

**International Kootenay Lake Board of Control
Minutes
Annual Board Meeting**

**Board Room, Kootenai River Inn and Casino
Bonners Ferry, Idaho**

**Thursday, 30 October 2014
2:00 – 4:30 PM**

Attendance

	Canada	United States
Chair	Col. John Buck (Host)	Bruno Tassone
Members	Michael Lewis	Glen Davidson
Secretary	Amy Reese	Gwyn Graham
Commissioners	Rich Moy	Gordon Walker
Guests	David Fay, (IJC, Can.), Dr. Mark Colosimo (IJC, U.S.), Kelvin Ketchum, BCHydro, Marko Aaltomaa, Network Services Manager, Wayne Gritchlin (FortisBC),	
1	Welcome and Introductions	Col. John Buck
2	Review of the Agenda	Col. John Buck
3	Business from the Previous Meeting	
3.2	<i>BC Hydro update on Grohman Narrows dredging feasibility study</i>	<i>Kelvin Ketchum, BC Hydro</i>
4	New Business	
4.1	<i>Inaugural Work plan (suggested by Mark C.)</i>	<i>Col. John Buck</i>
5	Compliance	Amy Reese
6	Preparation for the Public Meeting	Col. John Buck
7	Adjourn	

Welcome, Introductions, Review of the Agenda

US Section Chair Colonel John Buck called the meeting to order Thursday, October 30th, at 2:06pm. The Board reviewed the agenda and did not make any changes.

Description of morning tour

The Board, Secretaries and attendees from IJC met with representatives from the Kootenai Valley Reclamation Association (KVRA) in the morning of October 30th to learn about the KVRA, their past and

current agricultural and water management issues and discuss their history with the IJC Order. Bob Olson (KVRA President and Diking District 6 Commissioner) and John Figgins (Diking District 1 Commissioner) led a tour of pump stations and fields in Diking District 1. This allowed members to view the Kootenai Valley, see some of the fields protected by the Order, and ask questions about crop timing and Kootenai River elevations that impact the ability to plant fields.

KVRA was set up in the 1920s when the Corra Linn dam project was first proposed due to concerns that the backwater effect would impact gravity drainage of field in the Kootenai flats and increased the risk of inundation. The IJC Order helped to mitigate these concerns although farmers note that Libby Dam releases affect Kootenay Lake levels beyond operations at Corra Linn dam, with comments on potential impacts of VARQ operations at Libby dam. The main crops in the valley are winter wheat and canola, with seeding generally in late September to early October (~ 2weeks after September harvest) and spring seeding as soon as field conditions permit (typically mid-April to mid-May). The farmers noted that high water conditions in 2012 made field access a challenge through the entire Spring period, adversely affecting 20,000 acres out of an approximate total of 30,000 acres of farm land. High river levels result in a rise in the water table which can create ponding in low-lying fields, in addition to backing up of water in drainage ditches. This was noted as more of a problem for the west-side Diking Districts than others. Through discussion with the KVRA representatives, they identified three main points of concern with regard to how Kootenai river stages affect them through the year, specifically:

1. The preference for KVRA is that there is both flood risk management on the Kootenai River during the peak of the runoff, and that Kootenay Lake levels meet the April 1 rule curve elevation each year.
2. If Kootenay Lake elevations are above the April 1st rule curve elevation, the pumping cost offset payments that they currently receive from Fortis BC under supplemental agreement is considered sufficient to cover increased pumping costs.
3. If there is a trade-off between missing the April 1st Kootenay Lake target for the sake of improved flood risk management (pre-freshet evacuation of upstream storage), KVRA assigned greater priority to increased flood risk management over the ability to meet the April 1st Kootenay Lake target.

Business from the Previous Meeting

For business from the previous meeting, the Board invited Kelvin Ketchum from BC Hydro to give an updated presentation on the BC Hydro's Grohman Narrows channel improvement project (GNCIP) study. The presentation is attached.

The Narrows between Nelson and Corra Linn are one of the main subjects of the order. Historically, the narrows were excavated in 1890, 1931 and 1939. The 2012 flood event resulted in highest Kootenay

Lake levels since 1974 and reinvigorated the plan to study potential further channel improvements. BC Hydro embarked on this study in 2011 since improving channel capacity through the Narrows could provide energy benefits from potential dredging.

