue requirements, they can encourage utilities to “gold plate” their applications, and regulators and interveners to stray from their proper role of utility oversight towards utility management. Negotiated settlement processes and multi-year performance based regulation usually result in lower costs, more timely decisions, and better outcomes for ratepayers than frequent hearings. Incentive regulation rewards utilities for finding cost savings without affecting safety and reliability. Fortis BC Energy Inc. is seeking approval for a five year performance-based rate plan through a negotiated settlement; this proceeding should enable current Commissioners and staff to become comfortable with these approaches.

The Commission was given authority to require long term resource plans in 2003, in the expectation that these plans would lead to efficiencies in or exemptions for subsequent project, conservation expenditure, and revenue requirement reviews. Under the *CEA*, the 2013 BC Hydro Integrated Resource Plan (IRP) has been submitted to the Energy Minister and was open for public comment. While the fate of the IRP is yet to be determined, it is bound to prompt requests for changes to those sections of the *CEA* that increase costs to customers, and a renewed role for the Commission.

To capture efficiencies going forward, detailed information on BC Hydro's revenue requirements could be submitted, tested, and adjudicated in a one, or perhaps two, year

revenue requirements application. This detailed information base would then set the stage for a multi-year performance based rate application, aided by a new or amended IRP that focuses on least cost planning and cost reduction. A more efficient regulatory regime should emerge, enabling BC Hydro to emphasize productivity improvements, instill a productivity improvement culture, and minimize costs to customers, while ensuring continued safety and reliability. Separate proceedings to review Tariff Supplement 6, retail access, and possible refinements to industrial time of use rates, interruptible rates, and the transmission service rate would proceed commensurate with BC Hydro, Commission, and customer priorities and resources.

**Recommendation:** An independent review of the Commission should be undertaken to evaluate resource needs, review processes, and performance.

# Appendices

## **Appendix 1: Overview of BC Hydro's Industrial Customers**

BC Hydro's 2013/14 Load Forecast estimates industrial customers will purchase approximately 17,032 GW.h of electricity. This accounts for approximately 32 per cent of BC Hydro's total domestic sales. Transmission Service customers (i.e., customers that take service at 60 kV or higher) such as chemical producers, pulp and paper mills and mines comprise approximately 77 per cent of the total industrial sales volume. Large General Service (LGS) customers (i.e., customers that take service at 60 kV or lower) such as sawmills, wood manufacturers and gas producers consume the remainder.

BC Hydro breaks down its transmission voltage customers in to four sectors: Forestry; Mining; Oils and Gas, and Other. Forestry is further broken down further in to three subsectors: Chemicals; Pulp and Paper; and Wood Products. Mining is further broken down in to two subsectors: metals and coal. BC Hydro aggregates its LGS distribution customers in to one group regardless of industry sector.

### **Forestry**

#### **Chemicals Subsector**

The chemicals sector consists of companies that produce bleaching agents for the pulp and paper industry, and cleaning agents for the oil and gas industry and for water purification. BC Hydro projects the industry will constitute 9.2 per cent of total industrial sales in 2013. The key industry drivers are the domestic and global pulp and paper industry as well as oil and gas activity. Electricity comprises approximately 55 per cent of the industry's production costs on average.

#### **Pulp and Paper Subsector**

The pulp and paper sector consists of companies that produce newsprint, coated and uncoated paper, unbleached kraft pulp, bleached chemical pulp, thermo-mechanical pulp and marked bleached thermo-mechanical pulp. The industry is concentrated primarily in the southwest and central interior. BC Hydro projects the industry will constitute 32.1 per cent of total industrial sales in 2013. The key industry drivers are pulp and paper market prices, the US economy and the global economy. This sector uses biomass to self-generate some of their power requirements, the amount of which varies between different operations. Electricity comprises approximately 12 per cent of the industry's production cost, although there can be large variances between mills based on the age and efficiency of the equipment, the technology used, and the product produced.

### Wood Products

The wood products sector consists of companies that produce dimensional and structural lumber, oriented strandboard, medium density fibreboard, plywood, fuel pellets and other specialty products. There are over 100 mills located in every region of the province. BC Hydro projects the industry will constitute 14.0 per cent of total industrial sales in 2013. The key industry drivers are domestic housing starts/repairs, US housing starts/repairs, Chinese demand and access to saw logs due to the impact of the mountain pine beetle. Electricity comprises approximately 2 per cent of the industry's production costs on average.

## **Mining**

### Metals Subsector

The metal mining sector includes copper, gold, silver, molybdenum, lead and zinc extraction and processing. BC Hydro projects the industry to constitute 17.4 per cent of total industrial sales in 2013. The key industry drivers are prices for copper, gold, and molybdenum, Government policies that support resource development, tax regimes, supporting infrastructure, and access to capital. Electricity comprises approximately 12 per cent of the industry's production costs on average.

### Coal Subsector

The coal subsector consists primarily of metallurgical coal exports with a small volume of thermal coal. Most of the production comes from open pit mines located in the southeast, although northeast coal production is expected to expand. BC Hydro projects the industry will constitute 3.8 per cent of total industrial sales in 2013. The key industry drivers are global demand for steel, social license to operate (particularly related to First Nations), mining construction costs and infrastructure constraints. Electricity comprises approximately 8 per cent of the industry's production costs on average.

## **Oil and Gas**

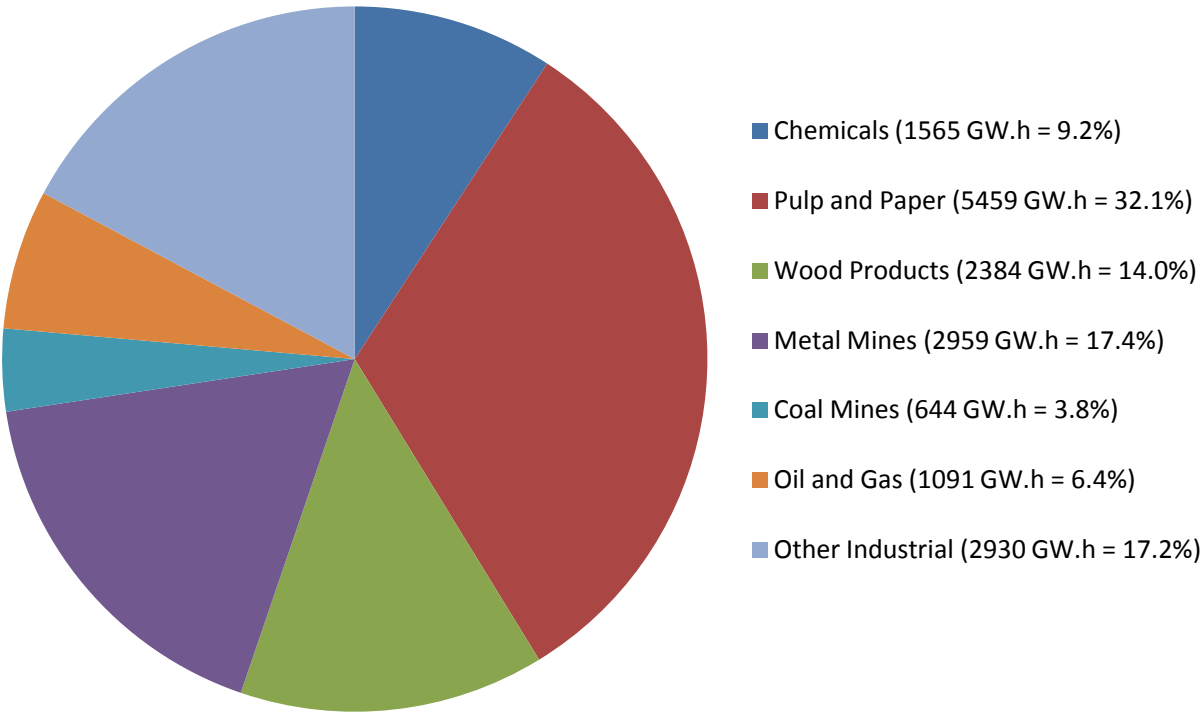
The oil and gas industry includes oil pipelines, oil refineries, gas pipelines and gas processing plants.

