

William E Ireland, QC  
Douglas R Johnson\*  
Alan A Frydenlund\*  
James L Carpick\*  
Michael P Vaughan  
Heather E Maconachie  
Michael F Robson\*  
Zachary J Ansley  
Pamela E Sheppard

D Barry Kirkham, QC\*  
Josephine M Nadel\*  
Allison R Kuchta\*  
Christopher P Weafer\*  
Gregory J Tucker\*  
Terence W Yu\*  
James H McBeath\*  
Susan C Gilchrist  
George J Roper

Robin C Macfarlane\*  
James D Burns\*  
Daniel W Burnett\*  
Paul J Brown\*  
Karen S Thompson\*  
Harley J Harris\*  
Paul A Brackstone\*  
Edith A Ryan  
Daniel H Coles

J David Dunn\*  
Duncan J Manson\*  
Harvey S Delaney\*  
Patrick J Haberl\*  
Gary M Yaffe\*  
Jonathan L Williams\*  
Scott H Stephens\*  
James W Zaitsoff

OWEN BIRD  
LAW CORPORATION

PO Box 49130  
Three Bentall Centre  
2900-595 Burrard Street  
Vancouver, BC  
Canada V7X 1J5

Telephone 604 688-0401  
Fax 604 688-2827  
Website [www.owenbird.com](http://www.owenbird.com)

Direct Line: 604 691-7557

Direct Fax: 604 632-4482

E-mail: [cweafer@owenbird.com](mailto:cweafer@owenbird.com)

Our File: 23841/0070

Carl J Pines, Associate Counsel\*  
R Keith Thompson, Associate Counsel\*  
Rose-Mary L Basham, QC, Associate Counsel\*

Hon Walter S Owen, QC, QC, LLD (1981)  
John I Bird, QC (2005)

\* Law Corporation  
\* Also of the Yukon Bar

August 2, 2012

**VIA ELECTRONIC MAIL**

British Columbia Utilities Commission  
6<sup>th</sup> Floor, 900 Howe Street  
Vancouver, B.C.  
V6Z 2N3

**Attention: Alanna Gillis, Acting Commission Secretary**

Dear Sirs/Mesdames:

**Re: British Columbia Hydro and Power Authority ("BC Hydro") Certificate of Public Convenience and Necessity for the Dawson Creek/Chetwynd Area Transmission Project, Project No. 3698640**

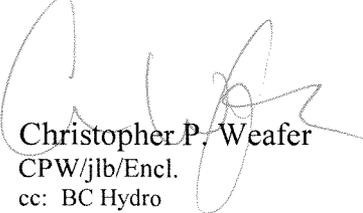
We are counsel for the Commercial Energy Consumers Association of British Columbia ("CEC"). Attached please find the CEC's Final Submissions pertaining to the above-noted matter.

A copy of this letter and attached Final Submissions has also been forwarded to BC Hydro and the interveners by e-mail.

Should you have any questions regarding the foregoing, please do not hesitate to contact the writer.

Yours truly,

**OWEN BIRD LAW CORPORATION**



Christopher P. Weafer

CPW/jlb/Encl.

cc: BC Hydro

cc: CEC

cc: Registered Intervenors

**COMMERCIAL ENERGY CONSUMERS ASSOCIATION  
OF BRITISH COLUMBIA (CEC)**

**FINAL WRITTEN SUBMISSIONS**

**Certificate of Public Convenience and Necessity for the  
Dawson Creek/Chetwynd Area Transmission Project  
Project No. 3698640**

---

**1. INTRODUCTION**

BC Hydro has applied for a Certificate of Public Convenience and Necessity (CPCN) for a significant transmission system upgrade project called the Dawson Creek/Chetwynd Area Transmission Upgrade project (DCAT) Project. This request is filed for approval under the *Utilities Commission Act* (UCA) section 46(1), which governs the BC Utilities Commission review and approval process for the project.

BC Hydro has also applied for an amendment to its Electric Tariff under the UCA sections 58(1) and 61(2) to allow it to obtain security from large distribution customers for transmission system reinforcements required for loads of 10 MW or greater.

The CEC will address each of these in order.

**2. BC HYDRO'S APPLICATION FOR APPROVAL OF DCAT PROJECT CPCN**

**2.1. Context**

The anticipated electrical loads in the Dawson Creek, Groundbirch and Chetwynd area are quite significant. They arise out of the development of natural gas in the Montenay Basin area and the requirements for electricity, largely to provide compression of the natural gas in pipelines for the transmission of the natural gas to processing plants or to end uses.

The industry in the region involved with the natural gas development have options with respect to how and where they acquire the energy for their compression and other requirements. Often the industry has self-supplied its own energy from its natural gas. In this case there have been significant requests for electrical service made by customers in the region. BC Hydro's approach to these requests has been to seek to provide electrical service to meet the requirements through substantial upgrading of the electrical transmission lines into the area. This has led BC Hydro to propose a two stage project of which the first stage, the DCAT Project, is defined and the second stage is yet to be defined.

The consequence of this development, based on BC Hydro's initial estimates, was a substantial cost increase to the BC Hydro existing electrical system customers. This is because the cost to serve the

new loads will be very large and only about 1/3 of the costs will be paid for by these new customers. BC Hydro estimated the revenue to come from these customers at \$1.9 billion over 30 years<sup>1</sup>. The cost for the capacity and energy is estimated by BC Hydro to be about \$5.9 billion over the same 30 years<sup>2</sup>. Since the initial estimates BC Hydro has updated its forecasts for the area increasing to level of the load forecast and the duration increasing the total by about 35%<sup>3</sup>. Using the same methodology the cost would now be expected to be about \$7.9 billion over 30 years. These revenue estimates did not take into account BC Hydro future rate increases nor the ongoing escalation in the costs of supply for capacity and for energy, because BC Hydro was not able to supply the forecasts. The rate impact in terms of today's revenue requirements for this development will be about 6%. The proposed project cost of a maximum \$257.4 million is just 3.2% of the total cost impact. BC Hydro is expecting the customers in this case to provide average revenue of approximately \$46/MWh versus the cost of the energy purchased to supply these future loads of approximately \$140/MWh including energy and capacity. Purchase of energy in excess of BC Hydro needs and the potential impacts of the governments LNG policies may mean that the value of energy will be its market price closer to \$40/MWh for up to the next 10 years, which may mitigate the costs impacts directly related to the new Dawson Creek Chetwynd area loads.

In addition these loads are emerging quite quickly from requests for service to BC Hydro and while BC Hydro was engaged in discussions with the customers their requirements were only recently reflected in BC Hydro's load forecasts.

Naturally the customer representative groups, including the CEC, have become concerned that this form of electrification in the province is quite expensive. This has led to a rather intense focus on a variety of aspects of the project, which give rise to costs and cost obligations for other BC Hydro customers.

Many of the issues led to policy concerns as well as project concerns.

During the course of the Commission's regulatory process the proceedings were suspended while BC Hydro prepared additional evidence not in its original application and after consultation with the government resolved that certain broader policy issues<sup>4</sup> would not be appropriate for the CPCN regulatory approval process. The government provided the Commission with its plans to review rate design issues on a broader basis after the DCAT project CPCN process<sup>5</sup>. The Commission also moved to contain the issues by ruling certain issues outside the scope of its regulatory proceeding<sup>6</sup>.

