



CLOUDWORKS
ENERGY INC.

BC HYDRO – 2008 LTAP
EXHIBIT

C19-3

Suite 403
1168 Hamilton St.
Vancouver, B.C.
Canada V6B 2S2
Tel. (604) 633 9990
Fax. (604) 633 9991

Mr. Erica M. Hamilton
Commission Secretary
BC Utilities Commission
PO Box 250
6th Floor, 900 Howe St.
Vancouver, BC
V6Z 2N3

September 11, 2008

Re: **British Columbia Hydro and Power Authority Long Term Acquisition
Plant (LTAP) Order No. G-96-08**

Dear Ms. Hamilton:

Please find attached Information Request No. 2 from Cloudworks Energy Inc.
regarding the LTAP (Order No. G-96-08).

If you have any questions feel free to call me at 604-633-9990.

Kindest regards,

John Johnson
Director, Cloudworks Energy Inc.

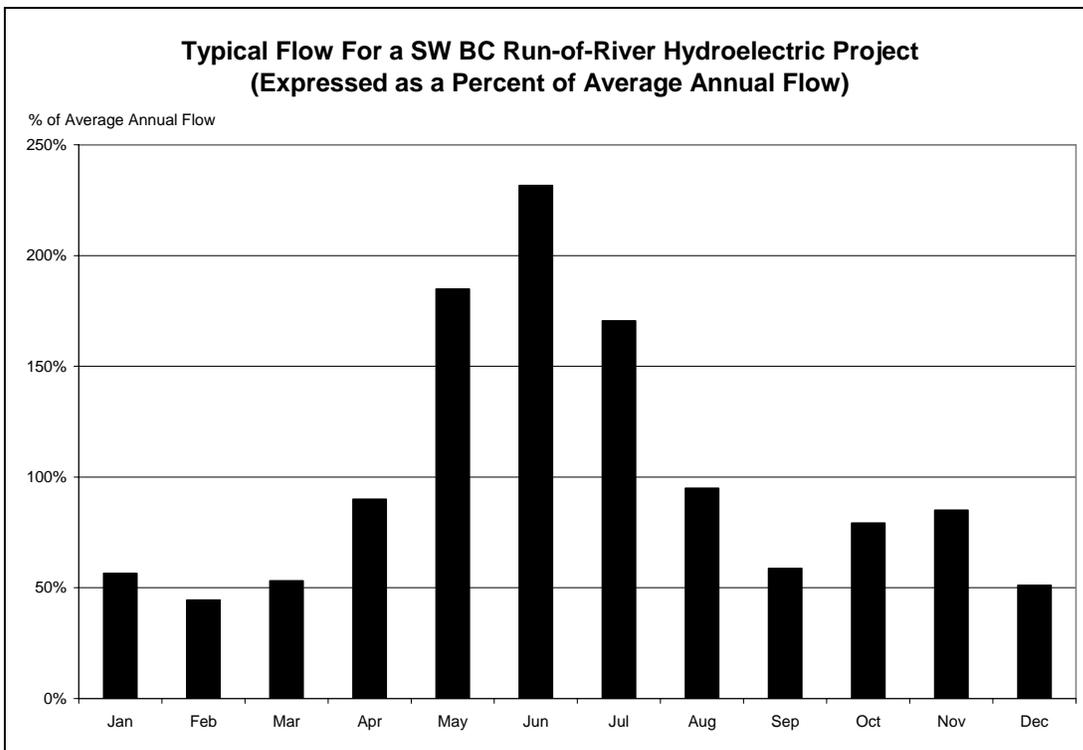
REQUESTOR NAME: CLOUDWORKS ENERGY INC.
INFORMATION REQUEST ROUND NO: 2
TO: BRITISH COLUMBIA HYDRO & POWER AUTHORITY
DATE: September 11, 2008

PROJECT NO: 3698514/Order No. G-96-08

APPLICATION NAME: **2008 LTAP**

**1.0 Reference: Appendix M: Clean Power Call Request for Proposals
TOPIC: Firm Energy/Post COD Pricing/Non-Firm Energy Pricing**

With the exception of Vancouver Island and parts of the BC south coast, most run-of-river projects in British Columbia produce much of their energy in the spring freshet. The chart below is a typical hydrograph for a project in the Lower Mainland of British Columbia.



In the 2006 BC Hydro Call for Tender, BC Hydro effectively telegraphed to proponents it was not ready to value freshet energy highly by imposing the freshet “cap” and by steeply discounting pricing for energy delivered in the freshet months.

However, the proposed terms of the 2008 RFP penalize freshet energy much more significantly than the 2006 CFT. Assuming a proponent bid a price of \$82/MWh in the 2006 CFT. At that price, non-firm, freshet pricing in that call was approximately \$77/MWh (HLH). This compares to a non-firm, freshet

energy price of \$35/MWh in the 2008 CPC (HLH – 2011 Non-Firm Pricing Option A discounted by the “3X12” Time of Delivery matrix), less than half of the price for non-firm, freshet energy in the 2006 CFT.

Based on our own calculations, a proponent bidding the identical project into the 2008 RFP with the same hydrograph as the own shown above would have to bid approximately \$117/MWh for firm energy in the 2008 CPC to get the same average price as was achieved by bidding \$82/MWh in the 2006 CFT. Note that this is due only to changes in BC Hydro Call terms and does not take into account changes in external costs (capital, financing, operating).

Questions:

- 1.1 Please explain what, if any, changes to BC Hydro’s seasonal load profile have occurred in the last two years to precipitate such a decline in freshet energy values?
- 1.2 Please explain what, if any, changes to BC Hydro’s seasonal supply profile have occurred in the last two years to precipitate such a decline in freshet energy values?
- 1.3 Please explain how indicated prices in the Non-Firm Energy Pricing Option A (Fixed Price Option) were derived?

2.0 Reference: LTAP Volume 1. 6.4 – Contingency Plans
TOPIC: Lower Mainland Pumped Storage as Contingency to Burrard Thermal

Our analysis shows there are pumped storage sites in the Lower Mainland capable of producing 1200 MW for 16 hours. Pumped storage offers similar ancillary benefits to Burrard Thermal – voltage support, VAR compensation, spinning reserve all in pumping or generation mode, and black start services in generation mode only.

In addition, based on a bid price of \$82/MWh in the 2006 CFT, the 2008 RFP is valuing non-firm, LLH energy at roughly half what was offered in the 2006 CFT.

Questions:

- 2.1 In light of the significant reduction in value to BC Hydro of non-firm, LLH energy in the past two years, please explain why a pumped storage scheme in the Lower Mainland was not considered as contingency for the repowering of the Burrard Thermal natural gas plant in the Lower Mainland. Please include an assessment of the avoided GHG costs associated with repowering of the Burrard Thermal plant compared to a pumped storage operation assuming that energy required for pumping is supplied by non-firm renewable energy.

