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File: 121056.0001

British Columbia Utilities Commission  
Box 250, 900 Howe St, 6<sup>th</sup> Floor  
Vancouver, BC V6Z 2N3

Attention: Erica Hamilton,  
Commission Secretary

Dear Ms. Hamilton:

**Re: Project No. 3698514**  
**BC Hydro 2008 Long Term Acquisition Plan Application ("2008 LTAP")**

Please find attached the Final Argument for NaiKun Wind Energy Group Inc. ("NaiKun") filed with respect to the 2008 LTAP proceedings. We have also provided an electronic copy of this argument to BC Hydro and registered Intervenors and Interested Parties via their recorded email addresses.

We would also be pleased to address any questions the Commission might have with respect to the matters raised in NaiKun's Final Argument.

Yours truly,

MILLER THOMSON LLP

Per:

Charles W. Bois  
CWB/mm

- c. Client (via e-mail)
  - c. BC Hydro; Attn: J. Scofield (via e-mail)
  - c. Registered Intervenors and Interested Parties (via e-mail)
- 3386504.2

**BRITISH COLUMBIA UTILITIES COMMISSION  
IN THE MATTER OF THE UTILITIES COMMISSION ACT  
R.S.B.C. 1996, CHAPTER 473**

**AN APPLICATION BY  
BRITISH COLUMBIA HYDRO AND POWER AUTHORITY  
REGARDING ITS  
2008 LONG TERM ACQUISITION PLAN  
PROJECT NO. 3698514**

**FINAL ARGUMENT  
OF  
NAIKUN WIND ENERGY GROUP INC.**

**SUBMITTED APRIL 27, 2009**

## **Introduction**

NaiKun Wind Energy Group Inc. (“NaiKun”)<sup>1</sup> is a registered intervenor in the British Columbia Hydro and Power Authority (“BC Hydro”) 2008 Long Term Acquisition Plan (“2008 LTAP”) application (“Application”) to the British Columbia Utilities Commission (“BCUC”). NaiKun proposes to construct an offshore wind energy project near the northeast coast of the Haida Gwaii (Queen Charlotte Islands), British Columbia. The project will be completed in five phases, with phase one the subject of NaiKun’s proposal to BC Hydro’s 2008 Clean Power Call Request for Proposals (“CPC”).

The BCUC’s order regarding the Application will crystallize the shape and structure of the electricity generation market in British Columbia for the next 20 years. NaiKun appreciates the opportunity to participate in this process and trusts that the information below is a constructive contribution to this discussion.

The absence of submissions in NaiKun’s argument relating to a specific element of the Application or the evidence filed in the Application proceedings must not be interpreted as an endorsement or acceptance by NaiKun of such element or evidence.

## **Summary of NaiKun Argument**

1. The CPC attrition rate of 30% applied by BC Hydro to the CPC is premised on a misunderstanding of historical data and incorrect interpretation of and reliance on attrition literature; in NaiKun’s view, a more realistic and supportable attrition rate for the CPC is 50% to 60%.
2. Special Direction No. 10 to the British Columbia Utilities Commission (“SD 10”)<sup>2</sup> has been narrowly interpreted by BC Hydro in the LTAP, contrary to the British Columbia Government (“BC Government”) energy policies and statements. A reasonable interpretation of the timing of implementation of the SD 10 insurance energy requires BC Hydro to procure additional energy now given the long lead times associated with generation project development.
3. The delivery risk<sup>3</sup> of BC Hydro’s demand side management (“DSM”) plan is significant. The uncertain nature of DSM electricity savings and BC Hydro’s aggressive targets lead to the conclusion that there is substantial risk that the BC Hydro DSM plan may well fall short of its targets and jeopardize BC Hydro’s ability to attain electricity self-sufficiency by 2016 particularly in light of the time required to bring on new generation resources in response to any shortfall.
4. The BCUC should endorse that BC Hydro purchases sufficient energy in the CPC to meet both the post-attrition volume of 2,100 GWh/yr, and post-attrition SD 10 insurance of 3,000 GWh/yr, assuming in each case an attrition rate of 50% to 60%.

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<sup>1</sup> [www.naikun.ca](http://www.naikun.ca).