The CEC has accepted the limitation for this proceeding and for the purpose of this application it will defer its interests in the broader policy questions until they are addressed in subsequent government or

---

<sup>1</sup> Exhibit B-6, CEC 1.16.2

<sup>2</sup> Exhibit B-6, CEC 1.16.3 (using \$129/MWh cost for energy and \$55/ KW-year for capacity)

<sup>3</sup> Exhibit B-22 Attachment 2, Page 24

<sup>4</sup> Exhibit B-22 Attachment 1, Cover Letter

<sup>5</sup> Exhibit C-16-2 MEM Letter

<sup>6</sup> Exhibit A-28, Order No. G-56-12

Commission processes. The CEC nevertheless remains strongly interested in the subjects, the costs and ratepayer impacts.

## **2.2. The Commission Decision on the DCAT Project CPCN Application**

The CEC agrees that the decision making framework laid out in the BC Hydro submission, section 2.1, is the appropriate starting point. The test is the judgment of the Commission as to what the public convenience or necessity may require and involves consideration of (1) the interests of customers, (2) BC's energy objectives (3) an applicable integrated resource plan and (4) consistency with the Clean Energy Act (CEA) section 19.

## **2.3. Need for the DCAT Project**

### **2.3.1. The Interests of Existing Customers and New Prospective Customers**

#### **2.3.1.1. The Existing System and its Ability to Serve Existing Customers in the Area**

BC Hydro shows<sup>7</sup> its ability to provide service to the existing customer loads in the Dawson Creek/Chetwynd area at the N-1 standard of service is about 70 MW and this is below the current level of load at around 100 MW. BC Hydro also shows that it can provide service to up to about 150 MW at the N-1 standard of service. BC Hydro shows the load growth forecast exceeding supply capability in the very near future. In order to maintain this level of service BC Hydro must maintain a load shedding scheme in the area to provide security against voltage collapse or blackout<sup>8</sup>. The impacts of this load shedding scheme are that some customers have interruptible service to ensure faster restoration of the system in the event of a loss of a critical transmission line<sup>9</sup>.

BC Hydro was able to serve the peak loads in 2011 because all transmission lines were in service<sup>10</sup>. BC Hydro does not believe it needs to provide any kind of local peaking service to meet the N-1 criteria for all the customers in the short term because it anticipates that it will be sufficient to wait for the DCAT Project<sup>11</sup>.

The BC Hydro posted reliability of the transmission lines serving the area shows 99.971% reliability for 1L361 and 99.916% reliability for 1L377<sup>12</sup>. This

---

<sup>7</sup> Exhibit B-1, Figure 2-5, Page 2-14

<sup>8</sup> Exhibit B-6, CEC 1.1.7 and CEC 1.1.8

<sup>9</sup> Exhibit B-6, CEC 1.1.9

<sup>10</sup> Exhibit B-6, CEC 1.1.1

<sup>11</sup> Exhibit B-6, CEC 1.1.12 and 1.1.17

<sup>12</sup> Exhibit B-6, CEC 1.1.3

transmission system reliability is consistently available across the BC Hydro electric system and over a number of years<sup>13</sup>.

This high level of reliability gives rise to concerns with respect to whether or not there may be less expensive means of providing service adequate to customer needs. The CEC accepts that the Commission has determined that it will not address the N-1 standard of service level in this application but may address this and other issues at some other time when dealing with the general standards of service may be more appropriate. The CEC accepts that BC Hydro has an obligation to serve its customers both existing and prospective and that the Commission has determined that the obligation to serve will not be addressed as part of this proceeding.

BC Hydro following implementation of the DCAT Project still does not expect to be able to service the load forecast at the N-1 standard of service and anticipates having to provide further upgrades to meet the load requirements. These further upgrades are for the purposes of this proceeding called the GDAT Project.

The CEC submits that the evidence clearly shows that existing system does not have the capability to serve the existing customers in the area and the prospective customers in the area. Consequently there is a need for a project of some nature to meet BC Hydro's obligation to serve its customers, both existing and prospective, provided they qualify for the conditions required to invoke BC Hydro's obligation to serve.

#### **2.3.1.2. Interests of Existing Customers and Prospective Customers Outside the Area**

Customers outside of the area will be required to pay for most of the energy and capacity services provided by the DCAT Project to the BC Hydro customers in the area.

Consequently the customer interests for customers outside the area are to ensure that the proposed project to provide service to the customers in the area is the least expensive option available.

The CEC has been very interested in this proceeding in exploring alternatives which may lead to lower costs for customers outside of the area. Particularly, the CEC has been interested in local generation supply options and other possible transmission configurations.

---

<sup>13</sup> Exhibit B-15, CEC 2.13.1 and CEC 2.13.2

The evidence shows that local generation might well provide a lower cost option providing service at the N-1 standard with lower long term transmission cost investment. However, the evidence also shows that the local generation options using natural gas fuel for generation are not the optimal sighting for the limited amount of natural gas fuelled generation, which BC Hydro may have available, given the BC energy objectives, particularly referencing 93% of generation must come from clean and renewable resource. As well the evidence shows that sighting a local generation option in a reasonable timeframe to avoid the more expensive DCAT Project option would not be possible, although a number of the customers in the area are currently using natural gas fuelled alternatives to provide energy and capacity, while they await service.

The evidence shows that a number of alternative transmission line configurations would not provide a lower cost over the long term than the proposed DCAT Project.

Consequently the CEC submits that the evidence shows that the proposed DCAT Project is the least cost option, which can be delivered in a reasonable time to meet the needs of the area customers while minimizing the costs for customers outside the area who will be paying for the majority of the costs of the service.

The CEC has determined that its interest in minimizing the costs of providing the service for all customers must now be focused on the next stage GDAT Project and expanding the options which may be available to avoid some of these additional projected costs.

### **2.3.1.3. Constraints on Existing Transmission System and its Ability to Provide Service**

The load in the Dawson Creek/Chetwynd area is served by a 138 KV system and in particular line 1L377 feeding from Fort Nelson to Dawson Creek and 1L361 feeding from the GM Shrum Generation to Chetwynd plus 1L358 feeding from Chetwynd to Bear Mountain station, with 1L362 connecting Bear Mountain and Dawson Creek. The system is limited to a transfer of 130 MW under N-0 conditions and 100 MW under N-1 conditions.

The existing system constraints, being thermal limits, voltage stability limits, and low voltage outage, are covered in the application<sup>14</sup>. The voltage stability

---

<sup>14</sup> Exhibit B-1, Section 2.4.1

limits for 1L377 are the limiting condition for service in the Dawson Creek area<sup>15</sup>.

BC Hydro has installed additional 138 KV Shunt Capacitors of 12.5 MVAR and a 3<sup>rd</sup> transformer at DAW as near term reinforcements<sup>16</sup>. The maximum transfer capacity from CWD to BMT could be increased to 90 MW with sufficient reactive compensation however this would require 100 MVAR of additional compensation and is not practical<sup>17</sup>.

Interconnection with the Alberta system is not feasible because the Alberta region is generation deficient and is subject to potential voltage instability<sup>18</sup>.

The local wind generation is not a source of firm power and cannot be relied upon to provide support for service to local loads.

Potentially, the Dawson Creek area could be satisfied in terms of voltage stability if there were a source of firm energy generation in the area raising the connectable load to 150 MW with a 75 MW generation facility<sup>19</sup>. Local generation options were not covered in the initial application but were subsequently covered in a later comprehensive update. This and other alternatives will be reviewed later in this submission.