BC Hydro projects that the industry will constitute 6.4 per cent of total industrial sales in 2013. Key industry drivers are North American natural gas prices, development of the liquefied natural gas industry, technological development, government regulation, social license and global competition. Electricity comprises approximately 15 per cent of the industry's production costs on average.

### Other Industrial Customers

BC Hydro has other industrial customers that do not fit in to one of the above subsectors, such as cement companies and automotive parts manufacturers. BC Hydro forecasts this group of industrial customers will comprise 17.2 per cent of total industrial sales in 2013. Key industry drivers are global and provincial economic growth, North American construction activity and increased regulatory oversight that may affect competitiveness.

**Fig. 1: 2013/14 Industrial Power Sales Forecast in Annual Gigawatt Hours (GW.h)**





## **Appendix 2.1: Terms of Reference for the Industrial Electricity Policy Review**

### **1. Background**

The British Columbia Hydro and Power Authority (BC Hydro) offers electricity service to approximately 120 transmission voltage customers under the Industrial Tariff and the Transmission Service Rate (TSR). Transmission voltage means that the customer interconnects to BC Hydro's grid at 69 kilovolts or greater through its own onsite substation. There are also a small number of large distribution customers who would also be considered "industrial" despite not interconnecting at transmission voltage.

The British Columbia Utilities Commission (Commission) approved the Industrial Tariff in 1991. It was implemented at a time when BC Hydro's electricity supply was getting tighter and new industrial load, or expansion of existing load, was not occurring. Economic conditions have evolved considerably since that time.

Following the 2002 Energy Plan, BC Hydro implemented the TSR, a two-tiered rate structure to promote energy efficiency and retail access. The Commission reviewed the program and submitted a report entitled, "British Columbia Utilities Commission Report to Government on BC Hydro's Transmission Service Rate Program" (Commission Report) on December 31, 2009.

The Commission acknowledged the TSR sent marginal price signals, but determined its contribution to conservation was inconclusive due to the large reduction in demand as a result of the 2008 economic downturn. It also noted that no industrial customer had pursued retail access up to the point when it released its report. The Commission recommended some changes to the design of the rate, but advised Government not take immediate action until the economy recovered.

Commission and intervener questions in the Dawson Creek/Chetwynd Area Transmission (DCAT) project as well as standalone policy issues (i.e., retail access, customer-owned generation, etc.) have reinforced the need for a review of Government's approach to industrial electricity policy. Accordingly, on April 3, 2012, Government committed to undertaking a public process to consider policy issues pertaining to BC Hydro's industrial customers.

### **2. Creation of Industrial Electricity Policy Review and Task Force**

The Minister of Energy, Mines and Natural Gas (Minister) hereby authorizes an Industrial Electricity Policy Review (Review) for BC Hydro's transmission voltage Customers as set out in these Terms of Reference.

Further, the Minister appoints a task force consisting of three members to implement the Review:

- Mr. Chris Trumpy, Task Force Chair;
- Mr. Peter Ostergaard, Task Force Member; and
- Mr. Tim Newton, Task Force Member

### **3. Purpose**

The purpose of the Review is to examine the current industrial electricity policy and regulatory framework, identify policy issues affecting transmission service customers, consult with affected stakeholders, conduct an integrated analysis, and make recommendations to the Minister on potential changes to the current policy and regulatory framework.

### **4. Task Force Mandate**

The task force is directed to make recommendations on the following:

- A. the extent to which the transmission voltage rates may be used to contribute to provincial electricity conservation objectives, and the changes, if any, that would be appropriate to those rates or the current regulatory framework to achieve those objectives;
- B. the extent to which the transmission voltage rates may be used to contribute to provincial economic development objectives, and the changes, if any, that would be appropriate to those rates or the current statutory and/or regulatory framework to achieve those objectives;
- C. the extent to which the transmission voltage rates may be used to contribute to provincial environmental policy objectives, and the changes, if any, that would be appropriate to those rates or the current regulatory framework to achieve those objectives;
- D. the implications of pursuing each objective in relation to the other two; and
- E. Principles to guide the Province concerning the use of its directive powers related to the Commission and/or BC Hydro in order to pursue provincial policy objectives.

The task force is to consider the following while developing its recommendations:

1. the appropriate allocation of BC Hydro's incremental and embedded costs, including generation and transmission costs, when new customers request service or existing customers request increased service;
2. whether and postage stamp rates remain appropriate for customers taking service at transmission voltage rates;

3. whether end-use rates are appropriate for customers taking service at transmission voltage rates;
4. whether retail access rates would be appropriate for customers taking service at transmission voltage rates;
5. whether it would be appropriate to act on any of the recommendations contained in Commission Report on the TSR;
6. how current transmission voltage rates compare with rates for similar types of service in other jurisdictions in Canada and the Western Electricity Coordination Council area; and
7. any other considerations related to current or future operation of transmission voltage rates the task force determines necessary in making its recommendations.

## **Task Force Operations and Procedure**

The Review will focus on high-level industrial electricity policy issues in order to provide recommendations on overall policy framework to Government by July 31, 2013.

The task force shall seek input from stakeholders with a current or future interest in BC Hydro's transmission voltage rates. While the task force has discretion over how it chooses to engage stakeholders, a consultation record must be made public for all Review participants at the completion of each phase, unless a stakeholder explicitly requests its input to be kept confidential.

The Task Force will have access to technical expertise from the Ministry of Energy, Mines and Natural Gas, BC Hydro and the Commission as required. The Task Force also has the discretion to create any consultative bodies and/or retain independent technical advice it deems necessary to ensure it receives the information it requires to meet the objectives set out in these Terms of Reference, subject to its available budget.

The Ministry of Energy, Mines and Natural Gas will distribute a summary of the Province's industrial electricity policy to provide foundational information on the matters set out in Section 4 A-D of these Terms of Reference no later than February 8, 2013.

## **Reporting**

The Task force shall make the following documents to the public:

1. Consultation Summary covering meetings between January and April 2013, subject to permission of participants;
2. Written submissions from stakeholders, subject to permission from document creator(s);

3. Interim Report; and

4. Final Report

### **Secretariat Support**

The Ministry of Energy, Mines and Natural Gas will provide secretariat support to the task force.

