

INTERNATIONAL LAKE SUPERIOR BOARD OF CONTROL

Minutes of the March 24, 2004 meeting

The International Lake Superior Board of Control met on March 24, 2004 in a conference room at the Holiday Inn, Buffalo (Amherst), New York. COL Johnston convened the meeting at 1:30 p.m. Those in attendance were:

<u>United States</u>	<u>Canada</u>
<u>Board Members</u>	
COL G. Johnston	Mr. C. McLeod
<u>Secretaries</u>	
Mr. J. Kangas	Mr. D. Fay
<u>Regulation Representatives</u>	
LTC T. Magness	Mr. D. Fay
<u>Associates</u>	
Mr. C. Woodruff	Mr. A. McPhee
Mr. D. Sawruk	Mr. R. Caldwell
Mr. J. Chandler	Mr. T. McAuley
Mr. S. Thieme	Dr. P. Pilon
COL W. Ryan	

Item 1. Approval of Agenda

The draft agenda was adopted with the addition of two items (Enclosure 1).

Item 2. Update on Long Lac and Ogoki Diversions

Mr. Fay reported that Ontario Power Generation provided the Board with an update on the operations of the Long Lac and Ogoki Diversions. The Ogoki Diversion into Lake Nipigon (which flows into Lake Superior) averaged 145 cms (5,120 cfs) during September 2003-February 2004. The Long Lac Diversion averaged 33 cms (1,170 cfs) for the same period. The total diversion was reported to be 128% of average for the reporting period.

Item 3. Update on Current Conditions and Regulation Strategy

Mr. Woodruff provided the Board with an update on current conditions and outlook for Lakes Superior and Michigan-Huron and distributed graphics of basin precipitation, levels, net basin supplies, and forecasts.

- Precipitation over Lake Superior's basin was about 97% of the average for the past six months. During the past six months Lake Superior water levels were below their monthly averages by between 20 and 27 cm (8 and 11 in.). The levels declined below chart datum on December 17. Lake Superior levels were 5 to 8 cm (2 to 3 in.) higher than those of last year.
- Precipitation over the Lakes Michigan-Huron basin was about 105% of average for the past six months. Precipitation was above average in September and November and below average in October, December, and February. Lakes Michigan-Huron water levels were 46 to 61 cm (18 to 24 in.) below their monthly averages during the reporting period. Lake levels remained below chart datum since August 28, 2003. Levels were 10 to 13 cm (4 to 5 in.) above those of last year.

- Water supplies to Lake Superior were above average in September, November, January and February and below average in October and December.
- Water supplies to Lakes Michigan-Huron were below average except for November and December.
- The Regulation Representatives presented the Board a range of projected levels and flows for the next 6 months. With average supplies, Lakes Superior and Michigan-Huron levels are expected to be 15 cm (6 in.) and 39 cm (15 in.) below their averages respectively, in July.
- Lake Superior outflows varied from 76% to 100% of average and were according to Regulation Plan 1977-A. The Compensating Works gates were maintained at a setting equivalent to one-half gate open for the main rapids. The outflows were 85% of average over the reporting period.
- Snow surveys on March 8 indicated that the snow-water-equivalent (SWE) was about 5 to 8 cm (2 to 3 in.) higher than last year and the snow pack was about 40% to 50% above average. The historic supplies are used in the forecast and not the supplies calculated using the SWE survey results.

Item 4. Hydropower Plant Status

Mr. Woodruff provided an update on the status of the U.S. hydropower plants as follows:

- The automation of the U.S. government hydropower plant was completed in July 2003 and testing was completed in September 2003. Acres International Consulting Engineers conducted flow measurements for all the generating units. This flow data will be used to program the SCADA system. The Corps and Environment Canada will make flow measurements in the field this summer, to verify the flow data being reported. This is expected to resolve the problem of under-reporting of flows through the plant.
- Nashville District's Barclay-Kentucky plant continues to monitor the Soo plant's operation but is not making operational decisions as yet. In response to questions, LTC Magness responded that Corps personnel on-site would still be available for maintenance and emergency responses.
- In November 2003, the Edison Soo Electric Company measured their unit flows to update the 1988 data obtained from the Saint Anthony Falls Laboratory. The Corps is being kept informed of any changes in unit efficiencies and flow computation methods that may result from these flow measurements. The Corps and Environment Canada will do additional flow verification measurements, during the summer of 2004. A report on the August 12-15, 2003 flow measurements conducted by the Corps and Environment Canada were presented at the Board meeting (see further discussion on Flow Measurements).

Mr. McPhee of Great Lakes Power Limited (GLPL) provided an update on the status of the Clergue hydropower plant. In May 2004, GLPL plans to conduct maintenance of all three generating units in the plant. They plan to have only one unit out of service at a time, but will not be able to discharge their full three-unit capacity. Depending on the flow specified by the regulation plan, the plant may not be able to discharge its full allocation in May. Mr. McPhee provided a draft outage schedule to the Board.