The CEC submits there is no evidence of any other options available to improve stability without transmission or local firm power generation. The evidence is that the loads, BC Hydro requires to serve, far exceed the capacities of the existing system and support the need for the DCAT Project, particularly in the absence of any other viable alternatives.

#### **2.3.1.4. The Load Forecast for Service of New Customers, Particularly Gas Producers**

The load forecast for the Dawson Creek Chetwynd area is discussed in the application and describes the key element for the load growth being the requirements of natural gas producers in the Montenay Basin<sup>20</sup>. A more detailed load forecast is provided in the appendixes to the application, which

---

<sup>15</sup> Exhibit B-6, CEC 1.10.1

<sup>16</sup> Exhibit B-6, CEC 1.1.13 and CEC 1.1.14

<sup>17</sup> Exhibit B-6, CEC 1.10.3 and CEC 1.10.4

<sup>18</sup> Exhibit B-6, CEC 1.9.2

<sup>19</sup> Exhibit B-6, CEC 1.10.5

<sup>20</sup> Exhibit B-1, Section 2.3, Pages 2-6 to 2-11

provides detail on the Montenay Basin and the natural gas production that can reasonably be expected to develop<sup>21</sup>. The Load forecast was updated after suspension of the regulatory process when BC Hydro resumed the application and this update reflected a significant increase in loads and extension of the duration of the expected forecast requirements<sup>22</sup>.

The load forecast, being for natural gas producers, has a shape defined by rapid growth in the early few years followed by a fairly stable level of service level for about 20 years and then a trailing off tail<sup>23</sup>. The trailing tail gives rise to some concerns with respect to possible stranding of the proposed transmission assets as gas production declines.

The load forecast has appropriately factored in lower levels of electricity use intensity in the early stages when the gas wells are flowing under their own pressure and later requiring higher intensity when wells are at more stable flow rates<sup>24,25</sup>. The electricity intensity is estimated between .11 MW to .12 MW per MMcf/day of production<sup>26</sup>. The technical detail and understanding of the relationship between the electrical requirements and gas production processes appears to be sound and provides confidence in the forecast of the requirements.

The load forecast has been prepared with advice from industry experts, gas producers and government information sources<sup>27</sup>. BC Hydro's load forecast is also compared with other gas production forecasts, most of which show a similar quantity for the rising part of the curve in the early years but vary dramatically with regard to the sustaining level<sup>28</sup>. This gives rise to a concern with respect to the load forecast and the potential for the stranding of the transmission assets if the load duration and particularly the new forecast extended durations do not materialize. This concern is amplified knowing that the forecast itself predicts a decline of loads after about 20 years.

The load forecast is also based in part on requests for electrical service, which BC Hydro has in various stages of examination. These requests exceed the

---

<sup>21</sup> Exhibit B-1, Appendix B System Planning, Appendix C, Pages 73 of 100 to 86 of 100

<sup>22</sup> Exhibit B-22, Section 3, Pages 22 to 34

<sup>23</sup> Exhibit B-22, Page 33, Figure 4

<sup>24</sup> Exhibit B-5, BCUC 1.37.2

<sup>25</sup> Exhibit B-15, CEC 2.6.1

<sup>26</sup> Exhibit B-6, CEC 1.4.6

<sup>27</sup> Exhibit B-6, CEC 1.7.1

<sup>28</sup> Exhibit B-6, CEC 1.7.2

forecast load by almost double<sup>29</sup>. This provides a significant margin with respect to the forecast load materializing and creates the potential that other solutions to handle peak requirements from the Montenay Basin area may need augmentation relative to the DCAT Project proposal. This increases the confidence that the load projections are not oversized in planning service to the area<sup>30</sup>.

The forecast is also based on the expected (1) wells drilled and (2) average gas recovered per well to derive the recovered gas estimates leading to the requirements for gas compression<sup>31</sup>. These estimates are quite dependent upon the key factor of the price of natural gas<sup>32</sup>. BC Hydro does not have an assessment of the relationship between the price of gas and the wells drilled in order to ensure that the production estimates have a range of uncertainty based on natural gas pricing<sup>33</sup>. This gives rise to the possibility that the production forecasts and the factors driving the future price of natural gas may be misaligned. The evidence shows that the continued low prices for natural gas are having the expected effects of reducing the demand, which has been factored into the early years but has not affected later years<sup>34</sup>. There is a significant portion of BC Hydro's price assumptions for the Montenay Basin predicated upon the natural gas liquids prices and availability in the area<sup>35</sup>, which may now be more in doubt with the excess of natural gas liquids in the market and the decline of prices. The forecasting for natural gas prices tends to reflect a degree of optimism not eventually confirmed by the markets<sup>36</sup>. Given the current low price of natural gas and the continued confirmation of some of the loads perhaps this mitigates the risk somewhat. However, this issue of price as a key driver of demand would appear to be a major risk area for the load forecast, for which BC Hydro may not have done sufficient examination of the driving factors and or for which BC Hydro may not adequate security or contribution coverage for the risks.

The recoverable natural gas estimates derived for the Montenay Basin area are within the middle of the range of experience for production elsewhere<sup>37</sup>. This

---

<sup>29</sup> Exhibit B-22, Page 24

<sup>30</sup> Exhibit B-15, CEC 2.1.1

<sup>31</sup> Exhibit B-5, BCUC 1.33.2

<sup>32</sup> Exhibit B-15, CEC 2.2.5 and CEC 2.2.8

<sup>33</sup> Exhibit B-15, CEC 2.2.9

<sup>34</sup> Exhibit B-30-1, CEC 4.12.1 and CEC 4.12.2 and CEC 4.12.3

<sup>35</sup> Exhibit B-30-1, CEC 4.13.2 and CEC 4.14.1

<sup>36</sup> Exhibit B-30.1, CEC 4.14.2

<sup>37</sup> Exhibit B-15, CEC 2.2.1 and BC Hydro Load Forecast for 2010 Figure A 3.2

provides reasonable evidence that the forecasts are well founded in terms of the technical performance of the production.

BC Hydro has been throughout the regulatory process completing its processes with respect to obtaining security from its customers and has filled the evidence of the completion of this process<sup>3839</sup>. This provides considerable certainty with respect to the commitment of the BC Hydro customers to follow through on obtaining service. Further there is evidence that these customers are well along the path of investing the plant facilities which will require the electrical service. This also provides some confidence that the required service will materialize as expected.

There is also the potential that beyond the customers who have expressed intent and those expressing interest over the next 20 to 30 years additional customers could materialize with requirements and the customers expressing intent could require additional service<sup>40</sup>. This potential while completely undefined and not studied by BC Hydro is nevertheless a possibility and can add weight to the evidence supporting the load forecast.

The CEC on balance of the evidence believes that the load forecast provided supports the case for the need for an energy supply project and by implication the DCAT Project subject to satisfaction of other criteria. The CEC submits that the natural gas price risk in the load forecast is a critical area for the Commission to be concerned with and the Commission may want to look at conditions which may mitigate some of these risks.

#### **2.3.1.5. Local Generation Supply Capability to Serve Customers in the Area**

Local generation in the area is wind generation from the Bear Mountain wind farm, which cannot be counted on for capacity and therefore for firm load service<sup>41</sup>. The Bear Mountain wind farm installed wind capacity is 246 MW, which requires integration into the BC Hydro system for its energy to be used to supply firm loads<sup>42</sup>.