## **Appendix 2.2: Text of Minister Bill Bennett's Letter Expanding the Task Force's Mandate**

June 19, 2013

Mr. Chris Trumpy  
Chair  
Industrial Electricity Policy Review Task Force  
2083 Neil Street  
Victoria, BC V8R 3E1

Dear Mr. Trumpy:

On January 13, 2013, Honourable Rich Coleman, the previous Minister of Energy, Mines and Natural Gas, issued a Terms of Reference (ToR) for the Industrial Electricity Policy Review (Review). The ToR appointed a task force consisting of you, Mr. Peter Ostergaard and Mr. Tim Newton. I understand the task force is currently working on its Interim Report. As the recently appointed Minister of Energy and Mines, I would like to thank you for your work to date as well as add to the Review ToR.

I am aware of the content included in the task force's draft Consultation Summary. There appear to be several issues that emerged from the task force's consultation process that were either not explicitly noted in the ToR or require further analysis. These include, but are not limited to:

- The feasibility of "Time of Use" pricing to provide capacity benefits to BC Hydro and financial benefits to industrial customers with flexible operations;
- Industrial customer concerns related to the time and costs associated with BC Hydro interconnecting new industrial loads;
- Mixed views on the appropriateness of a threshold above which new industrial customers would pay the marginal cost of energy supply versus spreading costs across BC Hydro's entire rate base; and
- The feasibility of different retail access models (i.e., enabling industrial customers to meet some or all of their electricity needs from a supplier other than BC Hydro).

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I believe it would be beneficial for the task force to explore each of these issues in further detail and include the task force's conclusions in its Interim Report. Accordingly, I am supplementing the Review ToR as follows:

1. The task force is to review current models of industrial "Time of Use" pricing from relevant jurisdictions and comment on their effectiveness and applicability to British Columbia (BC). This review is to stay strictly within the bounds of industrial customers only;
2. The task force is to review utility interconnection policies and timelines from relevant jurisdictions, and determine how they compare to BC Hydro's current approach and performance;
3. The task force is to consult with low-cost, hydroelectric-based jurisdictions to better understand their approaches to interconnecting large loads as well as to identify what, if any, role Government plays in the process; and
4. The task force is to review how retail access policy is applied in relevant jurisdictions, and comment on their effectiveness and applicability to British Columbia.

I note that July 31, 2013 is the current end date for the Review. I do not think it is reasonable to expect the task force to take on these additional tasks given the short notice involved. Consequently, I will extend the Review end date to October 31, 2013. I trust this will give the task force sufficient time to finish off its original tasks as well as address the new ones.

Please contact Mr. Les MacLaren, Assistant Deputy Minister, Electricity and Alternative Energy Division, if you have any further questions. Mr. MacLaren can be reached at 250-952-0204 or [les.maclaren@gov.bc.ca](mailto:les.maclaren@gov.bc.ca).

Thank you, again, for taking on this important work.

Sincerely,



Bill Bennett  
Minister

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### **Appendix 3: Task Force Process and Consultation Summaries**

The Terms of Reference (ToR) directed the task force to, “seek input from stakeholders with a current or future interest in BC Hydro’s transmission voltage rates.” The ToR also directed the task force to produce a Consultation Summary of stakeholder meetings and their submissions.

The task force met with any stakeholder that expressed interest. It further directed its secretariat to pursue specific stakeholders to ensure balanced input. The task force elected to consult with stakeholders through informal face-to-face meetings.

Early stakeholder input suggested it would be useful for the task force to elaborate on its mandate. Accordingly, the task force published a series of issue papers to stimulate dialogue with stakeholders. The task force provided stakeholders an opportunity to submit written comments on the issue papers and a second round of comments to respond to the submissions of other stakeholders.

The task force issued a Draft Consultation Summary of verbal and written comments from stakeholders, excluding BC Hydro. It subsequently prepared a Summary of BC Hydro comments. Both consultation summaries and a list of stakeholders are included below. Following consultation with stakeholders on the additional ToR given on June 19, the task force prepared an addendum to the Draft Consultation Summary to summarise additional verbal and written comments received.

The task force provided stakeholders the opportunity to comment on the Interim Report prior to finalizing the Report. The Minister will have the discretion on the release of the recommendations to the public.

The task force expresses its sincere thanks to all those who participated in this Review for their cooperation and contributions.

## **Appendix 3.1: Industrial Electricity Policy Review Task Force Initial Terms of Reference Consultation Summary**

### **Introduction**

The Terms of the Reference (ToR) for the Review directs the task force to consult with interested stakeholders and make public a consultation record and a Consultation Summary (Summary). The purpose of the Summary is to capture and synthesize verbal and written stakeholder input into the Review. This document revises and updates a draft summary sent to stakeholders in early May 2013. A separate Summary describes BC Hydro's views on the main issues. An addendum describes further stakeholder comments following the addition of four assignments issues on June 19.

In January 2013, the Ministry of Energy, Mines and Natural Gas advised interveners from the Dawson Creek/Chetwynd Area Transmission Reinforcement Certificate of Public Convenience and Necessity proceeding that the Ministry of Energy, Mines and Natural Gas would appoint a task force to undertake the Review. Interested stakeholders were invited to meet with the task force and/or provide written submissions for consideration.

The task force held 27 meetings with 17 different stakeholders between January 17 and May 31, 2013. It also received 24 submissions providing general comments on industrial electricity policy and specific comments on a series of papers issued for discussion purposes. A complete list of stakeholders who met with and/or submitted materials to the task force is included in Appendix 3.3

The task force published a series of issue papers based on its ToR to spur discussion and debate with and amongst stakeholders. The Summary includes sections addressing all of the issue papers as well as an additional section that addresses other related issues brought up by one or more stakeholders. Readers are encouraged to review specific written submissions to identify specific stakeholder views. They can be found at <http://www.empr.gov.bc.ca/EPD/Pages/IndustrialElectricityPolicyReview.aspx>. They have also been distributed via email to those who requested them.

The views in this document are intended to capture the written and verbal comments, opinions and positions from stakeholders as they were presented. They do not represent the task force's position or Government policy.

### **Economic Development**

Most stakeholders expressed concerned about the rising cost of electricity supply and indicated that access to safe, reliable electricity supply at the lowest reasonable cost supports economic development. Industrial stakeholders acknowledged that development should minimize environmental impacts as much as possible, but that the current policy and legislative



framework does not strike the appropriate balance between environment and economic development objectives. One stakeholder noted that only one of the 16 provincial energy objectives listed in the *Clean Energy Act (CEA)* relates to economic development. Another emphasized that minimizing environmental impact should be considered along with cost.

Industrial customers indicated that most electricity-intensive industries in British Columbia are trade-exposed price-takers that cannot pass increased electricity costs through to their respective customers. This means that increased electricity costs must be offset through operational efficiencies that are getting more difficult to find or reduced returns that may lead to decisions to invest outside British Columbia. Large rate increases over a relatively short period of time may make some industrial customers operations uneconomic. Industrial customers indicated this would cause a ripple effect through the economy (particularly in the forest sector).

