CANADIAN ASSOCIATION
OF PETROLEUM PRODUCERS

INDUSTRIAL ELECTRICITY POLICY REVIEW

March 2013

1. Introduction

The Canadian Association of Petroleum Producers ("**CAPP**") appreciates the opportunity to present these submissions to the Task Force for the Industrial Electricity Policy Review (the "**Task Force**").

This submission begins by identifying a number of key principles that underlie its position, and proposes a statement of the objective for this review.

It then discusses the importance of electrical supply to the petroleum industry, and provides comment on each of the Policy Review issue papers

2. Key Principles

The key principles that underlie CAPP's input to the Policy Review are as follows:

- Non-Discriminatory Service: Electrical policy and regulation should not be in the game of picking winners and losers at the expense of other customers. Sound electrical policy should be built on non-discriminatory principles supporting open-market forces and the drive for efficiency and competitiveness. Care should be taken to ensure that industrial customers are treated equally, regardless of the type of industry and whether they are new or existing customers. Treating customers unequally risks undermining the overall future health of the economy by supporting uncompetitive businesses at the expense of growing, competitive businesses.

- Impacts Shared by All Consumers: The impacts of broad government policy should be shared amongst all customers. For example if government policy mandates sourcing more costly, renewable sources of energy, then all consumers should share the burden of higher costs. The burden should not be assigned to any one class of customers.

- Role of Government and Regulator: The government and the regulator have fundamentally different roles in connection with electricity policy. It is a role of the government to set overall policy including determining which industries and behaviours are in the public interest. It is the role of the regulator to regulate the electricity market based on the regulatory principles established by legislation. The government policy should be clear, transparent and easily understandable

allowing the regulator to focus its decision making based on well-defined and established principles.

3. Goals of the Review

CAPP believes that a Goal Statement may assist with framing the Task Force's overall approach to its mandate.

Although the 2007 *B.C. Energy Plan: A Vision for Clean Energy Leadership* (the "**2007 Energy Plan**") did not contain an overall goal statement the then Minister of Energy (the "**Minister**") stated that the plan "[was] a made-in-B.C. solution to the common global challenge of ensuring a secure, reliable supply of affordable energy in an environmentally responsible way" (2007 Energy Plan, p.2).

The Minister's statement reflects the importance of balancing the objectives of electricity conservation, economic development and environmental policy; the same objectives identified in items A-C of the Task Force's Terms of Reference.

While these objectives are interconnected, they tend to compete with one another and cannot be maximized independently. In CAPP's view it would be more fruitful if the discussions surrounding these objectives were focused on attempting to balance electricity conservation, economic development and environmental policy in a manner that would optimize "the overall provincial benefit".

CAPP believes the following Goal Statement captures the essence of the overall objective of this review and highlights the importance of balancing each of the identified objectives:

> *B.C. Hydro is to provide safe, reliable, non-discriminatory electric service to industrial customers served at transmission voltage at the lowest reasonable rates to maintain and encourage economic development in B.C. while minimizing its impact on the environment.*

4. Balance Between the Objectives in B.C.'s Energy Policy

The 2007 Energy Plan and the *Clean Energy Act* are focused predominantly on reducing greenhouse gas emissions in B.C. Unfortunately, insufficient attention has been given to the economic costs of this goal and its impact on electricity reliability and rates. Instead of balancing the objectives of electricity conservation, economic development and environmental policy, greater emphasis has been placed on environmental policy at the expense of the other objectives.

Many of the policy actions in the 2007 Energy Plan and the *Clean Energy Act* conflict with one another. These conflicts can and have resulted in unintended consequences that are detrimental to the goals of economic development and conservation. For example:

- The effective preclusion of Combined Cycle Gas Turbines ("**CCGT**") as either a B.C. Hydro-owned or IPP-sourced resource has implications for all B.C. Hydro ratepayers. CCGTs can provide a cost-effective source of electricity, can be sited to enhance system reliability and security, and are flexible tools to quickly accommodate shifts in demand or shortages of supply. Their moderate capital cost adds to the operating advantages that CCGTs provide for electric utilities.