---

<sup>38</sup> Exhibit B-45 Documents

<sup>39</sup> Exhibit B-31 Documents

<sup>40</sup> Exhibit B-15, CEC 2.9.1 and CEC 2.9.2

<sup>41</sup> Exhibit B-6, CEC 1.3.1

<sup>42</sup> Exhibit B-6, CEC 1.3.4

### 2.3.1.6. The Standard of Service for the Customers in the Area

BC Hydro is planning to provide N-1 service in the area as the standard of service because the customers require the N-1 level of service<sup>43</sup>. However, BC Hydro is not expecting to be able to deliver this level of service with respect to the customers being added to the system. In fact BC Hydro is signing the customers up for service on the basis that they accept a lower level of service, which includes accepting a load shedding plan<sup>44</sup>. The evidence is that the DCAT Project cannot meet the full N-1 standard of service and that the Common Stage or 2016 Stage will be required to provide that service and until that time the customers will be required to have load shedding in their contracts<sup>45</sup>. The 2016 Stage is not included in this application but options for design of the approach are discussed in the application<sup>46</sup>. Specifically the weakness of the DCAT Project is the potential outage of the single 230 KV transmission line connecting the GM Shrum generation to the new Sundance Substation<sup>47</sup>. The degree to which the DCAT Project does not meet the N-1 standard of service is shown as quite significantly less than the load requirement<sup>48</sup>.

The customers providing security for the DCAT Project are providing this based on the \$219.1 million cost of the DCAT Project. In total they are providing security for about 60% of the cost of the project. The 2016 Stage has direct cost of \$96.5 million in addition to the direct costs of the 2014 Stage of \$159.8 million<sup>49</sup>.

There are customer concerns that arise out of this evidence. Firstly the customer security is being based on a project cost estimate for a Project which does not deliver the required N-1 level of service. There is an implied commitment by BC Hydro to provide the Stage 2016 project which the customers can rely on but they are not being asked to commit security on the basis of the full costs required to provide the service. Consequently other customers on the BC Hydro system will be more at risk than they should be. Secondly the customers putting up security will be relieved of the security commitment on the basis of their full revenues against a partial security commitment, thus relieving them more quickly than would otherwise be the case. Consequently again this raised the risk to the other BC Hydro customers.

The level of disadvantage to the customers providing security for the transmission system is miniscule based on the known reliability of the BC Hydro transmission lines, over 99.9%. The consequence is that the customer risk reward balance is

---

<sup>43</sup> Exhibit B-6, CEC 1.6.4 and CEC 1.6.5

<sup>44</sup> Exhibit B-30-1, CEC 4.4.2

<sup>45</sup> Exhibit B-1, Appendix B, Page 42

<sup>46</sup> Exhibit B-1, Appendix B, Appendix E, Pages 93 of 100 to 100 of 100

<sup>47</sup> Exhibit B-1, Appendix B, Appendix E, Page 95 of 100

<sup>48</sup> Exhibit B-6, CEC 1.6.1 and CEC 1.6.2

<sup>49</sup> Exhibit B-6, CEC 1.25.1

skewed toward the gas producers. The Commission may want to closely examine this concern along with other fairness concerns.

### **2.3.2. The Applicable Integrated Resource Plan**

#### **2.3.2.1. The Extent of Generation Surplus on the System and Load Resource Balances**

When following a requirement to consider a latest integrated resource plan the Commission has two key considerations one is whether or not there is one and the other is whether or not the integrated resource plan contains pertinent information useful to the decision the Commission must make. The Commission should ultimately apply its judgment on the applicability of the information and not just on the existence of an approved integrated resource plan.

In this case the last long term resource plan was the 2008 LTAP and there is no Integrated Resource Plan at the time of this proceeding<sup>50</sup>.

Absence of an approved IRP does not make consideration of the long term resource planning issues irrelevant. It just changes what the Commission must consider. The Commission would still need to apply its judgment about what to consider relevant and should look to other sources of information. In this proceeding BC Hydro has provided information from its draft IRP and this is relevant evidence.

One key issue with respect to long term resource plan or IRP issues is the degree of surplus energy in the BC Hydro system. The surplus as it turns out is very dependent upon the potential LNG loads expected to emerge. With the Initial LNG loads BC Hydro would have required new supply by 2017 but without the LNG loads it would not require new supply until 2022<sup>51</sup>. This potentially changes the value of energy when assessing the project such as the evaluation of losses<sup>52</sup>. Given the government's new LNG policy of allowing natural gas generation for the LNG facilities to be categorized as clean energy the significant and long duration of surplus would appear to be closer to being a certainty and the BC Hydro surplus energy may continue to be exported at a loss for many years into the future. This would also be a factor in assessing the merits of adding generation to the system.

---

<sup>50</sup> Exhibit B-15, CEC 2.3.5

<sup>51</sup> Exhibit B-30-1, CEC 4.16.2

<sup>52</sup> Exhibit B-30-1, CEC 4.17.1

### **2.3.2.2. The Extent of Plans for Area and Proximate Electrical System Development**

Know that the DCAT development will advance the time for other reinforcements and upgrades

### **2.3.3. BC's Energy Objectives**

#### **2.3.3.1. 2(c) Generating 93% of Electricity from Clean or Renewable Sources and Build Transmission Infrastructure**

BC Hydro has a surplus of energy from its recent acquisitions of energy including its 2009 Clean Call acquisitions. The surplus is clean renewable energy. As the Government has changed BC Hydro's planning criteria to allow them to plan on average water conditions and removed the self-sufficiency provisions of the CEA this has resulted in BC Hydro having available about 4000 GWh that it did not previously have available to use in BC. Given the government's LNG policy of potentially supplying the LNG facilities with clean natural gas fired generation, the surplus of energy is about 3000 GWh in 2017 shows up through to 2021 at 346 GWh<sup>53</sup>. While BC Hydro has surplus energy the value of the energy would be the price of the energy in the US and Alberta electricity markets<sup>54</sup>. The price of this energy would vary over the course of a year and depend on the time of day it could be sold (high load hour (HLH) or low load hours (LLH)). The recent prices have been in the \$40/MWh to \$30/MWh range for HLH and the \$30/MWh to \$20/MWh range for LLH<sup>55</sup> and these sorts of prices are expected to continue for some time although in some scenarios BC Hydro forecasts higher potential prices<sup>56</sup>. The domestic transmission tariff sales value of the energy would be about \$46/MWh<sup>57</sup> and therefore in a similar range as the export markets. Therefore the using the surplus energy for the Dawson Creek Chetwynd loads is relatively neutral for the next several years versus simply exporting the surplus. However, it is clean energy and therefore meets this BC energy objective.

BC Hydro has analyzed the potential for natural gas generation in relation to the 93% clean and renewable energy objective. It shows a total availability for use of natural gas ranging from 700 GWh to 1600 GWh and potential uses in either peaking capacity supply roles using single cycle gas turbines or base loading supply roles using combined cycle gas turbines<sup>58</sup>. BC Hydro submits that it has better uses

---

<sup>53</sup> Exhibit B-30-1, CEC 4.17.9

<sup>54</sup> Exhibit B-30-1, CEC 4.16.2

<sup>55</sup> Exhibit B-30-1, CEC 4.17.14

<sup>56</sup> Exhibit B-30-1, CEC 4.17.15

<sup>57</sup> Exhibit B-6, CEC 1.16.2 (dividing revenue by GWh\*1000)

<sup>58</sup> Exhibit B-6, CEC 1.38.1

for the limited availability of natural gas supplied power than in the serving the Dawson Creek Chetwynd area loads.