Stakeholders did not feel that British Columbia continues to be a low-cost electricity jurisdiction. Industrial customers indicated that BC Hydro's industrial rates in some industry sectors are no longer competitive. They also made the point that BC Hydro's relatively low, cross subsidized residential rates are irrelevant when considering the competitiveness of industrial rates in British Columbia. Many stakeholders indicate that BC Hydro's low cost electricity advantage has been, and will continue to be, eroded due to BC Hydro's capital spending plans and the eventual recovery of the deferral accounts. Industrial customers felt that any provincial energy policy needs to recognize the inherent link between the level of electricity consumption and economic activity.

There was general agreement that taxpayers, rather than ratepayers, should bear the costs of achieving Government economic development objectives.

Industrial stakeholders from different sectors stated that shifting industrial demand from peak periods has a value to BC Hydro. Voluntary curtailment or setting up economic incentives for industrial customers to shift their usage could help address BC Hydro's projected capacity constraint at potentially lower cost than constructing new projects. Industrial customers provided various options for consideration.

Some industrial stakeholders expressed concerns at how long it takes BC Hydro to move through the transmission interconnection process from initial system studies to the project entering service. This has a material impact on what energy supply option an industrial customer would choose (if the customer has an option). One stakeholder suggested exploring public-private partnerships to undertake transmission projects.

## **Contribution Policy (Generation)**

Most stakeholder input concerning this issue related to the 150 MV.A threshold that has the potential to trigger a contribution for the full marginal cost of generation. The majority of stakeholders, particularly industrial customers, argued that the 150 MV.A threshold is arbitrary

and open to “gaming” (for example, a new load requesting service at 149 MV.A and expanding later). Industrial customers argued that the 150 MV.A threshold was unnecessarily punitive for most larger projects and could serve as a deterrent to investment.

All stakeholders recognized the underlying rationale for the 150 MV.A threshold was to prevent large electricity users from diluting BC Hydro’s heritage generation resources, thereby driving up rates for other customers. However, the majority of stakeholders indicated that new customers should receive some benefit from BC Hydro’s embedded cost resources and that the 150 MV.A threshold should be removed or changed. A minority of stakeholders felt the transmission extension aspects of the tariff were sufficient provided the 150 MV.A threshold was addressed. However, these actions were contingent on implementing an updated contribution policy that appropriately balances benefits and risks to existing and new customers. There were different views how this could be achieved.

Some stakeholders indicated that BC Hydro could bring forward an updated tariff to the British Columbia Utilities Commission (Commission) for review and approval. Others argued that Government should undertake a comprehensive cost/benefit analysis and set a series of economic tests when large industrial customers seek service from BC Hydro to determine if a project is in the provincial public interest, even if it caused higher rates for BC Hydro customers generally. Stakeholders presented options, but there was no agreement on the best approach.

A minority of stakeholders indicated the current generation contribution policy is appropriate. One stakeholder indicated the industrial service should not be offered below embedded cost, which is currently a feature of the Tier 1 of the Transmission Service Rate (TSR). This stakeholder also indicated that the 150 MV.A should be lowered.

## **Environmental Policy**

There was general agreement that British Columbia-based corporations, including BC Hydro, should comply with the provincial environmental regulatory regime (e.g., environmental assessment, particulate emissions, GHG mitigation, etc.). However, there were differences of opinion beyond this basic concept.

Industrial customers indicated that BC Hydro should operate like any other utility. Accordingly, BC Hydro should not be subject to legislative obligations that do not apply to other British Columbia-based utilities or industries. Industrial customers argue that BC Hydro should not be used to achieve environmental or social policy objectives because doing so transfers costs from taxpayers to ratepayers. Government should use other legislative or fiscal tools at its disposal to achieve these objectives.

Most non-industrial stakeholders support British Columbia’s legislated GHG reduction targets and the policies put in place to help achieve them. Some indicate Government should maintain BC Hydro’s commitment to 93% generation standard and that “clean and renewable” should exclude all natural gas-fired generation. They also indicate BC Hydro should not rely on fossil-

fuel generation to serve its customers now and in the future. Most industrial stakeholders are driven by electricity cost and felt that the 93% clean generation standard inhibits BC Hydro from acquiring lowest cost resources.

Discussions related to carbon pricing also demonstrated differences of opinion between stakeholders. Some industrial stakeholders indicated the carbon tax places British Columbia-based companies at a disadvantage to their competitors. Most stakeholders acknowledge there will be a price on carbon going forward. However, there was no agreement on what the short or long-term price of carbon should be.

This discrepancy has a material impact on what BC Hydro would consider “low cost” when it next procures energy to meet its needs. Industrial and some non-industrial stakeholders indicate that combined-cycle gas turbines are the least cost option for flexible energy and capacity, while many non-industrial stakeholders indicate renewable Independent Power Projects (IPPs) are cost-competitive when the lifecycle price of carbon is taken into account.

Both industrial and non-industrial stakeholders indicated that Government’s environmental policies/objectives related to energy (i.e., treatment of GHG emissions) are unclear, and in some cases, conflict with one another. There was agreement that environmental policy should be clear, consistent and predictable so the private sector can make informed investment decisions. Stakeholders noted three examples where inconsistencies exist

1. Current government policy and legislation would require gas-fired generation to pay both the carbon tax and offset GHG emissions;
2. Current legislation permits new gas-fired generation for liquefied natural gas export facilities, but not for domestic consumption;
3. The lack of carbon tax on imported electricity understates its true cost giving it a competitive advantage over domestic clean energy generation

## **Regulatory Approach**

Stakeholders generally agreed that Governments have historically used their legislative powers to achieve provincial policy goals through BC Hydro. Industrial stakeholders indicated that this has led to increased costs to ratepayers without sufficient due diligence. Most stakeholders argue BC Hydro should be subject to stronger regulatory oversight by the Commission. Stakeholders understand that there may be times where Government exercises its legislative powers to pursue the greater public interest, but indicate this should be a relatively rare event so that Commission authority is not pre-empted. One noted that directives should be transparent, based on public information, and consistent with BC Hydro’s mandate to provide reliable power at low cost.

There was also general agreement that Government should set clear, easily understood policies and let the regulator regulate. Stakeholders understood the intent of the provincial energy

objectives in the *CEA* was to ensure provincial policy objectives were considered in Commission decision-making. However, some stakeholders believe it has actually confused the decision-making process because Government did not provide guidance on the relative importance of each objective. This has increased the scope of some Commission proceedings which led to longer decision-making processes with less definitive outcomes.

Some stakeholders expressed concern about the capacity of the Commission to take on new or expanded roles. One stakeholder also questioned the use of negotiated settlements when setting rates, because there is a tendency for BC Hydro and its ratepayers to minimize short-term rate increases by deferring impacts to the future. There was also a suggestion that the Commission could undertake additional fact-finding and provide independent, non-binding advice to ensure Government can make informed decisions.

## **Retail Access**

The majority of stakeholders said that it would be beneficial to have some form of retail access in British Columbia. Further, some indicated it would be worthwhile to explore retail access on a pilot basis. Stakeholders understood that any version of retail access needs to have rules in place (e.g. exit fees, commitment periods) to protect those ratepayers who cannot take advantage of the program to ensure they did not absorb additional costs due to industrial customers exiting and re-entering the BC Hydro system.

Some stakeholders opposed the concept of retail access due to risks to BC Hydro ratepayers. One stakeholder also noted that BC Hydro should capture market differences for the benefit of all ratepayers rather than letting members of one rate class capture this value.