- The self-sufficiency and net-exporter requirements of the *Clean Energy Act* may put domestic ratepayers at financial risk without any appreciable environmental benefit. When electricity markets are in surplus, the market price becomes depressed. This phenomenon occurred when the Revelstoke dam was completed, and is also evident this year,

Some actions in B.C. that effectively balance the competing demands of electricity conservation, economic efficiency and environmental policy are not reflected in the current energy policy because the policy does not adequately account for the fact that limiting greenhouse gas emissions is an international issue -- not territorially confined to B.C. For example, B.C.'s practice of purchasing then selling electricity can contribute internationally to an overall reduction in greenhouse gas emissions.

In neighbouring jurisdictions, some electricity generating stations that rely on coal cannot quickly reduce output in response to reduced domestic demands at night. B.C. has frequently imported coal-generated electricity from those stations at night, when demand in those jurisdictions is low. During peak periods, B.C. sells electricity generated from hydro-electric facilities to those other jurisdictions, which assists in meeting peak demand requirements efficiently and with lower overall emissions when those peak demands would otherwise be generated from thermal resources.

In this manner, B.C. can contribute to an overall reduction in greenhouse gas emissions across jurisdictional lines, while B.C. ratepayers benefit from the difference between import and export prices. Although this balances the competing demands of electricity conservation, economic development and environmental policy, it is not adequately accounted for in B.C.'s current energy policy.

5. Natural Gas Production in B.C.

The oil and gas industry has been an integral part of the economy of British Columbia for more than 60 years. Between 2006/07 - 2011/12 the industry provided $3.5 billion to the provincial government in royalty payments and $5.6 billion from land sales. In addition, the Canadian Energy Research Institute estimates that there were, in 2010, 12,000 people directly employment in British Columbia by the oil and gas industry. That number is expect to grown to 40,000 by 2035.

The recent development of new techniques for the development of unconventional gas reserves, such as tight gas and shale gas, is causing a new surge of natural gas development in North America. Significant new resources are being developed in the United States, traditionally a larger customer for Canadian natural gas. It is anticipated that the United States will ultimately become self-sufficient with respect to natural gas. Not surprisingly, North America has seen a corresponding dramatic reduction in natural gas prices.

British Columbia has significant gas reserves that have also become accessible due to the development of unconventional gas technology. It is estimated that B.C. has over 100 years of natural gas reserves. While there are significant gas reserves, gas prices are low resulting in a material reduction in drilling activity. For example, according to the Oil and Gas Commission there were 661 wells drilled in 2011 and 477 that were drilled in 2012.

Due to these circumstances, the viability of unconventional gas development will depend on achieving reasonable profit margins. A rise in underlying costs, such as electricity, will result in reduced activity in the natural gas sector.

6. Natural Gas and Electricity

The oil and gas industry is interested in developing assets that use electricity instead of natural gas as their source of power -- particularly for the unconventional gas reserves in the Montney Basin in northeast B.C.

A simple gas processing plant with a capacity of 100 mmscft/day that does not perform acid gas treatment could produce an estimated 71 kT/year CO2 by consuming natural gas for motive power. In the Montney Basin it is estimated that production could grow to 4.5 Bscft/day in 10 years, which could result in the production of 3 MT/year of CO2 if processed in facilities that are strictly operated on natural gas rather than electricity. Much of this CO_2 emission could be avoided if these processing facilities could be connected to the electrical grid and thereby predominantly use hydroelectric energy instead of natural gas.

On a smaller scale than the overall Montney basin an example of the impact of electrification of these facilities on CO_2 emissions can be seen in the DCAT process. In this application a number of industrial consumers were seeking 176 MW of electrical power to operate facilities in the Dawson Creek area. If this energy were to be sourced from natural gas fuel equipment, rather than hydroelectric power and assuming a 35% efficiency factor there would be a resultant increase in annual production of CO_2 of approximately 835 kT.