Item 5. Compensating Works Status

- The Regulation Representatives reported that routine maintenance and inspections of the Compensating Works were undertaken during the past six months. In late January, debris was observed to be blocking a portion of the north side of Gate #7 on the Canadian side. GLPL personnel will remove the blockage when ice conditions safely permit it.
- The Corps' October 2003 inspection of the U.S. side of the structure indicated that there are about eight areas that need to be inspected, including a crack in Pier 17 and concrete repairs for Pier 12. The report has been forwarded to the Corps of Engineers' Detroit District Engineering and Technical Services Office, Design Branch for evaluation and recommendation.
- Major work is not expected until after the next full inspection in 2005, which will include inspections above and below water line, plus a complete survey of the structure.

Item 6. Flow Measurements

Mr. Woodruff provided an update on the status of flow measurements at the Compensating Works to update its stage-discharge rating relationships. Measurements scheduled for last summer were postponed as levels and flows were similar to those during previous measurements. It is hoped that flow measurements can be performed in the summer of 2004 that will encompass a different hydraulic regime.

The Board was provided with a report on the August 2003 flow measurements in the Edison Sault Electric Company (ESEC) power canal conducted by the U.S Army Corps of Engineers and Environment Canada. These measurements were needed to verify the accuracy of the flow calculation method implemented by ESEC in the summer of 2001. The report showed that the measured flows are consistently greater than those reported by ESEC, however the Board noted that there is not enough data to conclude if there is a need for flow adjustment at this time. ESEC reported that they are in the process of updating their flow computation system with new data collected in November 2003 at their plant. It is expected that the updates to their system will correct for this discrepancy in reported and measured flows.

Item 7. Peaking and Ponding: (a) Discuss Feedback from Interests and IJC, (b) Status of 2-D Hydraulic Model Development

- a. The Board had submitted its interim report on peaking and ponding to the Commission on January 27, 2004, discussing its findings and experiences regarding peaking and ponding in 2003. The IJC issued a public notice on February 12, 2004 inviting comment on its proposal to extend the authority for peaking and ponding operations in the St. Marys River until March 20, 2006. Mr. Chandler informed the Board that the IJC had received a letter of concern from the Michigan Department of Natural Resources regarding the peaking and ponding operations. Comments from other sources were not opposed to the peaking and ponding operations. Mr. McAuley noted that the IJC had granted the power entities an interim extension of peaking and ponding until it can assess the concerns raised.

The Board had recommended that the Commission extend the authority given to the power entities to conduct peaking and ponding operations indefinitely under Board supervision. The Board noted that Fednav had suggested in its comments to the Board regarding peaking and ponding that, once the Lower St. Marys River dredging project is complete, more draft will be available to ships in that section of the river and that a level at U.S. Slip of Low Water Datum minus one foot may be more appropriate to use as the threshold level in decisions regarding the suspension of ponding.

- b. A 2-D hydraulic model of the lower St. Marys River has been used in the analysis of P and P. Results showed that water level fluctuations were most sensitive to differences in flow than to water levels. Water level fluctuations were greatest around Little Rapids upstream to U.S. Slip and washed out through Lakes Nicolet and George becoming minimal near Neebish Island. The Board was informed that efforts to collect data and continue the development of a St. Marys River two-dimensional hydrodynamic model would continue.

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

The Board noted the good attendance of the public at the June 23, 2003 meeting in Sault Ste Marie, Ontario. The Board agreed to conduct its annual meeting on June 21, 2004. The Board also discussed the logistics for using a multi-city format for the public input portion of the meeting. Tentative sites were identified as Duluth, Thunder Bay, a city on Lake Michigan, and a city on Georgian Bay. The Board agreed that a portion of the meeting would connect the four sites by telephone to allow sharing of questions and opinions among the participants.

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. Review of Semi-annual Progress Report

The Board reviewed and made some changes to the draft Semi-Annual Progress Report. Mr. Kangas will incorporate the changes, update the data and distribute advance copies to the IJC prior to April 5.

Item 10. Security issues: (a) Status of infrastructure/Security Upgrades at the Soo Locks, (b) Discussion of September 2003 Security exercise at the Soo Locks

- a. LTC Magness informed the Board of the security upgrades at the U.S. Soo complex. The upgrades include lighting and fencing.
- b. A security exercise was conducted in September 2003 between U.S. and Canadian agencies. Lessons learned were developed and another one is planned for September 2004.