Stakeholder input identified three potential approaches to retail access:

1. Retail access from British Columbia based generation other than BC Hydro's;
2. Retail access within British Columbia and market access to Mid-Columbia; or,
3. Market price indexing

The first model envisions a retail market within British Columbia where industrial customers have the ability to acquire energy and/or capacity from new or existing IPPs. The second model encompasses the first and also provides market access outside of British Columbia. The third model would see BC Hydro index a portion of an industrial customer's energy purchases to the Mid-C market which would eliminate the need to secure transmission.

Some stakeholders indicated the first model would provide industrial customers with competitively priced energy supply now and in the future should BC Hydro rates increase. It also would have the benefit of providing a potential market for domestic clean and renewable IPPs. Industrial customers' primary interest is accessing the lowest cost supply. Some stakeholders also indicated that a limited pilot program using BC Hydro's suspended Retail Access Program (RAP) would be a low risk means to determine whether the program can function, or requires revisions.

## **Transmission Service Rate and Conservation**

Industrial and some non-industrial stakeholders believe the TSR is working as it should. The price signal appears to have worked since most industrial customers on the rate have reduced consumption to just above 90% of their customer baseline loads (CBLs). Further, recent changes limiting the length of time customers can benefit from a demand side measures investment should maintain the tier two price signal to conserve.

Other non-industrial stakeholders indicate the rate is flawed and has achieved most of what it can achieve due to the way the rate is designed. There is a perception that customers “game” the rate to ensure the vast majority of their energy consumption comes from Tier 1. Further, they indicate that it is difficult to quantify how much conservation actually occurs. The design of the rate (specifically revenue and bill neutrality) makes it difficult to change short of completely re-designing the rate.

There were also a small number of stakeholders concerned that the current operation of the rate would not suit their specific business type.

There was general recognition that conservation is preferable to adding new supply up to the avoided cost of incremental generation. There is a view that more cost-effective conservation can occur with industrial customers provided the incentives are structured correctly. Accordingly, industrial customers generally expressed strong support for the Industrial Power Smart program.

Some stakeholders questioned whether the 66% conservation target is realistic or effective given it is tied to load growth.

## **Contribution Policy (Transmission)**

There was general agreement that it is appropriate to seek a contribution to pay for system upgrades triggered by a new industrial customer connecting to the BC Hydro transmission system. Rather, discussion revolved around how much of the system upgrade costs should be borne by existing ratepayers (recognizing benefits to the provincial economy and additional revenues to BC Hydro) versus the new customer (recognizing the customer receives access to embedded cost resources and triggers additional costs to existing ratepayers).

Stakeholders presented several potential options to address issues with the current transmission contribution policy. Most adopted similar methodologies as those proposed for generation contribution policy. One stakeholder indicated that there really should be no distinction between generation and transmission contribution policy because they are effectively one, integrated connection cost. The stakeholder argued that a clear policy that showed up-front costs would enable proponents to make economic decisions on energy supply.

A minority of stakeholders argued new customers should pay the full incremental cost of system upgrades when they connect to the BC Hydro system.

## **End Use Rates**

There was general agreement that end use rates were not appropriate for industrial electricity policy, but a minority of stakeholders indicated they remain a policy option at Government's disposal. One stakeholder indicated Government should consider possible trade agreement implications should it consider using end use rates for economic development purposes.

## **Postage Stamp Rates**

There was agreement amongst stakeholders that BC Hydro should continue to use postage stamp rates for industrial customers.

## **Other Comments**

### *Definition of Environmental Policy for Purposes of the Review*

One stakeholder indicated that emphasizing GHG emission reductions at the expense of other environmental and sustainability matters is too narrow and does not address the broader environmental impacts of generation and transmission development. This stakeholder suggested the task force adopt a broader view during its determinations if it plans to make recommendations that would impact environmental policy decision-making.

### *BC Hydro Costs*

Several stakeholders mentioned the Government's 2011 financial and administrative review of BC Hydro. These stakeholders questioned the extent to which the review's 56 recommendations have been implemented. They also expressed concern with the amount of BC Hydro revenue that flows to governments through the dividend, water rentals, taxes, and grants in lieu of taxes, because they must ultimately be collected through rates.

### *BC Hydro Regulatory Accounts*

The majority of stakeholders believe that BC Hydro is not making appropriate use of regulatory accounts. Customers are concerned at the rate impacts associated with retiring the regulatory account balances and how quickly that will occur.

### *Application of Provincial Sales Tax to Industrial Electricity Consumption*

Industrial stakeholders indicated that the re-introduction of the Provincial Sales Tax on industrial electricity consumption will hurt their competitiveness given most jurisdictions do not charge a similar tax. This is effectively a 7 per cent bill increase paid to the Province.

### *Projected BC Hydro Surplus*

Most stakeholders were aware of BC Hydro's projected near-term energy surplus from BC Hydro's updated Load/Resource Balance (LRB). Many stakeholders agreed that this represented a potential cost to ratepayers given weak export markets and that BC Hydro should take prudent action to reduce its energy surplus as quickly as possible. However, some stakeholders argued that it is too early to determine whether the near-term surplus is a risk in the absence of an updated BC Hydro IRP given the uncertainties related to the electrification of industrial load, particularly liquefied natural gas (LNG).

### *LNG Power Supply*

Industrial and many non-industrial stakeholders have a particular interest in energy supply options for the emerging LNG industry. Industrial customers are concerned what impact(s) interconnecting such large loads would have on rates. Some non-industrial customers are interested in potential commercial opportunities related to LNG development. One stakeholder indicated the environmental assessments of projects with large new electricity loads should include a review of the environmental effects of new generation and transmission required to service them.

### *Flexibility of Natural Gas Generation*

Some stakeholders indicated that natural gas-fired generation should be part of the province's future energy strategy given its ability to locate near load and the flexibility it provides to the overall system. This would provide options to deploy the "right" energy supply technology at the "right" time to optimize provincial energy (electricity and natural gas) use as a whole.

### *Cost of Future Electricity Procurement*

There was no agreement on how best to mitigate cost increases associated with future electricity procurement. Industrial stakeholders focused on cost-effectiveness indicated that gas-fired generation is the best option. Some non-industrial stakeholders indicated that clean and renewable electricity is cost-competitive despite public perceptions. Some suggest it is difficult to accurately compare resource options because they depend on future natural gas prices, future carbon prices, technological advancements and the time frame used to undertake the analysis.

## **Appendix 3.2: IEPR Task Force BC Hydro Consultation Summary**

### **Introduction**

The task force issued a Draft Consultation Summary (Summary) on May 1, 2013. The task force elected not to include BC Hydro's input in the Summary given its unique position relative to other stakeholders and the comprehensiveness of its submissions. The task force subsequently determined that it would be prudent to issue a separate summary for BC Hydro to ensure transparency and the accuracy.

### **Economic Development, Environmental Policy and Regulatory Approach**

BC Hydro applied conservation, environmental and economic development perspectives on a topic-by-topic basis. It also provided an overview of its current regulatory environment under the authority of the Commission. BC Hydro did not provide general comments on its contribution to achieving provincial economic or environmental policy objectives, nor did it comment on the impacts (if any) of the interaction between the provisions of the *Utilities Commission Act (UCA)* and the *CEA*.

