

**BC HYDRO'S SUPPLEMENTAL F2006 CALL EVIDENCE**  
**INFORMATION REQUESTS**  
**ON BEHALF OF BCOAPO**

**Question #1 – Products Sought in the F2006 Call**

Reference: Testimony of Mary Hemmingsen, page 3, lines 3-21 and Exhibit C, pages 6 & 8  
BCH's 2005 REAP Application, page 2-22

Question:

- 1.1 Please confirm that the 200 GWh/year from Small Projects is to be considered firm electrical energy supply. Why are Small Projects considered firm energy if there is no "minimum delivery obligation" (per Exhibit C, page 6)?
- 1.2 The initial 2005 REAP indicated that deliveries from the supply side call would be expected to start on or before Q3 of 2010 (page 2-22). The current F2006 Call Evidence indicates the Commercial Operation Date will be between October 2008 and October 2009.
  - Please provide the anticipated milestones for meeting the new Commercial Operation Date (e.g., Date F2006 Call will be formally issued, Closing Date for F2006 Call, Closing Date for Actual Contracts with successful suppliers, etc.)
  - Based on BCH's experience with previous Calls, what types of generation will be able to meet the shorter in-service date requirements of the current Call?
  - Are there any types of generation that may be excluded by the earlier in-service date requirements?

**Question #2 – Green Attributes of the F2006 Call**

Reference: Testimony of Mary Hemmingsen, page 3, lines 23-28

Question:

- 2.1 Please describe the criteria established under Environment Canada's Environmental Choice Program to qualify for ECP's EcoLogo.
- 2.2 Please compare and contrast the criteria for ECP's EcoLogo with the BC Clean Electricity criteria.

**Question #3 – Green Attribute Credit**

Reference: Testimony of Mary Hemmingsen, page 3, lines 29-35 and page 4, lines 10-25

Question:

- 3.1 Please indicate precisely what are the Green Attributes that will receive a credit of \$3/MWh.

**Question #4 – Need for the F2006 Call (per 2005 REAP)**

Reference: Testimony of Mary Hemmingsen, page 5, lines 5-32  
2005 REAP - Appendix F

Question:

- 4.1 The firm volumes proposed for the F2006 (and F2007) call were more than sufficient to meet the System's Energy and Capacity Outlook (Appendix F) through to F2013. Please explain why the initial 2005 REAP did not call for the acquisition of less electrical energy (and capacity) over this period so as to more closely balance supply and demand.

**Question #5 – Need for F2006 Call (per Supplemental F2006 Call Evidence)**

Reference: Testimony of Mary Hemmingsen, page 5, line 35 to page 6, line 13  
2005 REAP – Appendix F

Question:

- 5.1 Please provide an updated version of Appendix F reflecting the termination of the DPP project and the current F2006 Call. Please show the F2006 and the planned F2007 Calls separately.
- 5.2 Please discuss the resulting firm energy supply-demand outlook and BC Hydro's plans to address any remaining supply deficits (prior to 2014).
- 5.3 Please discuss the purpose/objective behind soliciting for "up to 800 GWh of non-firm electrical energy" within the context of the current energy supply-demand outlook.

**Question #6 – Other Alternatives**

Reference: Testimony of Mary Hemmingsen, page 6, lines 19-22 & lines 33-35 and page 6, lines 2-4

Question:

- 6.1 Please indicate the cost range (e.g., levelized cost per kWh) for the alternative resource types BC Hydro plans to acquire over the period 2005-2014.
- 6.2 Has BC Hydro established either an acceptable cost range or an upper limit on costs for electrical energy supply obtained through the F2006 Call? If so, please indicate what it is and how it was determined.

**Question #7 – Burrard Uncertainty**

Reference: Testimony of Mary Hemmingsen, page 7, lines 8-13

Question:

- 7.1 Assuming a determination was made that Burrard Generating Station could not be relied upon for dependable capacity/firm energy beyond F2014 and that at least a portion of the short fall would be addressed through acquisition of additional electrical energy supply – when would the Call need to be initiated in order to meet a required in-service date of early 2014?

**Question #8 – Acquisition of Firm Energy**

Reference: Testimony of Mary Hemmingsen, page 7, lines 23 - 34

Question:

- 8.1 Please explain the difference between monthly firm and hourly firm energy, in terms of what the supplier is committing to provide.
- 8.2 Please explain more fully why the levelized cost of Revelstoke Unit #5 is an appropriate basis for establishing the value of hourly firm energy.