The CEC submits that one of the major producers will be moving natural gas from BC to Calgary for the purpose of producing LNG for domestic transportation markets. Another way approach perhaps stage 2016 reinforcement would be to develop local generation using natural gas for LNG production, which the government could declare clean. This could lead to reduced transmission system cost related to serving the Dawson Creek Chetwynd loads and to more economical supply for the BC Hydro system in the future. The CEC understands that this is not an issue for this regulatory proceeding and is outside the scope of the Commission's considerations for the DCAT Project application.

The CEC submits that the evidence shows that in considering the 93% clean objective it will be more economical for BC Hydro to meet the BC energy objective of 93% clean and renewable through transmission options than through local natural gas fuelled options. Clearly the fact that transmission is to be built to serve the loads complies with this BC energy objective.

#### **2.3.3.2. 2(n) Ensuring the Authorities Rates Remain Among the Most Competitive**

Keeping the authorities rates among the most competitive will primarily involve ensuring that BC Hydro's capital expenditures and acquisition of energy costs do not run ahead of inflation and growth.

As BC Hydro has surplus clean energy for some time to come the cost of acquisition of energy appears to be significantly reduced as a concern for this objective as it relates to serving the loads for the Dawson Creek Chetwynd area.

Continued focus on reducing capital costs could have become a factor in this case. BC Hydro has used the market cost of energy as \$50/MWh until 2017 and the plant gate costs for energy \$116/MWh from 2017 forward<sup>59</sup>. BC Hydro did not use a cost for capacity for evaluating losses but confirms that capacity is required but not material<sup>60</sup>.

The difference in evaluation between the alternatives BC Hydro examined shows Alternative 1, the 230 KV transmission line solution, has a higher capital cost versus Alternative 2, the 138 KV transmission line solution<sup>61</sup>. However Alternative 1 has a

---

<sup>59</sup> Exhibit B-22, Page 37

<sup>60</sup> Exhibit B-30-1, CEC 4.17.4 and CEC 4.17.5

<sup>61</sup> Exhibit B-1, Page 3-8, Table 3-1

lower present value than Alternative 2<sup>62</sup>. If the average weighted value for energy losses were \$105/MWh instead of the plant gate price of \$116/MWh the Alternative 2 option would become more attractive<sup>63</sup>. The difference in the evaluation of the alternatives was evaluated at about \$12 million present value. If the period of surplus power lasts through to 2021 or 2022 and the evaluation of the losses is extended to this time period from 2017 where the initial evaluation has been conducted the difference in losses is reduced in value by about \$20 million<sup>64</sup>. This would switch the alternatives to the lower capital cost alternative.

The new load forecast however has significantly increased the evaluation impact of losses and would clearly sway the alternatives back to the Alternative 1 proposed.

Consequently for a transmission solution to keep rates low the more economic solutions need to prevail. The CEC submits that the DCAT Project proposed on the balance of the evidence meets the criteria for minimizing capital cost impacts for BC Hydro ratepayers, subject to any potential improvements to the cost of this 2014 Stage and particularly subject to the cost impacts of the 2016 Stage

### **2.3.3.3. 2(g) Reduction of Greenhouse Gases**

The transmission alternative using clean and renewable energy will certainly result in a significant reduction in greenhouse gases.

BC Hydro estimated the greenhouse reduction assuming natural gas driven compressors and estimated the reduction as being approximately 1.23 tonnes/year of CO<sub>2</sub>e<sup>65</sup>. A cumulative calculation for the base forecast is about 27,000 tonnes of CO<sub>2</sub>e<sup>66</sup>. With the new load forecast and a similar methodology the cumulative GHG reduction is about 36000 tonnes of CO<sub>2</sub>e.

Another approach would be to evaluate the greenhouse gas reductions versus local generation with natural gas using more efficient plants in which case the greenhouse gas reductions would be substantially smaller.

Nevertheless the transmission project contributes to the reduction of CO<sub>2</sub>e in a significant way and is therefore consistent with this BC energy objective.

---

<sup>62</sup> Exhibit B-1, Page 3-8, Table 3-2

<sup>63</sup> Exhibit B-5, BCUC 1.54.7

<sup>64</sup> (The energy value differences from \$116/MWh to \$50/MWh multiplied by the energy amounts expected)

<sup>65</sup> Exhibit B-6, BCSEA 1.8.1

<sup>66</sup> Exhibit B-6, BCSEA 1.8.3

When examining energy objectives the Commission should be cognizant of the tradeoffs between objectives and where there is an appropriate balance. The cost of the greenhouse gas reductions from natural gas fired compressors is about \$120/MT of CO<sub>2</sub>e for the new load forecast. The CEC realizes this is not an issue in scope for this proceeding for two reasons (1) BC Hydro's main purpose is to serve customer requests and the GHG reductions are incidental so there is not cost for GHG reduction<sup>67</sup> (2) The Commission is has determined that the issue of the province wide energy planning issues such as appropriate tradeoffs between energy objectives is not a subject for this proceeding.

The CEC submits that the evidence supports that the DCAT Project contributes to the BC energy objective of reducing greenhouse gases.

**2.3.3.4. 2(h) Switching from One Kind of Energy Source to Another to Reduce Greenhouse Gases**

The CEC submits the DCAT Project involves switching from natural gas driven compression to clean renewable electrical driven compression for the gas producers and therefore contributes to the BC energy objective for switching from one kind of energy source to another to reduce greenhouse gases.

**2.3.3.5. 2(i) Encourage Communities to Reduce Greenhouse Gases and Use Energy Efficiently**

Electric compression motors are more efficient than gas compression motors for use of energy at the motor and are less costly to maintain and provide a higher reliability<sup>68</sup>.

BC Hydro has conducted New Plant Design DSM programs with the gas producers and expects the energy efficiency opportunities to be restricted primarily focused on high efficiency motors. The energy efficiency is expected to contribute to a reduction of about 4% to 7% for gas producers and 6% to 9% for other loads<sup>69</sup>.

BC Hydro has not found any efficiency which might be technically achievable but are not being implemented as part of the New Plant Design<sup>70</sup>.

---

<sup>67</sup> Exhibit B-6, CEC 1.15.4

<sup>68</sup> Exhibit B-6, CEC 1.6.1

<sup>69</sup> Exhibit B-1, Page 2-10

<sup>70</sup> Exhibit B-30-1, CEC 4.9.11

BC Hydro has, as part of its Integrated Community Strategy, been in discussions with the City of Dawson Creek to investigate the potential for renewable energy opportunities.

BC Hydro's New Plant Design studies for producers have examined the tradeoff of electricity operating cost vs plant design capital but have done so using BC Hydro's current tariff rates. BC Hydro estimates that it will provide the gas producers \$50 million in incentives and that the savings derived will be 250 GWh/year amounting to a \$420 million benefit over 30 years<sup>71</sup>. Examining design with a view to the cost of new resource supply is not in the scope to these studies<sup>72</sup>. This raises an issue that efficiency over the long term relative to the real marginal cost of new supply is not adequately being raised with BC Hydro's customers and therefore BC Hydro's other customers are supporting less efficient design than could otherwise be the case.

Electricity for compression is estimated to be as much as 15% to 25% of their operating costs<sup>73</sup>. Therefore the cost of energy is a major factor for the gas producers.