### **Contribution Policy (Generation and Transmission)**

BC Hydro indicated there were three issues to consider when reviewing current contribution policy: 1) allocation of costs between new and existing customers; 2) methodology to determine what a new customer contributes; and 3) the payment/security mechanism. Its comments focused on number one because it deemed numbers two and three to be technical matters best left to a future Commission process.

BC Hydro indicated that the basis for treating "large" loads differently, as set out in Tariff Supplement 6 (TS 6), was endorsed by the Heritage Contract framework, and is therefore beyond the task force's mandate and should not be up for debate. BC Hydro acknowledged that the 'absolute' 150 MV.A threshold may not be appropriate, but that some kind of threshold should be in place. BC Hydro suggested the legislative framework regarding TS 6 be altered sufficiently such that the Commission can 1) establish a new threshold or framework to delineate smaller customers from very large one; and 2) make changes to the tariff respecting the allocation of costs between new and existing ratepayers. BC Hydro further suggested it would be constructive for the task force to advise Government on what principles should guide the review.

### **Retail Access**

BC Hydro indicated that it is possible that a properly designed retail access program may contribute to the Province's economic and conservation goals, but may not support GHG reduction goals depending on how emissions from non-utility electricity are addressed.



BC Hydro indicated that a revised RAP must be based on sound and clearly articulated policy principles, as well as adopt a “no harm” approach to other ratepayers. BC Hydro’s view was that the additional costs to participating customers associated with maintaining a “no harm” approach will diminish the incentive for industrial customers to pursue retail access.

Regardless of any recommendations the task force might make regarding retail access in the future, BC Hydro urged the task force to recommend that Government cancel the current RAP without replacement. In regard to any potential future retail access program, the task force should recommend an evidentiary process with the broader participation of all affected customer classes to consider the development of a brand new program, informed by one or more Provincial policy objectives.

### **Transmission Service Rate and Conservation**

BC Hydro indicated that the TSR is generally functioning as intended. BC Hydro suggested that the perceived ineffectiveness of the rate (most customers at ~90 per cent of CBL) is a function of overly generous initial CBLs, successful demand side measures investment and the economic downturn reducing Tier 2 purchases.

BC Hydro indicated that the main rate design features (revenue neutrality, bill neutrality, economic signal from 90/10 split, etc.) are tightly linked and would be difficult to change in isolation from each other. Altering any one increases the risk of over or under recovery as well as cost-shifting to the other two rate classes. BC Hydro is confident that the recent changes introduced through Tariff Supplement 74 will maintain the integrity of the TSR over the long term. Accordingly, BC Hydro does not favour altering the TSR at this point, but recognizes the underlying rate design issues related to revenue and bill neutrality will need to be addressed at some point. BC Hydro suggests that a Commission proceeding is the most appropriate venue to hold this debate when the time comes.

In the meantime, BC Hydro suggests that the task force should recommend to the Government, if necessary, the Commission be instructed to undertake a narrow and focused review of the TSR to accomplish specific objectives that the Government may select based on the task force’s advice.

### **End Use Rates**

BC Hydro indicated there are two types of end use rates: those that subscribe to *UCA* and established rate-making principles; and, those that do not. The former are justifiable provided they receive Commission approval (such as E-Plus in the 1980s). The latter are the purview of the Province and should be transparently implemented by statute or regulation.

## **Postage Stamp Rates**

BC Hydro supports postage stamp rates and sees no compelling reason to change them.

BC Hydro indicated that Government has not formally articulated its support for postage stamp rates in policy or legislation. It indicated that such a formal expression may help clarify future regulatory decision-making.

## **Other Comments**

### *Task Force Mandate*

BC Hydro reiterated that the task force is being asked to consider what changes to transmission voltage rates, or the regulatory framework within which these rates are established, could be made to advance the public policy objectives of conservation, economic development and environmental policy, and to the extent that one policy is pre-eminent, what are the implications/trade-offs vs. other objectives.

BC Hydro believes the Review is not the appropriate forum to consider detailed rate-design issues that would be more properly addressed through Commission-led processes.

### *BC Hydro Load/Resource Balance and Projected Surplus*

BC Hydro will complete its updated LRB for the IRP to due to Government in early August 2013. BC Hydro indicates that while it is reasonable to assume there will be an energy surplus in the near term, there is still a great deal of uncertainty associated with its projections. This limits what conclusions the task force can draw.

BC Hydro believes that the task force should only make recommendations to government that emphasize the relationship between conservation, economic development, and current environmental policy in respect of the issues it is exploring. Those recommendations should emphasize how government might wish to think about the relationships under various load/resource balances.

### *Linkages between Economic Conditions, High-Level Government Policy and Electricity Rates*

BC Hydro indicates it would be useful for the task force to link BC Hydro's LRB, customer price responsiveness, industrial market conditions and general economic conditions in the context of industrial electricity rates. This analysis, in conjunction with the IRP, could inform Government of what high-level policy options are available as well as how they could be structured to provide the Commission with sufficient guidance to implement them.

## **Appendix 3.3: IEPR Task Force Addendum to Consultation Summary**

### **Introduction**

Following the assignment of four additional topics for the task force to examine, the task force issued additional papers on each topic and invited additional input from stakeholders. The task force met again with four stakeholder groups and had a teleconference with one new stakeholder. Four stakeholders plus BC Hydro provided written comments to the task force.

### **Time of Use and Interruptible Rates**

Stakeholder provided considerable information on how ToU rates were applied in other jurisdictions and even some detailed examples of how they might be applied to BC Hydro. There is considerable support for introducing such rates, and encouragement that BC Hydro's interruptible rate be continued. In contrast there has been no use of BC Hydro's Schedule 1825 ToU rate, primarily because it is complex and there is uncertainty about the potential savings. The task force was cautioned not to become involved in the design of such rates but to allow a more participatory process, preferably under the oversight of the Commission.

### **Utility Interconnection Policies**

Most stakeholders were opposed to a set threshold at 150 MV.A, and preferred either a revenue test for all new customers or offering a sliding scale of blended and marginal costs, with a higher proportion of marginal costs going to larger loads. Some stakeholders argued that the interconnection timelines for industrial customers were a significant impediment to development, and that BC Hydro should provide interconnection for industrial customers on the same fixed timelines as under the Open Access Transmission Tariff. Others cautioned that this would create risks to BC Hydro's ratepayer or shareholder, and that it would be difficult to ensure that existing ratepayers did not bear some of the costs. Stakeholders provided proposals for more private involvement in transmission to manage costs and risks, as well as more use of gas generation near load to reduce the need for transmission studies and development.

### **Retail Access Policy Applied in Relevant Jurisdictions**

There is strong consensus among stakeholders for the return of a retail access program for a portion of an industrial customer's load. However, BC Hydro remains cautious: in its view, the currently-suspended RAP is inappropriate even as a pilot, and the overriding objective of any program should be to avoid harming non-participating customers. One stakeholder proposes a narrower "limited wholesale access" program that would restrict contract supply sources to British Columbia-based generation other than BC Hydro's. Another cautioned that Powerex should not be involved and that the carbon tax should not be avoided. Reasons in support of a program focus on an opportunity for industries both to reduce their electricity costs, and the

costs that growing industrial loads impose on BC Hydro. All stakeholders urge a measured approach to avoid creating stranded costs to the detriment of non-participating customers, such as an initial pilot program, limiting the total program volume, and a minimum commitment period.