**Question #9 – Acquisition of Non-Firm Energy**

Reference: Testimony of Mary Hemmingsen, page 7, line 35 to page 8, line 3 and page 3, lines 5-8

Question:

- 9.1 Please explain the value to the BC Hydro system of non-firm energy.
- 9.2 Please provide the basis for selecting 800 GWh as the upper limit for non-firm energy from projects 10 MW and larger.

**Question #10 – Seasonal Distribution of Tendered Energy**

Reference: Testimony of Mary Hemmingsen, pages 8-10; Exhibit A, page 4 and Exhibit C, page 8

Question:

- 10.1 Please confirm that in the current Call BC Hydro plans to both:
  - a) Limit the amount of non-discretionary firm energy it purchases in the months April through July to 1/3 of the annual total volume of firm energy purchased, and
  - b) Apply a premium/discount to the prices tendered based on the month the year.
- 10.2 Given that the four months April through July represent 1/3 of the year and the emerging potential for oversupply in these months, why isn't the limit on purchases during these months set at a value less than 1/3 of the total annual volumes?
- 10.3 What will be the basis (page 9, lines 8-11) for establishing the values in the Price Premium/Discount Table?
- 10.4 Exhibit A (page 4) appears to indicate that a discount will apply to energy in excess of the 1/3 limit. This would suggest that the Table is used to discount the price of excess energy offered in April through July. In contrast, the Testimony (page 9) and Exhibit C (page 8) appear to indicate that premiums/discount will be applied to tendered price for all energy. Please provide further explanation as how the Price Premium/Discount Table will be used in evaluating a bid.
- 10.5 Please indicate whether the Premium/Discount Table is only used in the evaluation of the tenders or whether (as indicated in Exhibit C, page 8) it will also be used to adjust the tendered price to establish the payments actually made to successful bidders.
- 10.6 If the Table is to be used in the determination of actual payments:

- a) Will the premiums/discounts be applied to all kWhs delivered?
- b) Will the premiums/discounts be applied just to tenders with hourly firm bids or also to either Large Projects with monthly firm energy or Small Projects?

### **Question #11 – Mandatory Requirements**

Reference: Testimony of Mary Hemmingsen, pages 13 – 14 and Exhibit A

Question:

- 11.1 Is it BC Hydro's intent that all successfully tendered projects would be designated as Network Resources under BCTC's OATT?
- 11.2 Based on BC Hydro's projected system requirements and operating characteristics, is there any need for a portion of the firm energy targeted for acquisition to be from dispatchable supply resources as opposed to base load or "at will" resources? If not, please explain why? If so, please explain why this is not reflected in the mandatory criteria?

### **Question #12 – Tendering Options**

Reference: Testimony of Mary Hemmingsen, page 16, line 26 to page 17, line 31

Question:

- 12.1 How does BC Hydro plan to compare and evaluate bids with significantly different terms so as to recognize the different risks imposed on BC Hydro by different contract term lengths?

### **Question #13 – BC Clean Electricity Goal**

Reference: Testimony of Mary Hemmingsen, page 18, lines 16-24

Question:

- 13.1 Does BC Hydro plan to apply the 50% target separately to the Large and Small projects, or just to the total for all projects tendered?

#### **Question #14 – GHG Emissions**

Reference: Testimony of Mary Hemmingsen, page 25, lines 7-9; page 28, lines 1-12 and Exhibit B, pages 9 & 12.

Question:

- 14.1 Please indicate the cost per tonne of CO<sub>2</sub> equivalent used to derive the bid-adjustment factors for coal-fired; SCGT (natural gas) and CCGT set out on page 28 and then compare the results with:
  - a) The range of projected compliance costs ( \$19 - \$50/tonne) reported on page 25.
  - b) The example of CO<sub>2</sub> cost adder of \$9/tonne (US in 2010) reported in Exhibit B, page 9
- 14.2 Please explain why the GHG Bid Adjustment values (Exhibit B, page 12) for each contract term do not simply increase in proportion to the level of emissions?
- 14.3 Please explain why offering a Green Attribute Credit and applying a GHG adjustment to the bid price is not double counting the value of low emission/green resources.