From geologic studies, BC Hydro believes the excavation could be completed with just dredging and bedrock removal/blasting would not be needed. Channel velocities would be stabilized, smoothed out resulting in better conveyance. 3 Alternatives have been modeled: Low excavation, medium excavation, high excavation. 0.7 feet, 1.0 feet, 2.0 feet peak flood level reduction. Studies show that in 2012, damages would have been greatly reduced with the high excavation option. Peak discharge wouldn't be higher, but would likely occur earlier. With greater potential for lower Kootenay Lake levels in early spring, peak Kootenay Lake levels would be reduced, and would flood damage risk, with peak freshet discharge no higher than under current conditions.

During BC Hydro's last round of public meetings, there were many questions on how the dams would be regulated post-project. They are proposing that for July – February the operation wouldn't be any different than it is now, with the changes only being through the freshet.

David Fay: Would this change how you operate Libby or Duncan? Kelvin – no.

The major cost factors that went into their cost estimate include the short work window, type of dredging, timing, and material management. They estimated a range of \$21M (+/-35%) - \$68M (+/-100%) for low to high end. In-river placement could reduce costs. BC Hydro has completed environmental studies, mostly desk analysis. Their biggest concern / unknown is impact on Kootenai River sturgeon. That may or may not be a show stopper.

During spring 2014 public meetings, BC Hydro found that support was not unanimous. BC Hydro decided to do supplementary studies prior to a decision on whether or not to pursue phase 2 of the studies.

Concern on what lake operation would look like with a new discharge capacity.

Two new studies (1928-2013)

- what are the impacts of voluntarily limiting the minimum Kootenay Lake level to 1738 feet, 1738.5 feet and 1739 feet under all excavation scenarios? (Kelvin: doesn't really impact flood risk management but it would impact energy benefits).
- What are the downstream impacts of the excavation on flows in the Kootenay and Columbia Rivers (Trail)?

These two supplementary study reports are currently in review. BC Hydro would pursue channel improvements for public good will and flood risk management benefits if they can see hydro benefits can pay for the cost of dredging.

BC Hydro plans to have public meetings next year, possibly in March. Kelvin noted that BC Hydro could be deciding on Phase 2 sometime around April.

Probably share results with the public and then decide on Phase 2... Phase 2 would be a lot more additional engineering work. Material disposal, confirm characteristics of subsurface bed materials, additional operations modeling, impact on sturgeon, permits, etc.

Questions:

Michael Lewis: Was there an estimate of damages from 2012?

Kelvin – we might have suffered \$5M in damages in 2012 based on prior flood damage studies. Not an exhaustive look.

Glen: were these newer structures that were damaged?

Kelvin – Marinas, breakwaters,

Kelvin guesses this might provide benefits at Trail, B.C. since excavation moves the peak earlier and the peak out of Arrow is usually later.

Michael Lewis – are you looking at anything with the island? What material is the island made out of?

Kelvin: Nothing with the island.

Colonel Buck: What do you see as the greatest challenge – what would make it not happen?

Kelvin: Public Support (feel they are 70 – 80% support now). Kelvin stated that the Kootenai Sturgeon issue is another unknown; whether or not the Services in the US would see this as a benefit or not to that species..

Kelvin noted that BC Hydro has decided they would not seek funding from the U.S Entity, but may seek US Entity help in coordination with the Services.

New Business

US Section Secretary Amy Reese reviewed the IJC Rule Curve for Kootenay Lake. Queens Bay gage levels exceeded April 1739.32 ft IJC low on/about April 1st, however the Board concluded that Corra Linn was in compliance due to high “natural” inflows due to Libby Dam flood risk management draft that occurred in April. The Spring Rise was declared on April 15 this year, the point at which the IJC rule curve switched from maximum lake elevation criteria to the lowering formula as stipulated in the IJC Order. The Kootenay Lake elevation at Nelson gage fell below elevation 1743.32 ft on July 28th, the point at which the lowering formula switched back to maximum elevation criteria for Kootenay Lake. On August 31st the maximum elevation criteria changed from 1743.32 ft at the Nelson gage to the Kootenay Lake storage maximum of 1745.32 ft as measured at the Queens Bay gage. At no time during the water year did the Board deem Fortis BC out of compliance with the Order.

The board discussed if Grohman Narrows were to be excavated more, then the stage-discharge relationship would change, and this could need revised curves on stage/discharge for compliance monitoring re. IJC Order.