<sup>2</sup> B.C. Reg. 245/2007; see Schedule “A” for sections referenced in this argument.

<sup>3</sup> In this argument “delivery risk” and “deliverability risk” have the same meaning.

## Attrition

NaiKun's view is that there are two miscalculations in the attrition rate proposed by BC Hydro for the CPC resulting in a significant underestimate of the CPC attrition rate and the resultant energy resources to be acquired from the CPC.

### *Miscalculation by BC Hydro of CPC Attrition Rate*

In determining the CPC attrition rate, BC Hydro should exclude all independent power producer ("IPP") acquisitions made under non-comparable circumstances; specifically, the pre-2000 calls for power. Further BC Hydro should include the Vancouver Island Gas Project ("VIGP") as an attrited project. In cross-examination, Mr. Scouras agreed that the processes used with respect to the 6,722 GWh/yr acquired in pre-2000 calls for power were very different from those used more recently, and were acquired under substantially different circumstances than the more recent 2002/03 Green Power Generation Call ("2002/03 GPGC") or the 2006 Open Call for Power ("2006 Call"), when he stated:

I would say it's more challenging to compare development of projects from those calls than to today's. The process were different, a lot of things were different at those times. So I think it's a fair comment to say that was a very different world when those contracts were awarded and those projects were built.<sup>4</sup>

NaiKun submits that the attrition rate of BC Hydro's pre-2000 projects has no relevance in estimating the CPC attrition rate. NaiKun submits that a more suitable approach is to use the more recent 2002/03 GPGC and 2006 Call attrition results to inform decisions regarding the assumed CPC attrition rate. NaiKun noted and BC Hydro agreed (subject to check) that if the pre-2000 power calls were excluded, the historical call attrition rate is 61% if the VIGP is not an attrited project, and 67% if VIGP is included as an attrited project.<sup>5</sup> VIGP should be included in the attrition rate calculation as an attrited project. There was a contract awarded by BC Hydro and approved by the BCUC for the VIGP and BC Hydro chose to terminate that contract; therefore the VIGP meets BC Hydro's definition of an attrited project. In cross-examination, Mr. Scouras stated:

Well, maybe to be clear, what I can say is for us, we're defining attrition as being projects that have terminated, or probabilistic assessment from us of whether they're going to show up and how much energy we can rely on. So that's what I do know.<sup>6</sup>

### *Misinterpretation by BC Hydro of Attrition Literature*

NaiKun respectfully submits that BC Hydro has misinterpreted the results of the California Energy Commission Report<sup>7</sup> ("CEC Report") offered in partial support of its estimate of the CPC attrition rate. NaiKun is mindful that BC Hydro relied on the CEC Report in the 2006 IEP/LTAP proceeding when, after conducting an internal assessment, it planned for an attrition

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<sup>4</sup> Transcript Volume 13, p. 2555, lines 9 - 15. The entire discussion regarding the appropriateness of including the pre-2000 projects can be found at pp. 2555 - 2557.

<sup>5</sup> *ibid*, p. 2561, lines 6 - 23.

<sup>6</sup> *ibid*, p. 2569, lines 5 - 10.

<sup>7</sup> Exhibit B-12, BC Hydro Response to IPPBC Information Request 3.2.3.

rate of 23% for the 2006 Call.<sup>8</sup> The BCUC noted that BC Hydro's assessment was not challenged by any party and for that reason accepted that a 30% attrition rate was a valid assessment of potential attrition at the time, but further acknowledged that the actual attrition rate would likely change<sup>9</sup>.

In response to IPPBC Information Request 3.2.2, BC Hydro provided information that the updated attrition rate for the 2006 Call is approximately 41% to date (exclusive of the coal/biomass projects proposed in that call)<sup>10</sup>. NaiKun submits that the project attrition rate of 41% for the 2006 Call, excluding the coal/biomass projects and assuming all remaining projects in the 2006 Call are actually built, is almost double the attrition rate that BC Hydro had originally estimated for the 2006 Call. At page 27 of the Evidentiary Update, BC Hydro relies on and cites the CEC Report as one of three reasons for its projection of a 30% attrition rate in the CPC<sup>11</sup>:

BC Hydro is of the view that an attrition allowance of 30 per cent for the Clean Power Call is appropriate for the following reasons:

... [of which one is] ...