#### **Question #15 – F2006 Call Process**

Reference: Testimony of Mary Hemmingsen, pages 29-30 and Exhibit B, page 7

Question:

- 15.1 Step 4 (page 30) calls for “qualified” bidders to be evaluated in accordance with the proposed evaluation methodology. Will a bidder that “fails” the assessments under taken in Step 3 regarding experience, financial strength and project risk be “disqualified”. If so, what are the relevant threshold criteria that a bidder must meet in order to “pass”.

#### **Question #16 – Small Project Stream**

Reference: Testimony of Mary Hemmingsen, page 30, lines 24-33 and Exhibit A, page 4.

Question:

- 16.1 Please provide a summary of the key differences between the evaluation methodology that will be used for Large versus Small Projects. For each, please explain why the difference is necessary in order to allow Small Projects to bid competitively.

- 16.2 Please provide a summary of the key differences in the form of EPA for Large versus Small projects. For each, please explain why the difference is necessary in order to allow Small Projects to bid competitively.
- 16.3 Exhibit A indicates that the small project stream is not required to tender an energy profile (i.e., commit to minimum volumes on a monthly or hourly basis). Please confirm that Small Projects are not required to commit to supply a minimum amount of energy on an annual basis.

### **Question #17 – Evaluation Methodology**

Reference: Testimony of Mary Hemmingsen, page 31, lines 24-33; page 32, lines 14-23; and page 35, lines 5-6 and Exhibit B, page 1

Question:

- 17.1 What will be the parameters used in establishing a portfolio? For example:
- Is it simply a combination of tenders that in total provide a predetermined level of energy (e.g., 800 GWh in the case of Large Projects)?
  - Does the portfolio have to provide a minimum level of firm capacity?
  - Does the portfolio have to consist of a minimum quantity of dispatchable output?
  - Does the portfolio have to meet the 50% BC Clean Electricity target?
- 17.2 Are the parameters that will be used to establish a portfolio different for the Large Project versus the Small Project streams? If so, how and what is the rationale for the difference?
- 17.3 Does Phase 4 involve any comparison between the optimal portfolios for each of the two streams (i.e., Large Projects and Small Projects) in order to ensure that both are cost-effective when compared against each other? If not, what assurance is there the resulting two portfolio represent the most cost-effective combination of tenders for BC Hydro's rate payers as concluded on page 35.?
- 17.4 The response to Question 37 indicates that the bid prices of successful and unsuccessful tenders will be published. Please indicate whether what will be published is:
- a) the actual price tendered;
  - b) the adjusted price (per Phase 3); or
  - c) both.

**Question #18 – COD Timing**

Reference: Testimony of Mary Hemmingsen, page 21, lines 12-24; page 22, lines 24-38 and Exhibit C, page 3.

Question:

18.1 Why are liquidated damages for COD delay only payable by Large Projects?

**Question #19 – Discount for Non-Firm Energy**

Reference: Testimony of Mary Hemmingsen, Exhibit C, page 12.

Question:

19.1 Please explain more fully why the levelized cost of Mica Unit Unit #5 is an appropriate basis for establishing the discount applicable to non-firm energy

**Question #20 – GHG Emission Regulation**

Reference: Testimony of Tim Lesiuk, page 3, lines 17-18; page 4, lines 11-14 and page 5, lines 19-22

Question:

- 20.1 Please provide information available regarding the price (i.e. \$/tonne of CO<sub>2</sub>) that the federal government has been paying for GHG offsets under its pilot program.
- 20.2 Drawing on the various examples cited throughout the Filing, please provide a schedule that compares the environmental cost adders various utilities have included in their actual procurement (i.e., RFP) processes with the adders proposed by BC Hydro.
- 20.3 Please confirm that the Natsource approach (discussed on page 5) was to escalate 2015 prices (not 2020 prices) at 5% per annum.

**Question #21 – GHG Evaluation Adjuster**

Reference: Testimony of Tim Lesiuk, page 7, Questions 11 &12

Question:

- 21.1 Please provide the calculations showing how the price forecast on page 6 was used to create the GHG evaluation adjustment values for:
  - a) 0.5 CO<sub>2</sub> e t/MWh for 20 Year EPA term, and
  - b) 1.0 CO<sub>2</sub> e t/MWh for 20 Year EPA term.
- 21.2 Please confirm that the emission levels quoted for various types of generation (page 8, lines 11-21) are all based on Best Available Technology Economically Achievable (BATEA).
- 21.3 Where and how was the “safety valve” concept incorporated into the GHG evaluation adjuster matrix? Specifically what values in the matrix were affected by the use of a “safety valve”?