### **Role of Government in Adding Very Large Loads**

Stakeholders almost uniformly said that there should not be cross-subsidization between rate classes or individual customers. Several argued that, where government saw significant economic benefits arising from a project, government had the option to use tax policy or to subsidize rates from shareholder revenue. Government could also manage the cost of adding large new loads by broadening resource eligibility to include existing gas capacity, new gas generation, or Canadian Entitlement power.

### **Appendix 3.4: Meetings and Submissions**

<b>Organization</b>	<b>Representatives and Contributors</b>
Association of Major Power Consumers	Brian Wallace Richard Stout Tom Christensen
BC Business Council	Denise Dalmer Tom Syer Various Members
BC Hydro	Maureen Black Janet Fraser Jeff Christian Justin Miedema Randy Reimann David Ince David Keir Suhk Salh Wafi Kassam Fred James Tom Bechard (Powerex) Dave Hargreaves Gail McBride Sam Jones Warren Bell
BC Sustainable Energy Association/Sierra Club of BC	Thomas Hackney Bill Andrews
BC Utilities Commission	Len Kelsey Alison Thorson Jackie Ashley Doug Chong Claudia McMahon Mark Thomas
Canadian Association of Petroleum Producers	Al Dunlop Geoff Morrison Bryan Donnelly Bill Grant John Landry
Catalyst Paper	Carlo Dal Monte Bob Lindstrom
Climate Action Secretariat	Tim Lesiuk
Commercial Energy Consumers Association	David Craig

<b>Organization</b>	<b>Representatives and Contributors</b>
Clean Energy BC	Paul Kariya Loch McJannett David Austin Steve Davis James Weimer Mike Wise
ERCO Worldwide	Michael Filippelli
Fortis BC	Doug Stout Dave Perttula Gerald Chan Ron Zeilstra
Individual	Randal Hadland
Mining Association of BC	Alec Morrison David Ewing
Morgan Stanley	Deborah Hart Murray Margolis
Pacific Northwest LNG	Tessa Gill Wilf Barke
Teck Resources	Terry Brace
Treaty 8 First Nations	Rick Hendriks Philip Raphals Jeff Richert
West Fraser	Peter Rippon Veikko Paivinen Rod Albers Keith Carter

## **Appendix 4: Number of Electricity-Related Regulatory Actions 1980-2013**

Type	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-March 2013
Utilities Commission Act Directions	2	3	3	2	4	4	6
Clean Energy Act Regulations	-	-	-	-	-	-	11
BC Hydro Public Power Legacy and Heritage Contract Act Directives	-	-	-	-	3	7	4
Utilities Commission Act Ministers' Regulations	2	8	5	0	2	3	5
Transmission Corporation Act Directives	-	-	-	-	2	1	-
Hydro and Power Authority Act Directives	0	1	2	4	3	0	0
<b>TOTAL</b>	4	12	10	6	14	15	26

Of the 87 directives issued over 33 years, 53 (or 60%) have been issued in the ten years since 2003. Twenty six of the 87 (or 30%) have been issued since 2010, a rate of almost eight per year, compared to less than two per year in the 1980-2002 period.

### **Notes to this Table:**

- Many of the Utilities Commission Act Ministers' Regulations in the 1985-94 period were S. 22 and S.88 exemptions from the Utilities Commission Act for sales of surplus power or heat. The Commission itself issued several similar orders, either under a delegating Order from the Minister (M51, 1989) or with prior Cabinet Approval; these Commission-approved exemptions are not included in this Table.
- From 1993 to 2003, rates were capped and then frozen by the BC Hydro and Power Authority Rate Freeze and Profit Sharing Act; this may help explain the less frequent use of directives in that period.
- The *Clean Energy Act* is structured differently than previous statutes. It includes a number of enabling powers that are implemented by Cabinet or Ministerial Regulations.

## Appendix 5: Assessment of Current Policy and Legislative Commitments

### Key

✓ = Policy/legislative commitment meets task force principle.

✘ = Policy/legislative commitment does not meet task force principle.

? = Cannot determine whether policy/legislative commitment meets task force principle

NA = Specific task force principle does not apply

Policy or Legislative Commitment	Clearly Articulated Public Policy		Allocation of Risk	Market-Based Solutions	Public Scrutiny of Costs
	Public Interest Test	Universal Application			
BC Hydro to be self-sufficient by 2016	?	✘	?	✘	✘
BC Hydro submits Integrated Resource Plan, consistent with provincial energy objectives, to Government for approval	✓	✘	✘	✘	?
93% clean and renewable standard for total provincial electricity generation	✓	✓	✘	✘	✘
Encourage fuel switching from higher carbon to lower carbon sources	✓	✓	✘	?	?
Acquire 66% of BC Hydro's incremental resource needs from conservation by 2020	✓	✘	?	?	?
Pursue all cost-effective demand side management	✓	✓	✓	?	✓



Policy or Legislative Commitment	Clearly Articulated Public Policy		Allocation of Risk	Market-Based Solutions	Public Scrutiny of Costs
	Public Interest Test	Universal Application			
Encourage utilities to design rates that encourage efficiency, conservation and the development of clean and renewable energy	✓	✓	✓	✓	✓
All new generation to be net zero GHG emissions	?	✓	✗	?	✗
Existing thermal generation to be net zero GHG emissions by 2016	?	✓	✗	?	✗
Coal thermal plants to have zero GHG emissions	?	✓	✗	?	✗
BC Hydro cannot plan to rely on energy or capacity from Burrard Thermal Generating Station other than for emergencies	✓	✗	✗	✗	✗
BC Hydro to encourage economic development and creation and retention of jobs	✓	✗	?	?	?
Foster development of First Nations and rural communities through development of clean and renewable resources	✓	✗	✗	✗	✗
BC Hydro customers continue to benefit from Heritage Contract	✓	N/A	✓	✓	✓
Commission continues to regulate BC Hydro with respect to domestic rates	✓	N/A	✓	✓	✓

Policy or Legislative Commitment	Clearly Articulated Public Policy		Allocation of Risk	Market-Based Solutions	Public Scrutiny of Costs
	Public Interest Test	Universal Application			
Northwest Transmission Line exempt from Commission review.	✓	✗	✗	?	✗
Mica 5 and 6 exempt from Commission review	✓	N/A	?	✗	✗
Revelstoke 6 exempt from Commission review	✓	N/A	?	✗	✗
Site C Dam exempt from Commission review	✓	N/A	?	✗	✗
Electricity Purchase Agreements from Bioenergy Phase 2, Integrated Power Offer and Clean Power Call exempt from Commission review.	✓	✗	✗	?	✗
Commission must not exercise any power of the Utilities Commission Act that would prevent BC Hydro from moving forward with exempt projects or contracts	✓	✗	✗	✗	✗
Commission must accept a rate proposed to achieve self-sufficiency or pursue exempt projects in s.7 of <i>Clean Energy Act</i>	✓	✗	✗	✗	✗
Commission must accept a rate proposed by a public utility to pursue a prescribed undertaking in s.18 of <i>Clean Energy Act</i>	✓	✗	✗	✗	✗

