

INTERNATIONAL LAKE SUPERIOR BOARD OF CONTROL

Minutes of the September 22, 2004 meeting

The International Lake Superior Board of Control met on 22 September 2004 in a conference room at the Holiday Inn, Fort Erie, Ontario. Mr. McLeod convened the meeting at 1:05 p.m. The attendees were:

United States

Canada

Board Members

COL G.E. Johnston (Alt.)

Mr. C. McLeod

Secretaries

Mr. J. Kangas

Mr. D. Fay

Regulation Representatives

LTC D. Lauzon
Mr. S. Thieme (Alt.)

Mr. D. Fay

Associates

Mr. C. Woodruff
Dr. M. Colosimo

Mr. R. Caldwell
Mr. T. McAuley
Mr. A. McPhee

Item 1. Approval of Agenda

An item was added to *Other Business* related to the U.S. Soo Lock Replacement (Item 9f).

Item 2. Update on Hydrologic Conditions and Regulation

Mr. Fay provided the Board with the following update on current conditions and outlook for Lakes Superior and Michigan-Huron, and provided slides of net basin water supplies, levels (observed and forecasted), and Lakes Superior/Michigan-Huron water balance parameters.

- Water supplies to the Lake Superior basin in the past six months were near-normal while those to the Lakes Michigan-Huron basin were above normal. The near record supplies to Lakes Michigan-Huron in May resulted in a significant rise in levels.
- Lakes Superior and Michigan-Huron levels are below average, but above levels of last year. Lake Superior was roughly 15 cm (6 in.) below average for the past six months. Lakes Michigan-Huron were 23 to 44 cm (9 to 17 in.) lower than average. Levels were generally similar to those of 2002.
- Lake Superior outflows have been slightly below to near normal, and were as specified by Regulation Plan 1977-A. It was noted that it may be required to go to a 1 gate equivalent opening at the Compensating Works in October, given the high outflows forecasted at present.
- Mr. Fay presented the Board with a range of projected levels for the next 6 months, along with slides showing how 2004 levels compare to the previous two years. With average supplies, Lakes Superior and Michigan-Huron levels are expected to be 8 cm (3 in.) and 20 cm (8 in.) below chart datum, respectively, by February. Lake Superior levels are expected to decline to chart datum by March. Lakes Michigan-Huron levels are expected to remain above chart datum unless dry supplies are received.

- Though it would appear to Plan 1977-A that Lake Superior is slightly closer to normal than Lakes Michigan-Huron using 1900-1986 "standardized departure" data, use of data from 1918-2003 suggests the opposite. This appears to suggest that the lakes are currently quite well balanced.
- The Board agreed that outflows specified by the regulation plan be continued.

Item 3. Update on Long Lac and Ogoki Diversions

Mr. Caldwell reported that Ontario Power Generation (OPG) provided the Board with an update on the discharges of the Long Lac and Ogoki Diversions. The Ogoki Diversion into Lake Nipigon (which flows into Lake Superior) averaged 186.3 cms (6,580 cfs) during March-August 2004. The Long Lac Diversion averaged 51.8 cms (1,830 cfs) for the same period. The total diversion was reported to be 143% of average for the reporting period. OPG reported "very wet" conditions persist. A small amount of water (2.1 cms monthly average) was spilled northward to the Ogoki River in June. Spills northward from Long Lake during May and June equated to 17.5 and 2.9 cms (600 and 100 cfs), respectively.

Item 4. Hydropower Plant Status

Edison Sault Electric Company: Mr. Thieme reviewed the flow reporting status at this plant. Flow measurements were made during 12-14 August 2003 in the Edison Sault Electric Company (ESEC) power canal to help verify the accuracy of the flow calculation method implemented by ESEC in the summer of 2001. Preliminary results suggested that the ESEC flow measurement system reported less flow through their plant than the verification measurements indicated. A second set of measurements were made during 27-29 July 2004. Analysis of these measurements is yet to be completed, but is expected to be done by the end of the year. As it appears that the difference in the reported and measured flows varies with the amount, the significance of the potential error will be checked using reported flow data for the entire 2004 calendar year.

In September 2003, ESEC granted ASL AQFlow, of Sidney, British Columbia, a contract to check efficiency ratings at the plant. Copies of a letter dated July 7, 2004 from ASL AQFlow to ESEC, entitled "Unit Performance and Computation of the Canal Flow" were provided. The letter from ASL AQFlow described a modified outflow relationship to help account for bias, plant conditions, and leakage. Adjustments to the flow accounting software at the plant were made based on these findings. Mr. Woodruff asked for comments on the letter to be sent to him by 4 October.

It was noted that installation of an in-place acoustic Doppler flow measuring device in the ESEC power canal was not likely to prove appropriate for hydropower needs, given it would only provide total rather than unit discharges. However, such a system could provide the Board with the record it needs of the total flows.

