

BC HYDRO UNDERTAKING

BC HYDRO REVENUE REQUIREMENT HEARING 2004/05 AND 2005/06

HEARING DATE

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TRANSCRIPT REFERENCE

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REQUESTOR: Commission Chair

QUESTION

Provide an evaluation of the opportunities to more costs to F2006 by drafting reservoir levels in F2005 lower than currently planned (including, if appropriate, an analysis of the impact on BC Hydro's revenue requirements and rate application).

RESPONSE

BC Hydro's June Financial Undertaking reflects changes in a number of key assumptions since the Evidentiary Update was filed on April 2, 2004. These include: domestic load forecast increases of approximately 900 GWh for each of F2005 and F2006, adjusted for losses, together with a reduced inflow forecast to approximately 89% of average, system wide, and a reduction of approximately 200 GWh from IPPs, mainly due to an Arrow Lakes Hydro outage.

The results of the supporting Marginal Cost Model Study (MCM) to the June Evidentiary Undertaking confirm that there is limited flexibility to materially alter F2005 operations because of expected low inflows; expected low reservoir levels; potential impacts on other stakeholders; and increased exposure to higher cost market purchases. This conclusion is supported by the information that follows.

Key results of the supporting MCM study to the June Financial Undertaking are as follows:

- The median forecast level for Kinbasket (Mica) reservoir is 2,352 feet, approximately 15 feet above the historic minimum and approximately 32 feet above licence minimum.**

- The median forecast level for Williston Reservoir (GMS) is 2,148.5 feet, approximately 1.5 feet above historic minimum and approximately 42 feet above licence minimum.
- The median forecast of system energy for April 2005 is near the record low storage level, with an expectation of being only approximately 1,000 GWh above the historic minimum levels at major reservoirs.

The above noted forecast is based on expected or median values. To prevent reservoir drawdown below the historic minimum levels, roughly 700 GWh of cushion (Kinbasket storage) is desirable to accommodate less than average winter run-offs and/or higher than expected levels. It is not appropriate to rely on markets to address this uncertainty as expected market purchases have already been concentrated into lower-priced periods. Additional reliance on market purchases would increase the risk exposure to high market prices.

While it may be possible to create a second scenario which reduces market purchases in F2005 by approximately 300 GWh (approximately \$21 million), with a corresponding increase in F2006, BC Hydro has not developed such a scenario for the following reasons:

- Since running the above study, BC Hydro has received informal information that the Arrow Lakes Hydro return to service may be further delayed, potentially reducing the IPP's deliveries by a further 200 GWh.
- There is significant pressure to prevent Williston reservoir from drafting below 2,150 feet. Historically, the reservoir has drafted to 2,147 feet in 1989 and in 1997 with little to no adverse impact on the local industries. The 2,147 feet elevation has also been adopted in the draft Water Use Plan as the acceptable minimum in normal operating conditions. Nevertheless, these industries have focussed on the 2,150 feet. Given the timing of the potential low elevations in F2005, there could be significant risks to the draft Water Use Plan stakeholder consensus if elevations proved unacceptable.
- The base case scenario was the direct output of the reservoir optimization. Absent the objective of levelling the cost of energy between F2005 and F2006 and of meeting shareholder expectations for the dividend, BC Hydro management may be inclined to purchase additional energy in F2005 as a potential risk mitigation against the possibility of low flows in F2006. As it is, there is essentially no additional reservoir storage available to mitigate the costs and impacts of low flows in F2006.
- It is not appropriate to plan to draft a major reservoir, such as Mica, right to water license minimums because of the potential for delayed run-off and the fact that generation would be limited to/by available inflow as this would result in an unacceptable level of risk to system reliability.

The optimization of system operations over BC Hydro Generation's planning horizon is based on a number of inputs, constraints, models and risk assessments that minimize the cost of energy to ratepayers within an acceptable risk profile. This optimization is done on a near-constant basis in response to new information. In BC Hydro's judgement, informed by this system optimization process, and the current constraints and reliability concerns, it is not prudent to draft reservoirs materially lower than currently forecast in F2005.