The most comprehensive study on attrition rates that BC Hydro is aware of is the California Energy Commission's (CEC) "Building a Margin of Safety Into Renewable Energy Procurements: A Review of Experience with Contract Failure". The CEC report supports the use of a 20-30 per cent attrition rate based on findings over a sample size of over 21,000 MW of renewable energy projects in North America and Europe.<sup>12</sup>

However, a full reading of the CEC Report paints a different picture, as set out in BC Hydro's responses to NaiKun Information Requests 3.6.0(a) to (c). In particular, the CEC Report concludes:

Though there is considerable variation among utilities with contract failure, and data limitations prevent robust conclusions, the experience presented in this report suggests that an overall failure rate of 20 to 30 percent should likely be considered the *minimum* level of expected failure for large RFOs conducted over multiple years (any individual RFO may well be able to beat these failure rates). In fact, failure rates much higher than these levels (50 percent, or even greater in some cases) are supported by historical experience, especially for projects that use pre-commercial technologies or that (like many projects in California) are likely to face siting, permitting, resource supply, transmission, or other barriers to development. Somewhat supportive of failure rates at these or higher levels is recent experience with renewable energy contracting by California's IOUs, which shows what appears to be a healthy degree of contract failure; we have no reason to believe that this will not continue in future RFO cycles, especially as the state's utilities dig deeper into the pool of possible projects.<sup>13</sup> [*italic emphasis added by report author and underline emphasis added by NaiKun*]

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<sup>8</sup> 2006 IEP/LTAP Reasons for Decision, p. 75.

<sup>9</sup> *ibid*, p. 76.

<sup>10</sup> Transcript Volume 13, pp. 2565 - 2566, referencing BC Hydro response to BCUC Information Request 3.266.1; see also BC Hydro response to BCUC Information Request 3.266.1.

<sup>11</sup> Exhibit B-10, p. 27.

<sup>12</sup> *ibid*, pp. 27 - 28.

<sup>13</sup> Exhibit B-12, BC Hydro Response to IPPBC Information Request 3.2.3, p. 46 of 53.

Further, the CEC Report abstract states:

The report finds that contract failure rates vary considerably among utilities, across situations, and by technology. Though some of this experience is not entirely relevant to the contracting practices of today's electric utilities, the data suggest that a *minimum* overall contract failure rate of 20 to 30 percent should generally be expected for large solicitations conducted over multiple years. Failure rates much higher than these levels are supported by historical experience. [*italic emphasis added by report author and underline emphasis added by NaiKun*]<sup>14</sup>

In response to the question in NaiKun Information Request 3.6.0(b), "What factors led BC Hydro to assume a CPC attrition rate in the range suggested as minimum by the [CEC] report?" BC Hydro refers only to its response to BCUC Information Request 3.266.1, which response merely justifies the use of 30% as the *high* end of the 20% to 30% range referred to in the CEC Report and does not specifically answer the question posed by NaiKun. In its response to the BCUC, BC Hydro states:

The CEC report concludes that a minimum overall contract failure rate of 20 to 30 per cent should generally be expected for large solicitations conducted over multiple years. Given that the Clean Power Call is occurring over multiple years and experiencing similar market and policy drivers, as well as other financial market uncertainties not identified in the report, the use of the higher end of the range [i.e., 30%] provided in the CEC study is warranted.<sup>15</sup>

Under cross-examination Mr. Scouras agreed that British Columbia IPP projects have almost all of the risk-increasing attributes and elements identified in the CEC Report's conclusion linked to using a much higher attrition rate<sup>16</sup>. However, in both the Evidentiary Update (Exhibit B-10) and its responses to NaiKun Information Request 3.6.0(b) and the BCUC Information Request 3.266.1, BC Hydro does not refer to the higher attrition rate suggested by the CEC Report for projects encountering these risk-increasing attributes. Rather, BC Hydro appears to avoid these common risk-increasing attributes by emphasizing the risk attribute, namely pre-commercial technology, that does *not* apply to the CPC and does not consider the more significant risk attributes. In its response to BCUC Information Request 3.266.1, BC Hydro states in part:

BC Hydro also notes that CEC's conclusion that an attrition rate of higher than 20 to 30 per cent can be supported was in part to reflect [quoting the CEC report] "projects that use pre-commercial technologies or that (like many projects in California) are likely to face siting, permitting, resource supply, transmission, or other barriers to development." For the Clean Power Call, pre-commercial technologies are not eligible to participate.<sup>17</sup>

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<sup>14</sup> *ibid*, p. 2 of 53.

