

C17-17

BC Hydro F09/F10 Revenue Requirements Application

BC HYDRO UNDERTAKING No.35

HEARING DATE:

October 10, 2008

**BC HYDRO – 2008 LTAP
EXHIBIT C17-17**

TRANSCRIPT REFERENCE:

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REQUESTOR: Commissioner Milbourne

QUESTION:

Given that the bulk of BC Hydro's IPP contracts are take-or-pay contracts, which oblige BC Hydro to accept energy as it is delivered at the specified contract price; given that the average IPP contract price is higher than the average per unit cost of energy generated from BC Hydro's Heritage Resources; and given that BC Hydro exports electricity during non-peak periods, are IPP purchases resulting in rates higher than they otherwise might be?

RESPONSE:

As BC Hydro's load increases, additional resources need to be added in the form of new BC Hydro hydro generation, IPP generation, increased thermal generation from existing sources and conservation. The unit price of energy from these new resources will almost certainly be higher than the unit price of energy from BC Hydro's existing Heritage Resources.

Any of these resource additions will have an impact on the overall cost of energy, and this impact will depend on the characteristics of the particular resource. BC Hydro optimizes the operation of its system based on forecasts of load, inflow and market prices, as well as the forecast availability of all resources, including IPP purchases. This optimization also takes into account BC Hydro's licenses, coordination and operating agreements, as well as the Columbia River Treaty and Water Use Plans, and explicitly considers the uncertainty in inflows and forward prices in the process.

The optimization is implemented by specifying price signals for releases from generating plants, production from thermal plants, and purchases from the spot market. System resources that are surplus to domestic needs are made available to Powerex for trade.

Under some conditions, for example during high inflows and/or low market prices, BC Hydro will attempt to refill its system reservoirs. However, an unexpected change in inflow pattern, due for example to sudden wet weather, may cause the need for system

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sales¹ and/or spill. Such conditions can happen regardless of the existence of IPP purchases. These sales or spills, if they occur, will typically be after the freshet/low price period, when system reservoirs are close to full.

The amount of energy provided by IPPs, per Table 3-4 of the RRA, is 8,593 GWh and 9,516 GWh respectively for F09 and F10. (In the Evidentiary Update, the amounts increased by about 300 GWh in F09 due to the addition of expected Alcan Tier 2 energy, and decreased by about the same amount in F10 due to forecast IPP attrition). A large portion of this IPP energy (approximately 60%) comes from projects that have characteristics that are complementary to the BC Hydro generation profile. For example, BC Hydro has contracts with Island Cogeneration and McMahon thermal/co-generation projects to re-dispatch production during periods of low market prices, while generation from Arrow Lakes Hydro, Brilliant Expansion and Alcan are shaped by storage reservoirs.

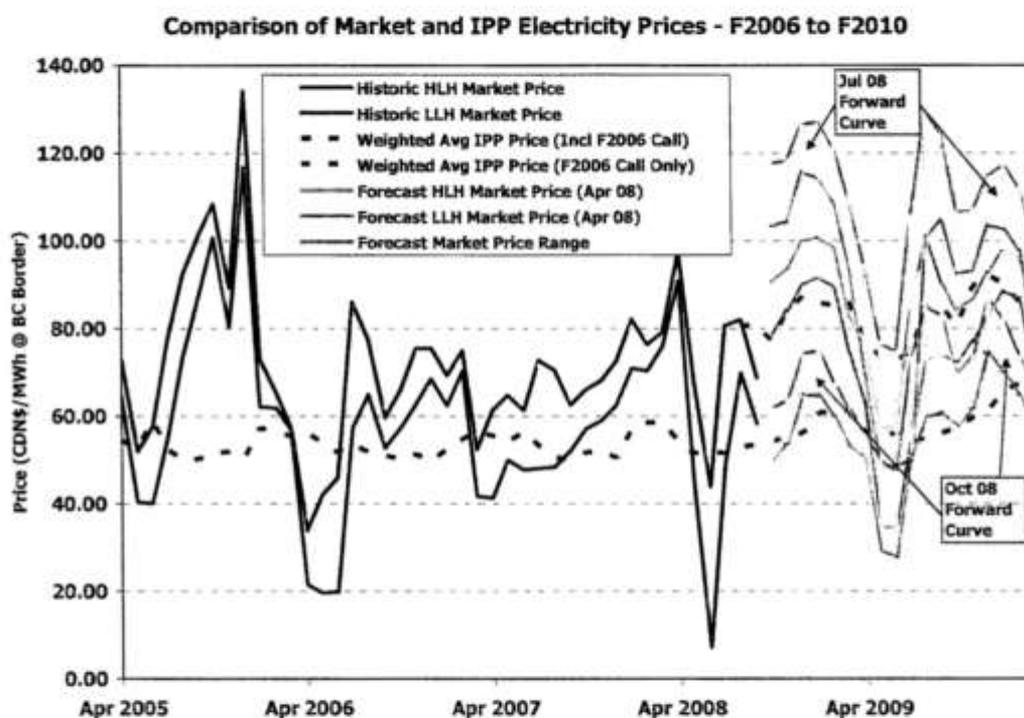
For the test period, the impact of the IPP energy purchases relative to the market will depend on the particular circumstances of inflows and market prices, and may be financially positive or negative to the ratepayer.

It should be noted that should the amount of future IPP purchases increase significantly during the freshet period, there may be times when BC Hydro is unable to absorb this energy, and some of that energy will need to be sold into the market¹. The design of future energy calls and the LTAP take this possibility into consideration, and shapes the prices paid of firm and non-firm energy deliveries accordingly.

The accompanying graph shows the price of LLH and HLH spot market purchases based on Mid-C index prices, delivered to the BC border, compared to the price of IPP purchases and the forward price curves from April (per July Evidentiary Update) and July and October 2008. It shows that at different times, IPP purchases may be cheaper or more expensive than available market purchases. It also shows that the volatility of the spot market, even during a short period of 4 months, can be dramatic.

¹ All energy sales are executed by Powerex under the Transfer Pricing Agreement.

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By way of example, BC Hydro experienced a significant short term energy shortfall, of about 2,300 GWh, during the period January through April 2008, driven by ice constraints on Peace generation, an Arrow flood control limit restricting Mica and Revelstoke generation, and unplanned unit outages. At the same time, spot market prices increased throughout the period, driven by a colder than normal winter, a run-up in oil and gas prices, and a very late onset of the freshet in the Pacific Northwest. In fact, uncharacteristically, April ended up being the highest priced month of the four month period January through April 2008 - usually prices soften considerably in April as loads decrease and the freshet begins in the lower Columbia. At the same time, IPP purchases were being delivered to BC Hydro at prices well below the spot market prices. In their absence, BC Hydro would have been purchasing even more high priced energy from the market. One therefore cannot focus exclusively on the impact of IPP deliveries during freshet, or any other time of year.

Last, but not least, it must be noted that any comparison of highly volatile spot market prices and stable long term contract prices must take into consideration the fact that the corresponding energy products are different. Market energy is non-firm, from sources that include coal-fired, nuclear, gas-fired, hydro and wind, and is from external sources, whereas long term contract purchases are for firm physical energy delivered within province from gas-fired or clean and renewable sources only. In addition, the Revenue Requirements process focuses on the context of the two year period F09 and F10, and the long term policy choices that influence the acquisition of IPP energy are considered within the context of the Long Term Acquisition Plan process.

For all these reasons the answer to the question is "no".