2100, 350 – 7 Avenue S.W.
Calgary, Alberta
Canada T2P 3N9
Tel (403) 267-1100
Fax (403) 261-4622

1000, 275 Slater Street
Ottawa, Ontario
Canada K1P 5H9
Tel: 613-288-2126
Fax: 613- 236-4280

403, 235 Water Street
St. John's, Newfoundland and Labrador
Canada A1C 1B6
Tel 709-724-4200
Fax 709-724-4225

www.capp.ca • communication@capp.ca

If the delivered cost of electricity rises materially, oil and gas producers would likely shift to using equipment fuelled by natural gas which would result in a significant increase in CO_2 emissions.

This natural gas fuelled equipment typically operates at approximately 35% efficiency. Using large centrally located CCGT power generation could achieve greater than 50% efficiency.

Further, given that a significant amount of the unconventional natural gas development activity is occurring in populated rural areas -- operating these facilities on electricity rather than natural gas -- reduces noise and emissions, direct benefits for local communities.

7. Availability of CCGT as an Option for Generation

CAPP strongly believes that CCGTs should be an option for electrical system development.

Over the past number of years, there has been much discussion of the potential for significant growth in the natural gas and liquefied natural gas industries. However, the future of these industries is far from certain. Their future will depend on many factors, including international competition, capital allocation decisions by oil and gas companies, taxes and royalties, and public support. It is entirely possible that the predicted rapid growth will be moderated by any one or combination of these factors.

CCGT's could be the bridge that the B.C. Hydro system needs to provide the system-generating capacity in such an uncertain market. The use of CCGTs would minimize the risk of overcapitalizing the electrical system in the event that the demand for natural gas from the Oil and Gas Industry is more modest than predicted. Moreover, during times of above average water inflows or during economic recession, the flexible nature of natural gas generation can limit ratepayer impacts.

CCGTs can also effectively balance the competing demands of electricity conservation, economic development and environmental policy. They are cost-effective, can be installed with a relatively modest capital investment, provide a significant, flexible reserve of electrical generation (which can quickly and efficiently target electricity production to demand), and have only a modest environmental footprint.

8. Comments with respect to Task Force Issue Papers

CAPP comments on the issue papers published by the Task Force are as follows.

(a) Regulatory Approach for B.C. Hydro

2100, 350 – 7 Avenue S.W.
Calgary, Alberta
Canada T2P 3N9
Tel (403) 267-1100
Fax (403) 261-4622

1000, 275 Slater Street
Ottawa, Ontario
Canada K1P 5H9
Tel: 613-288-2126
Fax: 613- 236-4280

403, 235 Water Street
St. John's, Newfoundland and Labrador
Canada A1C 1B6
Tel 709-724-4200
Fax 709-724-4225

www.capp.ca • communication@capp.ca

The number and extent of Government Special Directions and regulations relating to the regulation of B.C. Hydro by the B.C. Utilities Commission (the "**Commission**") have increased dramatically in recent years.

For example, the *Clean Energy Act* mandates Smart Meters, and removes the Northwest Transmission Line, bio-energy, clean power calls, and certain agreements with pulp and paper companies from the Commission's regulatory oversight. Government has also directed the Commission to allow certain elements of export projects.

Although CAPP recognizes that there will be circumstances when Government needs to provide direction to the regulator, CAPP believes, in most circumstances, it is a role of the government to set overall policy and the regulator should be left to regulate.

The *Utilities Commission Act* ("**UCA**") requires a utility to provide safe, reliable, non-discriminatory service to all customers at cost-based rates, in exchange for an exclusive right to serve a designated area and the opportunity to earn a fair return on its invested capital. Customers rely on Commission regulation to be non-discriminatory, timely, predictable, effective and efficient. Government policy should be clear, transparent, and easily understandable and integrated with the intentions and principles of the UCA.