<sup>15</sup> Exhibit B-12, BC Hydro Response to BCUC Information Request 3.266.1.

<sup>16</sup> Transcript Volume 13, p. 2573, lines 16 - 22. Mr. Scouras stated: "In our jurisdiction ... there's different elements that I noted here from this report that are similar. That projects that fail often fail because siting and permitting, capital cost increases, financing troubles as well as transmission interconnection issues. So those are things that I would say are similar to our jurisdiction."

<sup>17</sup> Exhibit B-12; BC Hydro's Response to NaiKun Information Request 3.6.0(b) refers to BC Hydro Response to BCUC Information Request 3.266.1.

BC Hydro also states that it improved its due diligence in the CPC as a separate reason from the CEC Report for BC Hydro's CPC attrition projection.<sup>18</sup> However, there is no evidence to suggest that BC Hydro's new level of due diligence was not generally in effect for the solicitations of the utilities surveyed in the CEC Report. Additionally, BC Hydro did not file any evidence to demonstrate that its new level of due diligence generally exceeds that of the utilities in CEC Report's survey sample. Further, there is no evidence that BC Hydro's extra due diligence translates to a 20% reduction to the postulated CEC 50% attrition estimate where projects face the noted hurdles. In short, the use of the CEC Report to support the 30% CPC attrition rate is contrary to the CEC Report's own conclusions.

NaiKun submits that the thrust of the CEC Report, as applied to the CPC, suggests that an attrition rate in the order of 50% is more appropriate and ought to be used.

### **Special Direction No. 10**

A special direction is a unique regulatory instrument issued by the BC Government. As indicated by its very name, a special direction provides specific direction to the BCUC and authorities regulated by the BCUC (e.g., BC Hydro). SD 10 is binding upon the BCUC and BC Hydro. Accordingly, the BCUC must ensure that BC Hydro's Application will achieve the requirements set out in SD 10. The portions of SD 10 relevant to this argument are set out in Schedule "A".

#### *SD 10 Insurance*

SD 10, in effect, mandates two electricity surplus requirement thresholds, one nested inside the other.

- The first electricity surplus requirement is that British Columbia must be electricity self-sufficient in a "critical water year" by 2016 *and* each year thereafter.
- The second electricity surplus requirement is that BC Hydro must exceed, as soon as practicable but no later than 2026, electricity supply obligations by at least 3,000 GWh/yr from generating facilities solely within the province.

The requirement that BC Hydro achieve self-sufficiency is also enshrined in Section 64.01 of the *Utilities Commission Act*, which provides:

#### **Electricity self-sufficiency**

64.01 (1) The authority must

- (a) by the 2016 calendar year, achieve electricity self-sufficiency according to the prescribed criteria, and
- (b) maintain, according to the prescribed criteria, electricity self-sufficiency in each calendar year after achieving it.

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<sup>18</sup> Exhibit B-12, BC Hydro Response to BCUC Information Request 3.266.1, p. 3. See also first bulleted paragraph on p. 28 of the Evidentiary Update, Exhibit B-10 where BC Hydro states it "will continue to apply rigorous risk assessment processes in the Clean Power Call to avoid awarding contracts to high-risk projects."

There is considerable uncertainty as to the meaning of SD 10 on the timing of the acquisition of the 3,000 GWh/yr insurance (“insurance energy” or “insurance”). Specifically, what does the word “practicable” mean and how is it to be applied to determine BC Hydro’s required base resource plan (“BRP”) surplus? Section 3(e) of SD 10 provides further texture to the insurance supply requirement with the phrase “in the most cost-effective manner”. Is “in the most cost-effective manner” a relative or absolute concept<sup>19</sup> and what activity does the phrase modify?

BC Hydro is not at all clear on these important questions.