Regarding plant maintenance, Mr. Woodruff reported that flows will be reduced in the ESEC power canal by about 2000 to 5000 cfs (60-140 cms) from the end of September into early October to facilitate inspections and repairs. ESEC expects to pass their monthly allocations of water in each of these two months, however.

U.S. Government Plant (USGP): Mr. Thieme reported that the plant automation project is almost complete. Only the flow accounting system has yet to be completed. On 19 September 2004, the U.S. Army Corps of Engineers' Nashville District plant in Barclay, KY assumed remote control of the Sault Ste Marie hydropower operations. LTC Lauzon added that an emergency response plan is available.

Great Lakes Power Limited: Mr. McPhee informed the Board of a planned Clergue plant shutdown for the annual Lake Superior Power cable inspection on 9 October. The piers of the international

highway bridge that are in the power canal will also be inspected. The total length of the shutdown was not expected to exceed 8-12 hours. Requests are made to the Board each year to facilitate these annual inspections. Mr. Caldwell estimated that levels downstream tend to fall by approximately 15 to 20 cm (6 to 8 in) during these outages. GLPL will place a notice in the local newspaper and Board staff will add a notice to their monthly press releases. Efforts will be made to have a notice placed in the local U.S. newspaper as well.

Item 5. Compensating Works Status

Mr. McPhee reported that a portion of the flow through Gate 7 was observed to be blocked in February. A large section of tree and a tire were found to be causing the blockage and were removed on 17 August. Mr. McPhee apologized to the Board for the delay in removal of the debris, noting that there had been an internal communication breakdown exacerbated by the fact that ice was not clear from upstream of the structure until May. Mr. McPhee has asked GLPL staff to report to him personally every month on the inspection status.

Mr. McPhee then provided an update on the follow up actions to the findings of the 2000 detailed inspection. All roller trains were successfully resealed. The concrete piers and foundations have been visually inspected routinely and no further degradation of the spalling noted has been observed. The plan is to bundle these recommendations with any new needs identified in the upcoming 2005 detailed inspection into a comprehensive schedule for concrete repairs. Mr. McPhee noted that monument surveys are co-ordinated binationally every five years. Apparently, there was no timeline placed on recommended re-pairs in the past, but intentions are to set and schedule priorities from now on.

Mr. Woodruff reiterated that leaky bottom seals on the U.S. side were all replaced from August to September 2002. The side seals were not replaced at this time since it was considered to be cost-prohibitive since dewatering each gate will be required and this leakage is considered minor. At the March 2004 meeting findings of the October 2003 U.S. annual inspection were discussed. Eight items of concern were identified and these have been reviewed by the District's engineering staff. Monitoring of the areas was recommended. Where necessary the Corps' Soo Area Office will take needed remedial action. Where safety permits, repairs will be deferred until the next major rehab of the structure.

A discussion followed regarding the process used to ensure that recommendations resulting from the 5-year inspections are addressed in an appropriate and timely fashion. It was noted that the previous inspection reports did not necessarily rate the seriousness of the deficiencies identified and thus priorities had to be set separately. It was suggested that the Secretaries review the previous inspection reports and recommend what should be included in the requirements for next year's inspection report. The Board requested that the owners of the structure, GLPL and the U.S. Army Corps of Engineers, present the Board with a work plan for next year's inspections at the March 2005 meeting. Furthermore, safety measures taken during the inspections will be made available to the Board for inclusion in its Spring 2005 semi-annual report to the IJC.

Item 6. Flow Measurements

Mr. Thieme reported that no date has yet been set for USGP flow measurements, but that these will be made as soon as possible after the new flow accounting system is complete. It may be possible to fit these in this year, weather permitting. Next year, outflows will be measured at all three hydropower plants.

Flow measurements at the Compensating Works have been postponed for three years in a row, since Lake Superior levels have been similar for several seasons now. This work should be done in the last week of July or in the first two weeks of August to minimize potential impacts to fish in the rapids. A graph was provided showing measured discharges for 2.0 gates open taken between 1989

and 2000. Since there have been several seal repair projects since the last measurements were taken, it may make sense to begin collecting new data for a recalibration project.

Next season's flow measurement schedule will be reviewed at the Board's next meeting in March 2005.