(b) B.C. Utilities Commission Stepped Rates

In 2009, the Commission evaluated the Transmission Service Rate ("**TSR**"). The Commission recommended that future revisions to the TSR should reward improvements in energy intensity and account for variable production. CAPP endorses a review of the TSR on this basis.

CAPP would like to emphasize that the existing process for setting and changing the customer baseline load ("**CBL**") is problematic for natural gas production where electricity consumption tends to grow gradually but continuously over the course of the development of a natural gas field. As a result, based on the present system, natural gas producers are at a disadvantage because the CBL reset is not responsive to that gradual growth.

CAPP believes it is possible that changes to the manner in which the CBL is set could help to remedy this disadvantage. For example, the CBL could be linked to throughput levels leading to a more fair and appropriate annual CBL. CAPP will work directly with BC Hydro to seek a reasonable accommodation for its unique circumstances.

Because CAPP has not had the opportunity to thoroughly canvas how the CBL could respond to these concerns it intends to take part in any future Commission review of this issue.

2100, 350 – 7 Avenue S.W.
Calgary, Alberta
Canada T2P 3N9
Tel (403) 267-1100
Fax (403) 261-4622

1000, 275 Slater Street
Ottawa, Ontario
Canada K1P 5H9
Tel: 613-288-2126
Fax: 613- 236-4280

403, 235 Water Street
St. John's, Newfoundland and Labrador
Canada A1C 1B6
Tel 709-724-4200
Fax 709-724-4225

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CAPP supports B.C. Hydro's PowerSmart programs that promote high electrical efficiency installations. It is CAPP's view that these programs have been more effective in achieving conservation and efficiency than the stepped rate.

Regarding the issues of reducing the Tier 1/Tier2 split of 90% and allowing a higher price signal in the Tier 2 price, CAPP cautions that the overall total revenue collected must remain revenue neutral. CAPP believes that the Tier 1 price should not be set so low as to encourage gaming of the CBL resets.

(c) Transmission Service and Economic Development

This issue paper summarizes policy developments and actions taken since the 2002 Energy Plan. These developments and actions are addressed further in other issue papers.

CAPP emphasizes Provincial Energy Objective 2(k) in the *Clean Energy Act*: "encourage[s] economic development and the creation and retention of jobs". It is the only explicit encouragement of economic development and the creation and retention of jobs among the 16 Energy Objectives. Further, many of the other Energy Objectives conflict with Energy Objective 2(k). CAPP submits that future energy policy should recognize the role that energy policy plays in economic development, and reconcile this goal with the other energy and environmental objectives.

(d) End-Use Rates

This issue paper identifies a number of subsidy programs which have advantaged specific electricity customers in the past.

CAPP believes that subsidies which advantage specific electricity customers are generally not appropriate. All electricity customers should receive non-discriminatory, fair and equal treatment. CAPP members do not seek any advantage over other customers, but they also do not expect to be disadvantaged or discriminated against by end use rates. If Government determines that a specific electricity use should be subsidized for public policy purposes, it should not require other customers to absorb the subsidy in their electric utility rates.

(e) Generation Contribution Policy

This issue paper addresses the generation contribution requirement in B.C. Hydro's Tariff Supplement 6 ("**TS6**").

The generation contribution requirement in TS6 sets a 150 MVA generation contribution threshold. New industrial customers who surpass that threshold would pay an unspecified contribution towards electricity generation.

The issue paper states that the 150 MVA threshold is arbitrary and suggests that "One approach … would be to have all new customers, regardless of load size, to pay their full cost of service." CAPP opposes this approach to the extent that it would require new customers to pay the cost of new electricity generation without entitling those customers to a proportionate share of existing electricity generation. Such an approach would be an affront to the regulatory principles of fairness and non-discrimination.

Requiring new customers to pay for the cost of new electricity generation without entitlement to a proportional share of existing generation would not be considered for new residential customers. It should likewise not be considered for new industrial customers.

CAPP recognizes that the 150 MVA limit may have been intended to discourage a very large new customer from relocating to B.C. solely for the purpose of acquiring large quantities of inexpensive power without providing significant employment and economic development benefits to the province.