### *BCUC and NaiKun Information Requests*

BC Hydro does not propose usable resource criteria to be applied to meeting the SD 10 insurance requirement. Instead, BC Hydro’s approach is to avoid the issue by ‘shoe horning’ the acquisition of the insurance energy into the last possible year under SD 10, namely 2026. BC Hydro’s explanation is that it is “too soon” to prepare to acquire the insurance but provides no explanation that would support a deferral period of up to 10 years to achieve SD 10 insurance. In BCUC Information Request 1.143.1, BC Hydro was asked:

Section 3(e) [of SD 10] states that BC Hydro should exceed its requirements by at least 3,000 GWh as soon as practicable. Does BC Hydro agree that the required excess is available sooner than proposed from the resource options? If so, why does BC Hydro not obtain the insurance earlier?<sup>20</sup>

With respect, BC Hydro’s response fails to address the question. What BC Hydro stated in response to the BCUC information request was:

The term “practicable” is not defined in section 1 of SD 10. BC Hydro submits that interpreting the term “practicable” as that term is used in SD 10 should take into account:

- The plain, ordinary meaning of the term. Courts have, among other things, used dictionaries as a source of what the plain, ordinary meaning is of terms used in statutes and regulations; and
- The entire wording of section 3(e) of SD 10, which directs the BCUC, in regulating BC Hydro, to use the criterion that BC Hydro is to exceed, “as soon as practicable *but no later than 2026*, the electricity supply obligations by at least 3,000 gigawatt hours per year and by the capacity required to integrate that energy in the most cost-effective manner ...” [*italic emphasis added by BC Hydro*]

The BC Hydro response continues by outlining some supply actions, including some with upside (i.e., above-BRP) supply potential. Among actions listed to support the response is:

BC Hydro continues to support 5L83 being completed to its currently planned in-service date both to meet the current reliability concerns in the LM and to strengthen the system to be able to manage the increased energy that will be available first with self-sufficiency and later with the 3,000 GWh/year of insurance. [underline emphasis added by NaiKun]

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<sup>19</sup> If “in the most cost-effective manner” is relative, then if there is a way (to achieve the 3,000 GWh/year surplus), then there is also a most cost-effective way. If it is however “in the most cost-effective manner” is absolute, then there could be no way that is cost-effective.

<sup>20</sup> Exhibit B-3, BC Hydro Response to BCUC Information Request 1.143.1.

In totality, BC Hydro's response does not address the BCUC question of why not plan to acquire all or part of the insurance *earlier*. The quoted portion of BC Hydro's response above leads to the conclusion that BC Hydro has itself determined that acquiring the 3,000 GWh/yr insurance before 2026 is not practicable.

Continuing further with the discussion of the meaning of "practicable", BC Hydro asserts that cost-effectiveness is to be considered in determining the first year it is practicable to achieve the 3,000 GWh/yr insurance, or any part of it. In its response to a NaiKun information request, BC Hydro responded:

BC Hydro notes that section 3(e) uses the phrase "cost-effective manner", and submits that cost-effectiveness is a consideration in assessing when it is practicable to meet the insurance requirements set out in SD 10 in advance of 2026.<sup>21</sup>

Again, BC Hydro's response does not address the stated concern. BC Hydro implicitly alters the syntax of SD 10. The logical reading of SD 10 is: "do 'X' (that is, achieve 3,000 GWh/yr insurance) if it is practicable; and, if 'X' is practicable, do it in the most cost-effective manner". In other words the existing syntax of SD 10 means that if 'X' is practicable, then there is a way to do it and therefore there must be a most cost-effective way to do it.

By contrast, BC Hydro's inclusion of cost-effectiveness as a criterion for practicability allows 'X' to be not practicable if it is not, in some absolute sense, cost-effective. BC Hydro mistakenly interprets "in the most cost-effective manner" as an absolute term within the definition of practicable. However, when asked why BC Hydro considers its proposed surpluses and/or ramping strategy to be "the most cost-effective manner of meeting the insurance requirements in SD 10"<sup>22</sup> BC Hydro responded:

In the 2008 LTAP (Exhibit B-1), BC Hydro has... identified a plan whose actions are part of the first step to maintain the capability of exceeding the electricity supply obligations by at least 3,000 GWh/year and by the capacity required to integrate that energy in the most cost-effective manner solely from electricity generating facilities within the province (this was described in the response to BCUC IR 1.143.1). [underline emphasis added by NaiKun]

