

April 19, 2001

**Via Fax 604 664 9126**  
**Original via courier**

Mr. Kirk Johnstone  
Chairman, Canadian Section  
Kootenay Lake Board of Control  
AASD/ECB  
Environment Canada - Airport Square  
#700 - 1200 West 73rd Ave  
Vancouver, BC V6P 6H9

Dear Mr. Johnstone:

Further to our recent discussion of the other day, I would like to confirm West Kootenay Power Ltd.'s ("WKP") concerns related to the operation of Kootenay Lake for this coming freshet season.

**Background:**

It is our understanding that snow survey results from April 1 for the Kootenay basin regional snowpack index are at 53% of normal, the lowest reported for the province and for the past forty years of record. This situation of low snowpack basically covers the entire Columbia River basin including that portion on the U.S. side of the border.

From our perspective, the low snowpack and resulting low runoff is expected to impact the public on two principal fronts:

- Recreational and farming interests around Kootenay Lake have been a major consideration while operating the Lake and recreational interests have been the source of most calls of complaint. Low inflows and resulting low lake levels are a serious concern at this time of year. We have found in the past that extreme low lake levels during late spring and early summer have caused disruption to marina operations. Along with marina problems there is a general preference for higher levels from most callers. We do note that high levels have also been a cause for problems to some of the marinas during heavy storm situations but these have usually occurred at levels above 1750 feet.
- Power Supply will be a major problem this summer with reports of inadequate supply in California and supply concerns also being expressed in the Pacific Northwest. (see attached supporting material)

In order to review the issues noted above, we have asked for and received some refill alternatives from BC Hydro and they are summarized below and in the attachments.

**Base Case:**

Defines the operation of the Lake under the terms of the IJC Order. The lowering formula has been applied to forecast inflows and results in a questionable ability to reach the four foot level at Nelson (1743.32 feet above sea level). In summary, the study resulted in the following:

- Peak of 1743.8 feet At Queens Bay occurring on June 16
- The study assumes that we would be allowed to hold the lake after the inflow peak and the lake was basically operated at the four foot level until August 31.

Although we may reach the four foot elevation at Nelson, if precipitation continues to run well below normal there is a chance that, following the I.J.C. lowering requirements, this level might be in jeopardy and the peak could occur prior to reaching 1743.32. In this situation, we would require some direction from the Board on how to proceed in order to avoid a continued draft back towards the zero level.

**Case 1:** As an initial sensitivity, a study was made whereby spill passed the Kootenay River plants was reduced by limiting the Lake discharge. In summary, the study resulted in the following:

- Peak of 1747.8 occurring on July 5
- Recession back to 1743.3 at Nelson on August 31
- Spill reduction of 206 ksf, equivalent to 49 GW.h of energy saved

**Case 2:** As a second sensitivity, a study was made whereby spill passed the Kootenay River plants was reduced further by limiting the Lake discharge. In summary, the study resulted in the following:

- Peak of 1750 occurring on July 7
- Lake held at 1745.32 at Queens Bay on recession
- Further spill reduction of 24 ksf, equivalent to an additional 5.5 GW.h of energy saved.

**Case 3 (Recommended):** As a third sensitivity, a study was made whereby spill passed the Kootenay River plants was reduced further by limiting the Lake discharge. In summary, the study resulted in the following:

- Peak of 1747.8 occurring on July 5. Note that this is about an average year peak elevation on Kootenay Lake.
- Lake held at 1745.32 at Queens Bay on recession
- Further spill reduction of 76 ksf, equivalent to an additional 18.5 GW.h of energy saved.

It should be noted that because of arrangements under the Canal Plant Agreement between WKP, the owners of the Brilliant Dam, and BC Hydro, the energy saved from reduced spill would accrue to the benefit of BC Hydro and not to either of WKP or the owners of the Brilliant Dam.

**Stakeholder Input:**

Given the expectation of low water levels around Kootenay Lake and the tight power supply situation on the west coast, we have made some inquiries of various stakeholders to obtain their views on a change to the operation of the lake and the views of these parties are as follows:

1. Creston City Council - supportive of the recommendation
2. Nelson City Council - supportive of the recommendation (letter attached)
3. The Regional District of Central Kootenay as representative of the local residents in and around Kootenay Lake - no response
4. The Kootenay Valley Reclamation District - support for the 1743.32 level but concerned about incremental costs for going above.
5. The Creston Valley Wildlife Management Area - support for the 1743.32 level but concerned about incremental costs for going above.
6. There are four dyking districts that have expressed an interest and requested a meeting but we have not yet had the opportunity to have that meeting (Reclamation Dyking District, Creston Dyking District, Nicks Island Dyking District, and the Duck Lake Dyking District).
7. BC Hydro - supportive of the recommendation (letter attached)

In support of the additional power realizable by going up to 1748, we also attach some information from the United States, a public information bulletin from the Bonneville Power Administration and the Federal Energy Regulatory Commission. We are also expecting that a letter of support from a number of participant utilities in the Pacific Northwest Coordination Committee.