BC Hydro is not aware of any activity on the part of either the federal or provincial governments to provide codes and standards with respect to compression equipment or design of natural gas producer systems<sup>74</sup>.

The CEC submits that BC Hydro has demonstrated that it is working to help these customers reduce increase their energy efficiency and reduce greenhouse gases. The CEC does not believe that the New Plant Design is adequate until it focuses on the long run marginal cost of new supply. The CEC submits that having this issue out of scope is not productive to BC Hydro's understanding of new plant design. Given the size of the loads and the potential payoff for efficiency it would be useful for both BC Hydro and the relevant governments to be working with the industry to increase overall efficiency and particularly in respect to the marginal costs of new electricity supply.

---

<sup>71</sup> Exhibit B-30-1, CEC 4.9.7

<sup>72</sup> Exhibit B-30-1, CEC 4.9.1

<sup>73</sup> Exhibit B-6, CEC 1.17.2

<sup>74</sup> Exhibit B-15, BCSEA 2.16.1

### **2.3.3.6. 2(k) Encourage Economic Development and the Creation and Retention of Jobs**

The economic development effect of employment during construction occurs and is positive but is considered minor<sup>75</sup>.

As a capital intensive business the related ongoing operating employment will also be expected to be minor.

Most of the projects would continue to be pursued if the costs of energy were higher, such as requiring natural gas fuelled energy source. BC Hydro has identified that Air Liquide needs the cheap energy and would otherwise not establish its business in the area<sup>76</sup>.

It is entirely possible that the overall net provincial impact on employment creation and retention would be negative because of the impact of providing electrical supply at the cost of new supply over the duration of the expected load requirements. The CEC realizes that this provincial wide issue with regard to BC energy objectives is not within the scope of this proceeding.

The CEC submits that the DCAT Project has a very limited effect on employment creation and retention.

### **2.3.3.7. 2(m) Maximize the Value of Generation and Transmission Assets**

The proposed DCAT Project initially had a significant drop off in load after about 20 years. This would lead to inefficient use of a significant transmission investment. The new load forecast has a significant jump with respect to the tailing off of the load and quite possibly the development of new customers will result in more efficient use of the transmission investment.

The gas producer loads for compression are expected to be relatively flat profile loads throughout the year so this may be expected to lead to significant efficiency in the use of the transmission investments.

The energy loss reductions in moving to a 230 KV transmission service will be significant and for the size of loads BC Hydro is expecting this will represent a significant maximization of transmission assets.

---

<sup>75</sup> Exhibit B-1, Page 5-7, Section 5.5.17

<sup>76</sup> Exhibit B-22, Page 11, Q 21

The CEC submits that the proposed DCAT Project will be contributing to the maximization of transmission assets values.

#### **2.3.4. Special Direction 9**

##### **2.3.4.1. Ensuring that Adequate Transmission Infrastructure is Built in the Time Required to Serve Customers**

The DCAT Project is clearly directed toward supplying transmission infrastructure in time to meet the customer load request.

The CEC submits that the DCAT Project is compliant with Special Direction 9's objectives.

### **3. THE PROJECT DESCRIPTION AND ABILITY TO MEET THE NEED**

The existing system is clearly constrained with respect to meeting the forecast load and with respect to meeting the current load with N-1 service.

The DCAT Project as defined and applied for in this regulatory proceeding does not meet the customer need for N-1 service. However, the CEC does not believe this would be a reason for denying the CPCN. The second stage GDAT project or some alternatives will be needed and it is sufficient to proceed with the DCAT CPCN in anticipation of solving the standard of service problems later. This is particularly true given the high level of reliability of the transmission lines and the customer willingness to proceed with load shedding schemes in place as part of their terms of service until other steps can be taken.

The load forecast and particularly the new load forecast provides clear evidence of a need for service in the form of requests for service coming from both new and existing customers.

The BC Hydro summary of evidence with respect to the specific customers planning for electrical service on the basis of the BC Hydro Electric Tariff and making significant investments with respect to their businesses<sup>77</sup> is accepted by the CEC as a fair statement of the circumstances.

The CEC is disinclined to see BC Hydro electric customers unable to get electrical service, provided they are meeting all of the prescribed requirements for qualifying to have the investments made to provide them service.

The CEC has been primarily concerned that BC Hydro did not in its original application submit evidence that it had looked at alternatives to the DCAT project beyond the two transmission options it had presented. BC Hydro after the suspension period returned with some analysis of a number of options the CEC thought might be relevant.

---

<sup>77</sup> BC Hydro Final Submission, Page 8, Paragraph 2

The CEC does not believe that an outcome of the CPCN regulatory process for the DCAT Project which resulted in denial of service to the BC Hydro customers requesting service would be productive. The CEC accepts the evidence of BC Hydro that it has no other project available to provide the service.

The CEC submits that there are a number of useful issues raised in this regulatory proceeding and that many of them are province wide context issues as opposed to specific issues with the DCAT Project which may result in improvements to the service to customers. The CEC is content to take up the broader issue with BC Hydro, the Commission and or the Government over time and with possible effect on future service. As well the CEC is content to work with BC Hydro in advance of the second stage GDAT project to see what may be done to improve the outcome of future investments.

The CEC submits that the proposed DCAT Project proposal as described sufficiently meets the need of customers to warrant approval of a CPCN for BC Hydro to proceed with construction. The CEC submits that a CPCN for the DCAT Project should be granted to BC Hydro.

#### **4. EVALUATION OF ALTERNATIVES**

BC Hydro in its original application has focused on and fully developed two alternatives for consideration. Alternative 1 is the 230 KV solution with a new substation at Sundance and Alternative 2 is the 138 KV solution with an additional 100 MVAR Static VAR Compensator.

One of the interesting considerations not taken into account in the evaluation of the BC Hydro alternatives is the fact that the 138 KV system is 40 years old and will need replacement within 10 to 20 years<sup>78</sup>. Beyond the analysis done for comparison of the alternatives Alternative 2 would potentially need additional investment for rebuilding much of its structure.

The CEC accepts the initial present value analysis of the costs of the alternatives analyzed by BC Hydro and based on its own analysis of the effects of the new load forecast on the analysis submits that the case for Alternative 1 is strengthened, particularly because the loss effects are greater with the higher loads. The BC Hydro evidence supports this in a general assessment<sup>79</sup>.

After the suspension of the regulatory process BC Hydro filled information on several alternatives to the ones included in its initial application. BC Hydro analyzed seven alternatives<sup>80</sup>. Generally these alternatives are divided between local generation alternative and alternative transmission configurations particularly related to potentially not having to build the new Sundance substation. The CEC appreciates the work BC Hydro has put into analyzing these alternatives.

---

<sup>78</sup> Exhibit B-6, CEC 1.31.2

<sup>79</sup> Exhibit B-22, Page 35, Q64

<sup>80</sup> Exhibit B-22, Page 38 to 49, Q72

BC Hydro's has provided its assessment that elements of these suggested alternatives will be taken into consideration in the evaluation of future system reinforcements as appropriate<sup>81</sup>.

BC Hydro has noted that its customers can site and deliver some local generation more easily and quickly than BC Hydro is able to<sup>82</sup>. In addition BC Hydro has suggested that local generation options may be useful in a later timeframe to avoid the cost of system reinforcements and upgrades<sup>83</sup>.