The BC Hydro response to BCUC Information Request 1.143.1 further states, in part:

BC Hydro will be in a better position to propose the succeeding steps in the next and succeeding LTAPs.<sup>23</sup>

In a similar vein, in response to BCUC Information Request 2.187.2 and NaiKun Information Request 3.1.0(h) BC Hydro states:

BC Hydro considers it to be too early to determine the best manner to implement the insurance requirements of SD 10. The response to BCUC IR 1.36.2 (Exhibit B-3) explained how BC Hydro had modelled resource acquisitions that could meet the requirement specified in SD 10 for 3,000 GWh/year

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<sup>21</sup> Exhibit B-12, BC Hydro Response to NaiKun Information Request 3.1.0(h).

<sup>22</sup> Exhibit B-4, BC Hydro Response to BCUC Information Request 2.187.2 where the BCUC asked: "Please discuss why BC Hydro considers its proposed surpluses and/or proposed ramping strategy "the most cost-effective manner" of meeting the insurance requirements in SD10."

<sup>23</sup> Exhibit B-3, BC Hydro Response to BCUC Information Request 1.143.1.

insurance by 2026. This modelling was not intended to imply the plan as modelled would be the best or most appropriate plan for implementing the insurance.

In fact, given the strong market response to the CPC, (i.e., Ms. Van Ruyven stated there were 68 proponents bidding a total of 17,000 GWh/yr)<sup>24</sup> it is difficult to see why it is not practicable to secure the insurance requirements of SD 10 in this current call. By doing so, BC Hydro would meet the requirement to secure insurance as soon as practicable, relying on the proposals in hand. To do otherwise would violate the timing direction associated with the insurance provisions of SD 10 and would result in considerable delay.

### **DSM Risk**

NaiKun fully supports conservation and demand side management initiatives and believes reliance on such initiatives should be based on a reasonable assessment of their probability of success.

As the Application hearing progressed it was apparent that DSM delivery risk was real and, in NaiKun's view, substantial. DSM delivery risk was accepted by Mr. Elton in his oral testimony stating that "while not without delivery risk, the 2008 LTAP demonstrates that DSM is a cost-effective resource".<sup>25</sup>

In addition, Mr. Wallace engaged Mr. Hobson and Mr. Matheson in a discussion on the status of various DSM programs regarding industrial consumers, and the measurement of success of such programs<sup>26</sup>. The testimony of Mr. Hobson and Mr. Matheson in responding to questions on whether BC Hydro had established milestones for assessing a specific DSM plan is illustrative of BC Hydro's inability to assess DSM delivery risk. Mr. Matheson stated:

Mr. Matheson Well, I don't – I think overall it would be – I don't think it would be that useful overall, to set month-by-month indicators. I think this demand-side management program is new enough and big enough for our company that doing that could be misleading and would cause us to do things that in fact might turn out that we didn't need to do, or in fact went in a wrong direction. So, I would suggest to you that we should set milestones that conform to a year and probably to begin with we need to give ourselves a couple of years to see how these programs are going to take, and then decide equally as importantly at what point in time do we need to begin to employ other measures if the deliverability risks turn out to be the case, and we aren't believing that we can get to this level of demand-side management savings, and by that, I mean, obviously, the year 2016 will be important to us, because that's the year we need to become self-sufficient, and so we'll need to back up and figure out at what point in time we need to begin to look at other options to make sure that we achieve self-sufficiency if the demand side-management isn't tracking to the degree that we think it needs to. [underline emphasis added by NaiKun]

Mr. Wallace Haven't you done that yet?

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<sup>24</sup> Transcript Volume 4, p. 541, lines 20 - 25.

<sup>25</sup> Transcript Volume 3, p. 248, lines 8 - 13.

<sup>26</sup> Transcript Volume 11, pp. 2067 - 2093.