Because the 150 MVA threshold is arbitrary and not based on any regulatory principle CAPP believes that it should be removed. In the alternative, CAPP would recommend that appropriate amendments be made to TS6 to allow Government to determine if specific, special circumstances exist that should require a very large new customer to be charged a generation contribution based on a weighing of the benefits to the province and the costs to B.C. Hydro and its ratepayers. Such a weighing of public policy considerations is properly within the role of government.

(f) Transmission Contribution Policy

Other than its comments on the 150 MVA threshold, CAPP believes the other key conditions of TS6 remain appropriate including transmission contribution conditions related to the Customer Facilities and Transmission Line, B.C. Hydro's Basic Transmission Extension, and System Reinforcement. These features of TS6 were negotiated between the major power consumers and B.C. Hydro, have worked well for over two decades and, in CAPP's view, are still suitable.

(g) Postage Stamp Rates

Postage stamp ratemaking is a common method of setting rates for many utilities in Canada including B.C. Hydro where it has been a feature of rate design for the integrated system since the inception of regulation.

CAPP believes that more precise cost allocation is problematic because of the challenges of following the path of electrons in an integrated electrical system.

Accordingly, CAPP sees no reason to change from current postage stamp rate-setting methodology.

(h) Retail Access

2100, 350 – 7 Avenue S.W.
Calgary, Alberta
Canada T2P 3N9
Tel (403) 267-1100
Fax (403) 261-4622

1000, 275 Slater Street
Ottawa, Ontario
Canada K1P 5H9
Tel: 613-288-2126
Fax: 613- 236-4280

403, 235 Water Street
St. John's, Newfoundland and Labrador
Canada A1C 1B6
Tel 709-724-4200
Fax 709-724-4225

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The Real Time Pricing ("**RTP**") Program was introduced in 1996, but has now been suspended until March 23, 2014 (or until a new Retail Access Tariff is put forward for Commission consideration).

Retail access allows for customer choice and creates the potential for cost savings. Accordingly, CAPP is supportive of a review of the RTP Program and its reintroduction.

(i) Transmission Service and Provincial Environmental Policy

This issue paper explains that "Incremental self-generation will likely be gas-fired single cycle turbine (SCT) combined cycle gas turbine (CCGT) or direct drive."

CAPP agrees with this comment. Forcing transmission rate customers to pay for discriminatory generation contribution costs or the total cost of BC Hydro system reinforcement will inevitably force CAPP members either to abandon their plans, or to install direct drive engines which would be materially more costly, less efficient, noisy and increase GHG emissions. Such unintended consequences clearly demonstrate the inherent conflicts among the 2007 Energy Policy objectives.

9. Conclusions

- CAPP believes that B.C. will be better served if the 2007 Energy Plan policy actions are treated as worthy objectives which need to be balanced taking into account practical realities. For example, the "at least 93%" clean or renewable resource action objective and the 2007 Energy Plan "net zero greenhouse gas emission" Policy Action should be balanced against other priorities and should not preclude the potential use of CCGT if it can be demonstrated that such a solution is in the best overall interest of B.C. The "clean or renewable resource" definition in the Clean Energy Act should include CCGT as a "prescribed" resource.

- CAPP believes that the role of government is to set overall policy. Once the overall policy is set, an independent commission is important with government involvement limited to exceptional circumstances.

- CAPP believes electrical policy should be built on non-discriminatory principles consistent with normal regulatory principles; CAPP members simply seek fair and equitable treatment with all other industrial users.

- With the exception of the 150 MVA generation contribution rule -- TS6 need not be modified. CAPP recommends the automatic 150MV generation contribution rule be eliminated.

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Calgary, Alberta
Canada T2P 3N9
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Fax (403) 261-4622

1000, 275 Slater Street
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Tel: 613-288-2126
Fax: 613- 236-4280

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Canada A1C 1B6
Tel 709-724-4200
Fax 709-724-4225

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