The B1 suggestion of putting the new substation at the point of the customer interconnection in Groundbirch is expected to provide a lower cost than the DCAT Project but has been rejected because there is a high likelihood that the siting of the substation cannot be done at the current site and the choice of an alternative site would lead to a delay in the project implementation<sup>84</sup>. BC Hydro suggests that the information on the customer siting was not available and waiting for it would have resulted in delay of the project and additionally the alternative Sundance site provides some flexibility with respect to future loads<sup>85</sup>.

The CEC submits that this option could have provided a better solution if developed earlier and submits that BC Hydro focused on such an option it could have been developed earlier. However at this time the CEC accepts the BC Hydro assessment that siting of the substation at the point of interconnection for the Groundbirch customer is unlikely to be possible with sufficient ease to switch to that plan without significant delay.

The B2 suggestion is applicable to the GDAT project phase. The B3 suggestion is viewed by BC Hydro as not feasible. B4 and B5 suggestions are viewed by BC Hydro as more costly than the DCAT Project.

The local generation alternative G1 to locate in the Dawson Creek area is viewed as requiring 50 MW size to 70 MW size units with redundancy. There is some anticipation of inefficiency relative to larger scale units because of higher costs per MW for installed capacity. This option is also constrained by BC Hydro's assessment of the BC Energy objective of 93% clean and renewable energy with preferred siting of the limited potential in more appropriate locations in the province<sup>86</sup>.

The generation alternative G2 to locate a significant generating station at Groundbirch and service the region from there has been assessed by BC Hydro as not possible to site in sufficient time to service the customer needs but would be capable of providing the service to the load required. This generation would reduce the load requirements overall because of a significant reduction in anticipated losses. Reliability would be similar to the DCAT Project, though a little less.

---

<sup>81</sup> BC Hydro Final Submission Page 14

<sup>82</sup> Exhibit B-30-1, CEC 1.25.1

<sup>83</sup> Exhibit B-30-1, CEC 1.20.1

<sup>84</sup> Exhibit B-22, Page 51 and 52, Q78

<sup>85</sup> Exhibit B-30-1, CEC 4.19.1

<sup>86</sup> Exhibit B-6, CEC 1.38.1

BC Hydro has analyzed the cost of the alternatives based on alternative gas fired generation facilities nominally located at Kelly Lake and has found that the DCAT Project is less expensive than the local generation alternatives<sup>87</sup>.

The CEC is of the view that comparison of the local generation alternatives to the system location of the generation with the DCAT Project is a valid comparison for dealing with limited availability of room to provide natural gas fuelled generation. However, the CEC submits that the local generation options can be more cost effective than the alternative supply from intermittent sources with their appropriate cost adjustments to match the supply properties of the natural gas fuelled generation<sup>88</sup>. However the CEC recognizes BC Hydro's point that this comparison does not take into account the limited quantity of gas fired generation available. The CEC also recognizes that this limit is not an issue within the scope of this regulatory proceeding as the 93% clean BC Energy objective is expected to prevail.

The CEC is of the view that the evidence before the Commission confirms that the DCAT Project alternative is the only option available to BC Hydro to provide service to customers in a timely manner and that it is reasonably cost effective when evaluated against other alternatives. Alternative evidence has not been sufficiently developed and cannot be developed in a timely fashion to provide the Commission a sound basis to deny the DCAT Project applied in favour of an alternative.

The CEC submits that there may well be improvements to providing service in the Dawson Creek Chetwynd area for the GDAT stage and to the extent possible the CEC submits that BC Hydro, the Commission and the Government should review province wide issues and specific opportunities to develop a better and more robust set of alternatives for the GDAT stage.

The CEC submits that the Commission should grant BC Hydro the CPCN it is applying for based on the evidence in available in this regulatory proceeding.

## **5. PROJECT COST, SCHEDULE AND DELIVERY**

The DCAT Project costs are provided as P50 \$219 million and P50 \$254 million<sup>89</sup>. The DCAT Project schedule was provided as providing an October 2013 in service date<sup>90</sup>.

The CEC expects that as a result of anticipate slower development of the loads in the load forecast and some regulatory delay in the course of reviewing the project for its CPCN application the project in service date has been reset to April 2014 and the maximum anticipated cost for the project is \$257.4 million.

The CEC does not believe that there is any evidence to suggest that the BC Hydro cost estimates are inappropriate or that their scheduled in service dates are not appropriate.

---

<sup>87</sup> Exhibit B-22, Page 68, Table 9

<sup>88</sup> Exhibit B-30-1, CEC 4.26.3.5

<sup>89</sup> Exhibit B-1, Page 4-24, Table 4-1

<sup>90</sup> Exhibit B-1, Page 4-25, table 4-2

The CEC submits that the Commission can accept the costs and schedule proposed for the DCAT Project as proposed by BC Hydro.

## **6. PROJECT IMPACTS ON ENVIRONMENT**

The evidence with respect to the routing of the transmission line and various environmental impacts and the efforts BC Hydro has taken to study and manage the impacts appears to be developed to an appropriate utility standard and the impacts are largely not a substantive issue.

The CEC submits that the Commission can accept the routing and environmental treatments BC Hydro has applied to developing the DCAT Project.

## **7. PROJECT RISKS AND MITIGATIONS**

BC Hydro has summarized the project risks providing its views on the risk mitigation and control strategies and on the likelihood of impact<sup>91</sup>.

The CEC has reviewed the risk management summary for the DCAT Project and notes the risks are largely related to the construction and development of the project. The risks relative to the future economic course of the project are generally not included or summarized. Throughout the review of the DCAT Project from load forecasts to financial outcomes for ratepayers there have been a series of issues discussed in the evidence. The Commission may find it useful in the future to have the ongoing risk identification and its control and management incorporated in its reviews.

The CEC submits that the risk summary and BC Hydro's proposed management and control as well as assessment of impact and probability is reasonable for the issues summarized in the table. The CEC submits the Commission can rely on the BC Hydro risk management with regard to its approval of the DCAT Project.

## **8. FAIRNESS OF SERVICE**

Tariff Supplement No. 6 ("TS 6") governs new customers taking electric service from BCH at transmission voltage.<sup>92</sup> TS 6 provides the specific basis for the collection of security and/or contributions from new customers.

Three of the five new industrial customers will pay tariffs under TS 6. The remaining 2 new industrial customers will receive service at distribution level. BCH has recommended that the Electric tariff be revised to provide that when a distribution customer with a load of 10MW or more requires service, the customer will be responsible for the costs of additions and alterations to the transmission.<sup>93</sup>

---

<sup>91</sup> Exhibit B-1, Page 7-9 to 7-12, Table 7-1

<sup>92</sup> Exhibit B-22, Attachment 2, Page 75

<sup>93</sup> Exhibit B-22, Attachment 2, Page 75

The Association of Major Power Customers of BC ("AMPC") has raised concern regarding the different treatment of customer contributions, applicable to similar sizes of large industrial developments imposing similar incremental costs on the BC Hydro system<sup>94</sup> and the inadequacy of TS 6 for the DCAT project and goes as far as to say that the DCAT project should result in reducing, delaying or even removing the project.<sup>95</sup> AMPC raised questions about whether the 5 new customer loads should be consolidated for the purpose of determining the 150 MVA threshold<sup>96</sup>.

AMPC also uses the example of Shell's Groundbirch gas plant to show that Shell staged their loads to fit under the 150 MVA threshold and thus avoided System Reinforcement cost contributions.