Mr. Matheson: Well, we haven't – have we not put in place our mitigation strategies.<sup>27</sup>

The foregoing highlights not only that the DSM plans proposed by BC Hydro are new, they are also larger than any other DSM programs previously proposed by BC Hydro. Ms. Van Ruyven testified that BC Hydro's DSM plans are very aggressive.<sup>28</sup> Subsequently, when asked whether any other utility had achieved such DSM targets, Ms. Van Ruyven stated that BC Hydro was leading the way.<sup>29</sup> Ms. Van Ruyven also testified that it could three to five years before BC Hydro sees the results from its DSM programs.<sup>30</sup> These statements further support NaiKun's view of significant, and substantial, delivery risk and uncertainty surrounding the predicted success of DSM.

BC Hydro will require two or more years to assess whether it is on track to achieve the DSM savings it has projected. Once that assessment is complete and if BC Hydro then determines that it is not on track, BC Hydro will require additional time to revise or create new DSM programs, and a further two year window to again assess the success or failure of those revised or new programs. In cross-examination, Mr. Hobson stated:

Every two years as it's proposed, we would do a more major undertaking of that DSM plan as part of an LTAP filing, and we would again, I think, be in a position to understand if we're looking like we're starting to tilt a little ways away from where we would like to be.<sup>31</sup>

Mr. Matheson then followed by stating:

... what specific things within the demand-side management plan we needed to see by a certain year, in order to begin to employ other options that might be available to us. And I'm saying to you we haven't got to that level of granularity, but there's no question that we look broadly at our ability to meet our customer load on an annual basis, and more frequently, in fact ...<sup>32</sup>

Mr. Matheson also confirmed that the success of the 2008 LTAP is premised on three factors: (1) achieving the DSM targets set out in the LTAP, (2) obtaining all of the post-attrition energy expected from the 2006 Call, and (3) obtaining the post-attrition 2,100 GWh/yr electricity from the CPC.<sup>33</sup>

NaiKun submits that Mr. Matheson's evidence on DSM and the premise upon which the success of the LTAP are based makes it apparent that BC Hydro's fallback position is to implement its Contingency Resource Plan rather than acquire new energy supplies from IPPs in order to achieve electricity self-sufficiency by 2016.

BC Hydro's aggressive position on DSM savings is contrasted by its relaxed position on meeting the insurance provisions of SD 10 which would serve to mitigate the DSM

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<sup>27</sup> *ibid*, p. 2089, lines 20 - p. 2090, line 17.

<sup>28</sup> Transcript Volume 4, p. 355, lines 6 - 9.

<sup>29</sup> Transcript Volume 5, p. 736, lines 4 - 26.

<sup>30</sup> Transcript Volume 4, p. 530, lines 22 - 26.

<sup>31</sup> Transcript Volume 11, p. 2092, lines 15 - 20.

<sup>32</sup> Transcript Volume 11, p. 2093, lines 5 - 12.

<sup>33</sup> Transcript Volume 13, p. 2551 line 20 - p. 2552 line 15.

deliverability risk. It was common ground in the Application that a new generating project typically requires approximately seven years to be in service after a call process is initiated. If an IPP project was part of BC Hydro's fallback option, then in order for that IPP project to come on line in time to contribute towards achieving self-sufficiency, BC Hydro should secure such resources now.

### **CPC Volume Calculation**

If NaiKun's argument regarding the CPC attrition rate and SD 10 is accepted by the BCUC, the implications for the BRP may be substantial. Due to the inherent variability of the insurance energy, as a net sum of many resources and loads that vary from year to year, NaiKun proposes that it is reasonable to apply the insurance criterion required by SD 10 as a 3,000 GWh/yr *average* insurance between the first year of practicable insurance (i.e., 2016) and 2026. For example, in response to NaiKun Information Request 3.1.0(g), BC Hydro estimates that an additional 2,425 GWh/yr would have to be acquired to bring the average BRP surplus to 3,000 GWh/yr over the F2017 - F2026 period. If the first year of a practicable 3,000 GWh/yr surplus is F2017, the additional 2,425 GWh/yr is acquired from IPPs and the projected CPC attrition rate is 50%, the *pre-attrition* CPC target should be at least 9,000 GWh/yr.<sup>34</sup>

Further, this average insurance scenario does *not* include any required volume increase to the CPC to address or offset, in NaiKun's view, the delivery risk inherent in BC Hydro's DSM plans.