Policy or Legislative Commitment	Clearly Articulated Public Policy		Allocation of Risk	Market-Based Solutions	Public Scrutiny of Costs
	Public Interest Test	Universal Application			
Commission cannot exercise powers under Utilities Commission Act that would directly or indirectly prevent the public utility from pursuing the prescribed undertaking in s.18 of <i>Clean Energy Act</i>	✓	✗	✗	✗	?
Establish Standing Offer Program	✓	✗	✗	✗	✗

## Appendix 6: Cross Jurisdictional Industrial Rates (\$ per megawatt-hour)

Location	2006	2007	2008	2009	2010	2011	2012	Rate Change in Local Currency (Note 3)
<b>Montreal</b>	42.60	43.50	44.70	45.30	45.50	45.30	45.10	+6%
<b>Calgary</b>	NA	NA	NA	93.80	50.30	68.00	82.80	NA
<b>Charlottetown</b>	63.80	74.20	87.50	107.20	95.80	83.60	83.60	+31%
<b>Edmonton</b>	63.10	68.80	96.90	56.90	69.80	84.90	69.70	+10%
<b>Halifax</b>	67.50	70.40	70.40	77.00	76.10	80.70	90.00	+33%
<b>Moncton</b>	54.50	58.80	64.70	66.60	66.60	68.60	68.60	+26%
<b>Ottawa</b>	77.40	81.30	86.60	81.50	86.40	95.10	105.80	+37%
<b>Regina</b>	49.00	51.10	51.10	51.10	60.90	62.40	56.70	+16%
<b>St. John's</b>	52.30	39.80	39.80	39.80	39.80	39.80	39.80	-24%
<b>Toronto</b>	79.90	77.40	84.60	82.90	94.00	96.40	104.60	+32%
<b>Vancouver</b>	35.30	36.50	39.40	40.30	44.00	43.40	49.90	+41%
<b>Winnipeg</b>	31.20	31.90	31.90	34.50	35.50	36.20	36.90	+18%
<b>Boston</b>	133.00	155.10	147.60	184.80	119.80	111.40	101.30	-10%
<b>Chicago</b>	55.70	70.00	89.40	63.00	51.50	61.60	53.30	+13%
<b>Detroit</b>	72.30	71.00	66.50	78.70	67.60	64.60	76.90	+26%
<b>Houston</b>	65.50	70.20	74.50	43.80	39.00	66.20	55.50	0
<b>Miami</b>	91.80	85.70	75.10	99.50	63.00	62.20	60.90	-22%
<b>Nashville</b>	65.70	63.10	64.60	84.20	62.80	68.40	69.60	+25%
<b>New York</b>	136.70	177.60	151.60	152.60	122.90	126.30	115.50	0
<b>Portland, OR</b>	43.60	46.20	43.10	58.60	50.70	55.10	59.40	+61%
<b>San Francisco</b>	96.60	90.20	83.30	120.10	97.80	89.90	88.40	+8%
<b>Seattle</b>	61.60	51.60	45.80	56.40	52.30	52.50	56.00	+7%
<b>Exchange Rate (USD to CAD)</b>	0.8533	0.8650	0.9737	0.7910	0.9926	1.0385	1.0084	
<b>BCH Rate Rank</b>	2 <sup>nd</sup> Lowest	2 <sup>nd</sup> Lowest	2 <sup>nd</sup> Lowest	3 <sup>rd</sup> Lowest	4 <sup>th</sup> Lowest	3 <sup>rd</sup> Lowest	4 <sup>th</sup> Lowest	2 <sup>nd</sup> Highest

**Note 1:** Hydro Quebec data for a 50 megawatt load with an 80 per cent load factor.

**Note 2:** Data presented in Canadian Dollars based on Bank of Canada noon exchange rate of for April 1 of stated year.

**Note 3:** Rate change presented in USD for US jurisdictions to demonstrate relative competitiveness impacts.

## **Appendix 7: Industrial Electricity Policy Review Task Force Recommendations:**

Section	Recommendation:
4.3	<p>Government should adopt four additional principles beyond the “regulatory compact” –which allows a utility to earn a fair return on its investment in exchange for providing safe, reliable service at rates based on costs – in any decision-making process involving electricity policy. Our expanded compact includes the following principles:</p> <ul style="list-style-type: none"> <li>• <u>Clearly Articulated Policy</u>: Government should determine the provincial public interest and set clear, understandable policy objectives, and apply them consistently to all utilities;</li> <li>• <u>Allocating Risk</u>: Utility owners (including the Province) make decisions based on an evaluation of risks, and the costs and benefits associated with these risks should be allocated to the party taking the risk;</li> <li>• <u>Market Based Solutions</u>: Market based solutions are generally preferable to those imposed by Government, provided externalities are priced and predictable, because they send appropriate price signals to drive decision-making and behaviour; and</li> <li>• <u>Public Scrutiny of Costs and Benefits</u>: Ratepayers should be provided with an opportunity for public review, either by the Commission or government, of any policy-driven initiatives that could significantly increase costs before these are implemented.</li> </ul>
5.1	As BC Hydro’s surplus diminishes, Government should consider whether a requirement for self-sufficiency is consistent with a long-run approach to least cost electricity prices.
5.2	BC Hydro’s future Integrated Resource Plans should be reviewed and accepted by the Commission after a public process. As the owner of BC Hydro, Government may wish to review the Integrated Resource Plan before it is submitted to the Commission.
5.3	A long-term carbon price should be used in evaluating all electricity supply proposals and the price should be determined by Government after a public process. This would eliminate the need for the objective to generate at least 93 per cent of the electricity in British Columbia from clean or renewable resources.
5.4	Acquire all possible conservation up to the cost of new supply. There is no need for the BC Hydro-specific 66 per cent conservation objective in the <i>Clean Energy Act</i> .
5.7	Government should provide clarity on the role carbon offsets will play in meeting Government’s greenhouse gas reduction goals.
5.8	Government should assess any directions or exemptions against the expanded regulatory compact recommended in Section 4.3.

6.6	The industrial tariff supplement that sets out the terms and conditions of connections, Tariff Supplement 6, is over 20 years old and should be reviewed in a Commission public process.
6.7	Continue using postage stamp rates.
6.8	End use rates which have no impact on ratepayers could be considered but those which impact ratepayers and are directed by Government should be paid for by taxpayers and not ratepayers.
6.9	BC Hydro should develop a revised retail access program.
6.10	Government need not act on the Commission's 2009 Transmission Service Rate report until BC Hydro's surplus has diminished and the effect of the other recommendations in this report can be seen.
6.12	BC Hydro should work with its industrial customers and the Commission to develop options that take advantage of industrial power consumption flexibility, such as time of use rates and interruptible rates.
6.13	BC Hydro should benchmark and publicly report on its transmission interconnection turnaround times for both new generation and new load.
7.1	BC Hydro should host a workshop on its regulatory accounts to improve understanding of the balances and the provisions in place for dealing with them.
7.2	BC Hydro should ultimately bring its surplus management plan forward in a Commission-led process if the management plan proposes to put additional costs on ratepayers or transfer costs between ratepayers.
7.3	An independent review of the Commission should be undertaken to evaluate resource needs, review processes, and performance.