Item 7. Peaking and Ponding

a. *Update*

Mr. Fay reported that, due to the higher levels and outflows, ponding operations were only restricted for one weekend near the end of April. No restrictions were expected for the next few months due to the relatively high Lake Huron level and Lake Superior outflow.

b. *Status of New Reference Level to Suspend Ponding*

Mr. Fay noted that a letter from FedNav indicated that, with the Lower St Marys River channel dredging project nearing completion, they could now tolerate a new lower threshold level for the suspension of ponding at the power plants. This would be of benefit to the hydropower entities. It will be necessary to contact all shippers for their views on this proposal and there will be a need for a public input period. The approval of the IJC would be required to permit the Board to use a new threshold value. The current threshold level is the U.S. Slip gauge chart datum elevation of 176.39 m (578.71 ft.) on IGLD 1985. The FedNav letter suggested that the threshold be dropped 1 ft., to 176.09 m (577.71 ft.).

Mr. Woodruff added that the two-dimensional hydrodynamic model for the St. Marys River being developed at the Corps' Detroit District office could help assess potential impacts. The new flow measurements taken this summer will be used to help aid further calibration of the model. It was agreed, however, that the statistical evaluations of recorded flow and level data have proven to be adequate and effective.

Item 8. Communications with the Public and the Next Public Meeting

Mr. Fay provided a brief summary of the 21 June 2004 multi-site teleconference meetings with the public in Parry Sound and Thunder Bay, Ontario, Duluth, Minnesota, and Grand Haven, Michigan. The Parry Sound location was the most attended and most engaged site. It was agreed that most of the feedback was positive, especially regarding the new multi-site format, though several concerns were raised such as lack of advertising of the meetings, as well as the lack of IJC participation.

Potential formats and site locations for upcoming meetings with the public were discussed. Although, it was agreed that multi-site teleconferences appear to be effective and well-received, there is a concern that Board resources are stretched thinly with this format. It was agreed that the format and locations for next year's meeting with the public would be decided at the March 2005 business meeting. The Canadian Chair will lead the 2005 meetings.

The Board continues issuing media releases about Lake Superior regulation, up-to-date level conditions and, any changes in gate settings at the Compensating Works. The Board also maintains its home page on the Internet that has links to the IJC home page and other U.S. and Canadian agencies' pages.

Item 9. Other Business

a. *Status of Upper Great Lakes Plan of Study*

The Board has not received any recent correspondence from the IJC on this proposed study. No funding of this study has been announced by either government. At the April 2004 meeting with the IJC the Canadian government representative stated that staff were

expected to be available to begin pre-planning work starting in April 2005. U.S. staff are available to start study organization work at any time.

A discussion was held on the suggestions made by the Georgian Bay Association (GBA) and others at the June public meeting that the proposed study be expanded to include the analysis of St. Clair River scour and the regulation of outflows from the St. Clair River. It was noted that the Levels Reference Study of 1993 concluded that no further consideration be given to additional regulation structures. Arguments have been made by the public that this conclusion is outdated, that it did not adequately assess the needs of riparians and recreational boaters, or did not fully consider the potential impact of climate change. It was noted that, should there be a study to review St Clair River regulation, such a study would logically precede a review of Lake Superior regulation since St Clair River regulation would affect the levels of Lakes Michigan-Huron which are a consideration of Lake Superior outflow regulation. It was also noted that the existing Plan of Study proposal is to study only Lake Superior regulation and clearly, broadening the scope to include St. Clair River issues would require a change in budget and schedule from that described in the Plan of Study. The Board agreed to discuss this issue during its report to the Commission in October.

b. *Status of the Great Lakes - St. Lawrence Seaway Review*

For the information of the Board, Mr. Thieme outlined that, in 1999, the U.S. Congress authorized the Corps to review the feasibility of improving commercial navigation throughout the Great Lakes system. A reconnaissance study was completed by the Corps on 27 June 2002. Possible improvements identified in that report include deepening connecting channels, the St. Lawrence Seaway, and specific ports, and reconstruction of existing locks. Results indicated that the reliability and adequacy of the existing system presented problems and opportunities. Though the reconnaissance study was approved by HQUSACE on 13 February 2003, the Corps was asked to submit a supplemental report, including a more extensive environmental, economic, and engineering analysis of the existing system only. This report will take two to three years to complete. Public review and comments will be sought prior to the start of a feasibility study.

The Engineering team is just finishing a comprehensive review of sites and is developing a model of the Eisenhower and Snell locks (located on the St. Lawrence River). The Environmental team continues to gather baseline data and has held a series of stakeholder outreach meetings. The Economics team is collecting commercial traffic and shipper response data for developing impact assessment models.

c. *Status of St. Marys River Dredging*

Mr. Thieme reported on the completion of the Vidal Shoals dredging project in the Upper River. The work was started in June 2001 and consisted of deepening and widening channels between Pointe Louise Turn and the South Canal to the navigation locks. Dredging of a 90 m (300-ft.) wide northern channel area portion was delayed due to contractor claims. This portion is now completed. Corps Detroit District crews removed strikes recently, and more will be completed in October.