### **Conclusion**

In submitting this argument, NaiKun is sensitive to the short term economic realities facing ratepayers. However NaiKun wishes to point out to the BCUC that the 2008 LTAP is a 20 year long plan, directed by an energy legislative and policy agenda that is clear and unequivocal.

BC Hydro's CPC attrition rate of 30% is not supportable by BC Hydro's own evidence, nor by the literature relied upon by BC Hydro. BC Hydro's inclusion of the attrition rates of pre-2000 calls for power and its exclusion of the VIGP from the historical attrition rate are not appropriate adjustments to support the projection of the attrition rate for the CPC. In addition, the CEC Report relied upon by BC Hydro does not support BC Hydro's use of a 30% attrition rate for the CPC given BC Hydro's acceptance that many of the IPP projects in British Columbia will face the risk-increasing attributes cited in the CEC Report in support of using much higher attrition rates. Further, BC Hydro's own attrition rate analysis of previous calls indicates that it is recently experiencing attrition rates of 61% and 67% (as calculated by NaiKun). NaiKun's submits that planning for an attrition rate of 50% to 60% for the CPC would be consistent with the conclusions of the CEC Report and BC Hydro's own experience.

For BC Hydro to meet the minimum 3,000 GWh/yr insurance target in 2017 and not 2026, 2,425 additional GWh/yr must be acquired. Assuming a CPC attrition rate of 50% and that the

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<sup>34</sup> Based on a post attrition target of 2,100 GWh/yr + 2,425 GWh/yr = 4,525 GWh/yr, then doubled to account for attrition.

shortfall is made up from CPC purchases, the pre-attribution CPC volume target would be approximately 9,000 GWh/yr.

NaiKun's illustrative 9,000 GWh/yr CPC target does not mitigate what is, in NaiKun's view, significant delivery risk inherent in BC Hydro's DSM plans. NaiKun submits that there are substantial uncertainties in BC Hydro's DSM plans and significant risk of not achieving the desired results set out in the LTAP within the mandated time frame. NaiKun submits that it is unlikely that the DSM targets will be achieved in time to contribute to British Columbia being electricity self-sufficient by 2016, and to reach, and indeed, exceed as soon as practicable a minimum 3,000 GWh/yr insurance.

Accordingly, NaiKun submits that the BCUC should not endorse BC Hydro's plan to acquire a pre-attribution volume of only 3,000 GWh/yr from the CPC or a post attribution volume of 2,100 GWh/yr. Rather, NaiKun submits that the BCUC ought to endorse:

1. a minimum, post-attribution volume of 4,525 GWh/yr from the CPC satisfying the SD 10 insurance requirement by F2017; or
2. a pre-attribution volume of 9,000 GWh/yr from the CPC (assuming a 50% attrition rate) where SD 10 insurance is to be secured by F2017.

All of which is respectfully submitted April 27, 2009.

## Schedule “A”

### Relevant Sections of Special Direction No. 10

3. Subject to section 5(2)(a), in regulating and fixing rates for, the authority, including, without limitation,
- (a) considering an application made by the authority for a certificate of public convenience and necessity under section 45 of the Act,
  - (b) do anything referred to in section 45(6.2)(a), (b) or (c) of the Act with respect to a plan filed by the authority under section 45(6.1) of the Act, and
  - (c) considering an energy supply contract under section 71 of the Act,
- the commission must use the criterion that the authority is to achieve energy and capacity self-sufficiency by becoming capable of
- (d) meeting, by 2016 and each year thereafter, the electricity supply obligations, and
  - (e) exceeding, as soon as practicable but not later than 2026, the electricity supply obligations by at least 3 000 gigawatt hours per year and by the capacity required to integrate that energy in the most cost-effective manner
- solely from electricity generating facilities within the Province, assuming no more in each year than the firm energy capability from the assets that are hydroelectric facilities.

....

The term “electricity supply obligations” in section 3(d) is a defined term in SD 10. Section 1 of SD 10 defines electricity supply obligations as follows:

electricity supply obligations means

- (a) electricity supply obligations for which rates are filed with the commission under section 61 of the Act, and
- (b) any other electricity supply obligations that exist at the time this Special Direction comes into force

determined by using the authority’s mid-level forecasts of its energy requirements and peak load, taking into account demand-side management initiatives, that are accepted by the commission from time to time;