AMPC states that postage stamp rates must be preserved as they are a critical factor in securing regional long term economic developments in BC. However, postage stamp rates won't be preserved if new customers causing significant expansion costs are not charged a "contribution in aid of construction". Such a contribution would establish an upper limit on the costs that can be rolled-in to the postage stamp tariff. Moreover, AMPC states that such contributions need to be calculated and established early on in the process.

AMPC states that TS 6 is flawed in that new customer contribution levels for the DCAT and GDAT will not be at a satisfactory level of obligation to pay for the new infrastructure.<sup>97</sup>

BC Hydro states that TS 6 applies to individual customers only and for this reason none of the new customers will be exceeding the 150 MVA load. TS 6 should not be interpreted for a consolidated of loads but is intended to deal with individual customers.<sup>98</sup>

BC Hydro disagrees with AMPC in regards to customers circumventing the 150 MVA provision as it states that by customers acting in such regard will increase the risk that BC Hydro will be unable to provide adequate service on a timely basis.<sup>99</sup>

BC Hydro has also stated that it has not sought security or contribution in aid of construction for the cost of the GDAT project from the 5 new customers as all five of the customer loads will be served prior to implementation of the GDAT project.<sup>100</sup>

The CEC agrees that TS 6 needs to be revisited in the future as part of a broader review of industrial electricity policy to ensure that sufficient customer contributions and security for

---

<sup>94</sup> Exhibit C3-10, Page 3

<sup>95</sup> Exhibit C3-10, Page 3

<sup>96</sup> Exhibit B22, Attachment 2, Page 84

<sup>97</sup> Exhibit C3-10 Page 12

<sup>98</sup> BCH Final Submission, Page 20

<sup>99</sup> BC Hydro Final Submission, Page 21

<sup>100</sup> BC Hydro Final Submission, Page 22

System Reinforcement as well as rate tariffs are fair and just. The CEC welcomes the government's initiative to undertake a full review.

However, the CEC submits that the DCAT Project should proceed as it is needed to meet customer requirements. BC Hydro's new customers are entitled to service provided they meet the terms and condition for service and their obligations under those terms and conditions, in which case the service is in the public interest.

The CEC also agrees with BC Hydro that the proposed revision of the Electric Tariff Section 8.3 should be revised to allow it to obtain security for the cost of transmission reinforcements where those reinforcements are necessitated by a request for 10MW or more as a distribution service.<sup>101</sup>

The Commission has requested that participants in this regulatory proceeding address several specific questions in regard to TS6. The CEC will address the questions and BC Hydro's submissions in order.

### **1. SET Guideline Applicability**

The CEC is of the view that this question is resolved in the title. They are guidelines and as such may provide a useful reference for the nature of definition of issues and previous efforts to consider resolution of the issues. The CEC submits however, that TS6 stands on its own.

### **2. Maximum Offset**

The TS6 calculation is clearly set out and would not likely be changed by reference to other sources of information. However, the application and interpretation to circumstances particularly as it relates to deriving estimates.

### **3. 150 MVA Threshold**

The CEC is supportive of the government's intended review of the industrial transmission customer electricity policy. The CEC is concerned that the current process for system planning separating DCAT and GDAT as well as individual customer staging to avoid TS6 criteria and submits that the Commission could deal with these issues as a matter of review of BC Hydro's approach to dealing with customers under the TS6.

### **4. Period of Time to Assess 150 MVA Threshold**

The CEC is supportive of a pragmatic approach to the determination of compliance with this threshold and submits that the Commission may want to encourage BC Hydro to be more robust in its application of the provisions of TS6.

### **5. Subsequent Reinforcement**

---

<sup>101</sup> BC Hydro Final Submission, Page 25

The CEC disagrees with the BC Hydro approach to the GDAT project which is clearly a requirement to provide N-1 service, which apparently these customers are demanding at considerable expense for the last increments of reliability. The fact that GDAT is not part of the current CPCN proposals is BC Hydro's response to the rapidly emerging requirements and limitations in bringing the planning along at the same time. To avoid dealing with the 'cost causation' principle to the benefit of customer's requiring significant investments to provide levels of service does not appear to the CEC to be in the public interest. The CEC submits that the Commission could look to redirecting BC Hydro's interpretation of the appropriate application of these provisions.

#### **6. TS6 Appendix 1 Clause 3(a) and "Public Interest"**

The CEC submits that the Commission is the arbiter of "public interest" and that BC Hydro is required to implement it in so far as it is developed in tariffs and in Commission decisions and directions. Further the Commission is open to complaints on any of these subjects. The CEC submits the Commission has the scope under the UCA to provide direction as a condition of the CPCN approval on matters of public interest and that BC Hydro would be expected to implement the direction.

The CEC submits that the 5 new customers have demonstrated that the proposed DCAT Project is in the public interest, subject to having them meet the terms and conditions required to qualify for the service, including such refinements of BC Hydro's interpretations of TS6 as the Commission may choose.

#### **7. Public Interest and Future Stages**

The GDAT project as undefined as it may be is clearly defined by the requirement to meet the N-1 standard of service for the Dawson Creek Chetwynd area loads. To the extent that this represents costs for investments in future stages there should be nothing in the 'estimating' approaches or 'subsequent reinforcement' approaches which prevents the Commission from identifying the public interest in the fairness involved in considering the DCAT and GDAT projects within this CPCN. BC Hydro's submission that the GDAT is not before the Commission is not the case in the CEC's submission the 2016 Common Stage 2 is clearly a part of the CPCN application.

### **9. FIRST NATIONS CONSULTATION AND PUBLIC ENGAGEMENT**

The CEC has not taken an active role in questioning or reviewing the issues with respect to the First Nations. These are issues for the Crown duty to consult and for the Commission to review the status of the BC Hydro process and issues as of the date of the Commission's review.

The CEC relies on BC Hydro to be performing its responsibilities and on the Commission oversight as opposed to getting into the issues, except on rare occasions.

The CEC's review of the evidence does not give rise to a concern which would merit taking on a more extensive intervention at this point and the CEC will rely on the Commission's review of the situation.

The CEC submits that the evidence of public consultation and engagement is sufficient for a project of this nature and the CEC submits that the Commission can rely on BC Hydro's actions to this date as providing a reasonable basis on which to approve the DCAT Project.

## **10. CONCLUSIONS**

The CEC supports and recommends Commission approval of a CPCN for the DCAT Project, subject to a few conditions. Those conditions should include a consideration of the GDAT stage and the security and relief of security impacts related to those considerations.

The CEC recommends that the Commission direct BC Hydro to improve its approach to DSM planning for New Plant Design to include design based on the marginal cost of new supply.

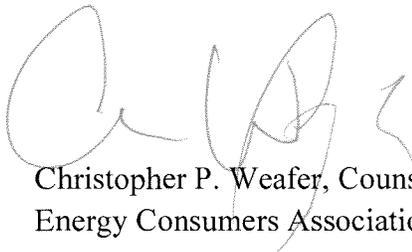
The CEC recommends that the Commission direct that BC Hydro engage with its customer groups and with the Commission as it also works with government to address the many broader province wide issues, for which consideration was either not in scope or not appropriate for determination in this CPCN regulatory process.

The CEC recommends that the Commission approve BC Hydro's proposed amendments to the Electric Tariff section 8.3.

ALL OF WHICH IS RESPECTFULLY SUBMITTED

***David Craig***

David Craig, Consultant for the Commercial Energy  
Consumers Association of British Columbia



Christopher P. Weafer, Counsel for the Commercial  
Energy Consumers Association of British Columbia