The Board was also informed of the dredging of sections in the Lower River between the southern approach of the Soo Locks and the northern end of the Rock Cut on the west side of Neebish Island. Work started in July 2003 and the 9 August 2004 notice to mariners indicated that six spots were yet to be completed. This work was completed as of today's meeting.

Mr. Fay noted that the the completion of the dredging project was a condition of Fednav in its proposal to use the new peaking and ponding threshold (outlined above under Item 7b).

d. *Update of IJC "Unsafe Dams" Report*

Mr. Fay reported receipt of an IJC letter to the Board and GLPL on issues asking for updates on its 1998 report related to dam safety and emergencies. The Board Secretaries had replied on behalf of the Board, highlighting updates. Mr. McPhee added that Brascan Power Ltd. (GLPL) had received a similar request from the Commission and had responded directly. Mr. Woodruff provided copies of a letter of response from ESEC to the IJC dated 15 September 2004.

e. *Update Re: Surges at Parks Canada Lock*

Mr. Fay reviewed this issue, as given during the March 2004 meeting. Since that meeting Canadian technical staff held a 31 March 2004 teleconference with Mr. Barry Guzzo, Parks Canada, Sault Ste. Marie Canal, and Mr. McPhee to review the issue and discuss possible solutions.. It was agreed at that call that no early warning of "full load rejection" shutdowns at Clergue were possible and that the loss of electricity at the lock was an indicator that a surge wave in the canal was likely to arrive shortly. Mr. Guzzo agreed to contact engineers at Public Works - Government Services Canada (PWGSC) to analyse the situation and arrive at a solution. Mr. Fay had also contacted Mr. Cloutier, PWGSC Regional Director for Heritage Canals and Engineering Works, who noted that the analysis has been added to their work plan, but given the other serious issues that they are addressing and their limited resources and personnel, that the surge issue has not yet been analysed. Mr. Fay also reported that a 23 June 2004 e-mail message from Mr. Guzzo indicated that, following review by Mr. Guzzo of a video recorded during such an incident on 14 August 2004, surge waves may overtop the approach walls at the lock. Mr. Guzzo has also raised concerns regarding public safety, especially after hours, when lock staff are not available to warn of approaching waves. Though two "full load rejection" shutdowns at Clergue occurred in July 2004, the Board has received no communications from Parks Canada regarding surge waves resulting from these events.

The Canadian Secretary will prepare a letter to Parks Canada, stating that the Board is aware of and concerned about these recurring events, and will urge them to act to protect the safety of the public and their infrastructure.

f. *U.S. Lock Replacement*

Mr. Thieme reported that the Limited Re-evaluation Report for the replacement of a lock at Sault Ste. Marie MI, including an economic analysis, had been rewritten and submitted to the Headquarters of the US Army Corps of Engineers (HQUSACE) and that the benefit/cost ratio was 0.73. However, it was noted that the U.S. government would likely consider other factors in reaching a decision on whether or not to proceed with the proposal. For example, much of America's iron ore passes through the Soo, and that extended closure of the locks would have a significant impact on the economy. LTC Lauzon added that design of the coffer dams needed for lock reconstruction has started and he is currently assuming that lock replacement will proceed in planning the Detroit District's annual budget. Mr. Colosimo noted that the IJC is not in a position to comment on the replacement at this time due to the remote potential for impacts on levels.

Item 10. Review of Semi-annual Progress Report

The Board reviewed and made some changes to the draft Semi-Annual Progress Report.

Mr. Fay will incorporate the changes, update the data, and distribute advance copies to the IJC.

Item 11. Next Meeting and IJC Appearance

The IJC Appearance has been scheduled for 10:30 a.m. on 21 October. The reception is scheduled for 6:30 p.m. the evening of 20 October. The Spring meeting is expected to take place between March 8-10, and Detroit has been proposed as the location.

There being no other business, the meeting adjourned at 4:20 p.m.

International Lake Superior Board of Control

Board Meeting

September 22, 2004, 1330 - 1630 hours

Bridgeburg A Room

Holiday Inn, 1485 Garrison Rd., Fort Erie, Ontario L2A 1P8

Draft Agenda

1. Approval of Agenda
2. Update on hydrologic conditions and regulation
3. Update on Long Lac and Ogoki diversions
4. Hydropower plant status
5. Compensating Works status
6. Flow Measurements
7. Peaking and Ponding:
 - a. Update
 - b. Status of new reference level to suspend ponding
8. Communications with the public and the next public meeting
9. Other business:
 - a. Status of Upper Great Lakes Study,
 - b. Status of Great Lakes - St. Lawrence Seaway Review,
 - c. Status of St Marys River dredging
 - d. Update of IJC "Unsafe Dams" report
 - e. Update re: surges at Parks Canada lock
 - f. U.S. Lock Replacement
10. Review of Semi-annual Progress Report
11. Next meeting and IJC appearance