Marko Aaltomaa (Fortis BC) gave the Corra Linn operations update. The project has been regulated to maintain a 0.3 foot margin below the IJC curve. The Lake was below the rule curve in the early part of year, and operations targeted earlier drawdown (mid-March) to build more room to meet April 1 low level. Mid-March precipitation pushed the lake up a bit and then discharge from Libby Dam raised the lake above the April 1st low level target. The lowest lake elevation in 2014 was 1739.58 ft on March.24, prior to the commencement of Spring Rise, declared by IJC Board on April 15, 2014. This August Fortis BC and BC Hydro worked jointly on operation to allow for dewatering the Canal Plant. Corra Linn lowered the Lake level to facilitate this work and received some concerns regarding recreation use on lake (mid-late August). Additionally, Kootenay River flow was primarily directed through Corra Linn from early September through October due to closure and repair and maintenance at BCHydro's Kootenay Canal Plant (closure and dewatering of canal). This resulted in temporarily elevated water levels at Nelson during this time compared to the seasonal normal.

Marko reported Unit 2 failure July 13-Jan 18. Also Fortis BC is seeking project approval by BCUC for spillway rehabilitation in 2016, hoping to start project 2017. He also reported that the labour dispute at Fortis BC was resolved Dec.18, 2013.

The Queens Bay gage maintenance was completed May 2014 and is scheduled again Nov 2014. The land access is still not resolved with landowner (prevents access to gauge platform) but shore access for station maintenance ok.

Fortis BC made payments to State of Idaho in April 2014 for \$32,000 USD.

Fortis BC had some complaints from the public about missed IJC April 1st elevations, but no peak level concerns. They received some complaints about the August low level lake level manipulation (West Arm residents mostly) during the canal plant dewatering. Fortis did send out communications.

There were Creston diking districts concerns re. April 1 exceedance. Fortis BC will try for early drawdown ahead of April 1 target in 2015. Current operations are for drafting of water levels at Queen's Bay related to inflows.

Bruno Tassone asked what elevation is best for agriculture. Marko said elevation 1738.5 could be feasible and better for agriculture, if Grohman expansion goes ahead.

Correspondence and presentations:

Amy Reese discussed Board Correspondence and presentations from 2014.

The first correspondence was with Mr. Andy Shadrack (Director, Regional District of Central Kootenay, Area D) wrote the Board regarding determination of Rule Curve exceedance. The Board responded that April 1 was not an exceedance that was attributed to Corra Linn under terms of Order but instead it was out of scope of Order due to upstream CRT (Libby) operations.

Action #1– provide record in annual report of Board response to issue of April 1st exceedance due to upstream CRT project operations. This is intended to support public transparency and information on Board decision should similar questions come up in the past. IJC confirmed no role in Columbia River Treaty (CRT) operations and identified CRT operations effects on Kootenay Lake inflows as natural effects and to ensure that Corra Linn is operating forebay to avoid backwater effects.

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The Board discussed IJC interpretation of issue and support of Board interpretation regarding upstream CRT operation inflows on Kootenay Lake levels.

The second correspondence was the presentations given to the IJC Executive Meeting. The Canadian Section Chair and Board secretaries presented on The 1938 Order on Kootenay Lake, BC Hydro's proposed Grohman Narrows Channel Improvement Project and how VARQ flood risk management at Libby Dam affects Kootenay Lake Levels at the IJC Executive Meeting in Kalispell (late July 2014).

IJC Directive and Draft Work Plan

Mark Colosimo let the Board know that the IJC is working on a Directive to IKLBC which will have a requirement for a workplan from the Board. A draft workplan was created by the Board Secretaries and is out for review by the Board.

Bruno asked about status and trends information for public? Marko replied that people can sign up with Fortis to receive updates for Corra Linn. Amy also indicated that for Libby dam as well – flow change notifications go out to people.

Action item #2 – expand text on IKLBC website to explain advantages of signing up on FortisBC's email notification system – associate with website link to FortisBC website – add link and info to USACE Libby flow change notification website.

Action item #3 – secretaries to revisit previous Board decision on Spring Rise determination and how to consider Kootenay lake rise apart from unregulated stream response.

Preparation for Public Meeting

The Board went through the slides for the public meeting, discussed potential questions from the public, and discussed who might be in attendance.

The Board meeting adjourned at 4:30pm.