Item 11. Other Business: (a) Status of Upper Great Lakes Study, (b) Status of Great Lakes-St. Lawrence Seaway Study, (c) Status of Dredging, (d) Concerns of the Georgian Bay Association re St. Clair River Compensating works, (e) Electrical Failure Warning System for the Canadian Lock

- a. The Board had previously provided the IJC with a Plan of Study for the Upper Great Lakes Study (in January 2002) and the IJC had forwarded it to the Governments. No funding has been allocated yet. At this time, it does not appear that the Study will proceed in the near future.
- b. The Great Lakes-St Lawrence Seaway Study has made progress during the past nine months. The Corps of Engineers and Transport Canada made plans for three teams. These are Environmental (USFWS and Transport Canada co-lead), Economics (Transport Canada lead) and Engineering (COE lead). The project duration is 30 months. There will be six public sessions in June with three planned for each country. Mr. McLeod mentioned that if expansion is a part of the plan, adequate base line data collection is essential. The Board agreed to continue to monitor the progress and update the Commission in future reports.
- c. The Vidal Shoals dredging in the upper St. Marys River began in June 2001 following approval from the U.S. State Department and Canada's Department of Foreign Affairs and International Trade (DFAIT). This dredging project consisted of deepening in existing channels in the Upper St. Marys River between Pointe Louise Turn and the South Channel portion to the navigation locks, upstream of Sault Ste. Marie. Dredging is 90% complete except for the 300-foot wide northern channel area between Point Aux Pins and the West Approach to the locks. This work is expected to be complete in the summer of 2004 with a new contractor. It was noted that this dredging would have a negligible effect on levels and flows in the river.

The Corps of Engineers Lower St. Marys River navigation channel dredging project, extending from the south approach of the Soo Locks to the northern end of the Rock Cut on the west side of Neebish Island, started in July 2003 and is expected to be completed in August 2004 with the removal of the remaining critical areas in the main channel. The U.S. State Department and Canadian Department of Foreign Affairs and International Trade have indicated they have no objection to the project. Hydrodynamic modeling studies by the Corps of Engineers have indicated that there will be no significant effect on levels and flows in the system as a result of this dredging.

- d. Mr. Thieme and Mr. Fay reported that the Georgian Bay Association has contacted the IJC, the Corps of Engineers and Environment Canada to express their concern regarding the low water

levels of Georgian Bay and to inquire about the status of long-ago proposed works in the St. Clair River to compensate for the effects of dredging. Although these works had been discussed in the past, and in 1917 the IJC had granted approval for the construction of one such work, subject to conditions, no such works have been constructed.

- e. Mr. McPhee reported on discussions with Parks Canada staff at the Sault Ste Marie Lock regarding the need for a system to alert the lock operators of an emergency shutdown of the Clergue hydropower plant. The rapid shutdown of the Clergue plant apparently causes a wave in the lock canal that can damage the lock facilities. If severe damage to the lock gates were to occur, there may be a possibility of an uncontrolled discharge from Lake Superior. The possibility that this wave may also threaten the safety of bystanders along the lock was also discussed. Mr. McPhee explained that this situation at the Clergue plant occurs without warning due to a failure in the electrical distribution system, such as occurred last August 14th during the extensive electrical failure in Ontario. With a sudden loss of electrical load, the generating units must shut themselves down to prevent from being damaged. Mr. McPhee explained that the loss of electrical power at the lock would be the earliest warning feasible. He suggested that other options such as a backup electrical generator at the lock might provide a solution. It was agreed that the Canadian Regulation Representative would follow up on this matter with Parks Canada and GLPL. Mr. McAuley offered the assistance of the IJC in this matter if appropriate.

Item 12. Next meeting and IJC appearance

The Board agreed to hold its fall meeting in September 2004. The Board briefly discussed the upcoming April 20, 2004 IJC Appearance, and any potential questions that might be asked of the Board. There being no other business, the meeting adjourned at 4:45 p.m.

International Lake Superior Board of Control

Board Meeting

March 24, 2004, 1330 - 1630 hours

Draft Agenda

1. Approval of Agenda
2. Update on Long Lac and Ogoki diversions
3. Update on current conditions and regulation strategy
4. Hydropower plant status
5. Compensating Works status
6. Flow Measurements
7. Peaking and Ponding:
 - a. Discuss feedback from the interests and IJC,
 - b. Status of 2-D hydraulic model development.

8. Communications with the public and the next public meeting
9. Review semi-annual progress report
10. Security issues:
 - a. Status of infrastructure/Security Upgrades at the Soo Locks,
 - b. Discussion of September 2003 Security exercise at the Soo Locks,
 - c. Status of dredging,
 - d. Concerns of the Georgian Bay Association re St. Clair River Compensating works,
 - e. Electrical Failure Warning System for the Canadian Lock

11. Other business:
 - a. Status of Upper Great Lakes Study,
 - b. Status of Great Lakes Navigation Study,
 - c. Status of dredging

12. Next meeting and IJC appearance