**Request:**

Section 10 of the International Joint Commission Order of Approval, dated November 11, 1938, for the operation of Kootenay Lake water levels provides under Section 10:

“That the Commission, on the report of the Board of Control during the spring freshets, may determine that an emergency condition exists, and may then request the Applicant to cooperate with the Board of Control in regulating the flow of water through the said dam, to the end that the rights and interests of all parties may be protected so far as it is practicable so to do.”

WKP is requesting that the Kootenay Lake Board of Control report to the International Joint Commission, in accordance with Section 10 of the 1938 Order of Approval, and that the Commission request WKP to cooperate with the Board in regulating the flow of water through its Corra Linn Plant in the following manner:

- (i) **Firstly** - in order to ensure that the 1743.32 elevation as determined by the lake gauge at Nelson is realized, WKP be allowed to control discharge from the Lake, in coordination with BC Hydro and their operation of the Kootenay Canal Plant,
- (ii) **Secondly** - in order to minimize spill on the Kootenay River and allow BC Hydro to realize additional energy savings, WKP be allowed to control discharge from the Lake, in coordination with BC Hydro and their operation of the Kootenay Canal Plant, so as to induce filling up to approximately 1748 feet and that WKP be allowed to hold to the maximum allowed elevation of 1745.32 feet on recession from the summer peak and that WKP will be allowed to hold this elevation until September 1, 2001 at which point in time the existing Order will be followed.

We realize that the second part of this request may be problematic to the Board and suggest that the Board review the request as two separate parts that could have separate processes for approval.

If there is additional information that either the Board or the Commission requires, please contact me at 250-368-0331 and additional information will be provided as soon as possible.

Yours truly,

(original signed by G. Isherwood for)

Mr. R.G. Siddall  
Director, Power Supply

Attachments

**Section A - Forecast Statistics:**

Snowpack: As of April 1, the mountain snowpack is only about one-half of normal, averaging presently at about 53 %.

Kootenay Lake local inflow forecast is 62 % of normal.

**The monthly average forecast inflows along with 1977 actuals:**

		<b>2001 FCST</b>	<b>1977 ACT</b>	
April	CFS	14,000	16,598	
May	CFS	24,500	21,960	
June	CFS	24,000	22,700	
July	CFS	15,000	17,234	
Total Runoff -	KSFD	2,364	2,393	-1.2%

**Section B - IJC Variance Studies for Kootenay Operations, Year 2001**

Operational Alternatives					Recommended Option
	Total Spill Reduction*		Lake Elevation		
	GWh	Ksfd	Peak, feet	Date	
Base Case - IJC Governed	0	0	1743.8	16-Jun-01	
Lake Receding to 1743.32 ft.at Nelson	49	206	1747.8	5-Jul-01	
Lake Receding to 1745.32 ft.at Queens Bay	18.5**	76**	1747.8	5-Jul-01	<b>Recommended Option</b>
Lake Receding to 1745.32 ft at Queens Bay	5.5**	24**	1750.0	7-Jul-01	

\* Represents total equivalent spill reductions achieved with end-point Lake elevation of 1743.5 ft.on 1 Oct. 2001 in all Operational Alternatives.  
 \*\* Additional spill reduction relative to the Operational Alternative above.

**Brilliant Outflows for various options**

	Avg. Monthly BRD outflow , Kcfs ***					
	April	May	June	July	August	September
Base Case - IJC Governed, Peak EI at Queensbay - 1743.8 ft.	14.5	22.3	30.7	20.3	16	13.2
Lake Receding to 1743.32 ft.at Nelson, Peak EI 1747.8 ft.	15.6	22.3	21.6	22.3	21.5	13.4
Lake Receding to 1745.32 ft.at Queensbay, Peak EI 1747.8 ft.	15.6	22.3	21.6	21.7	18.5	17.0
Lake Receding to 1745.32 ft at Queensbay, Peak EI 1750.0 ft.	15.3	19.6	21.5	21.1	22.0	17.0

\*\*\* - The BRD outflow is listed as it provides an indication of total Kootenay operations. The lake outflows are plotted on the attached plots also.