



INTERNATIONAL LAKE SUPERIOR BOARD OF CONTROL

Canada
Mr. Jaymie Gadal, Member
Mr. Rob Caldwell, Secretary

United States
BG Margaret Burcham, Member
Mr. John W. Kangas, Secretary

9 October 2012

MEMORANDUM TO INTERNATIONAL JOINT COMMISSION

Enclosed are the approved minutes of the Board's 20 September 2012 meeting held near Lansdowne, Ontario. Please post to the Board's Website following receipt of the French translation.

Enclosure

Rob Caldwell
Secretary, Canadian Section

DISTRIBUTION:
Mr. D. Fay
Mr. B. Beckhoff
Ms. C. Mageau
Board Members
Mr. J. Kangas
Regulation Representatives

INTERNATIONAL LAKE SUPERIOR BOARD OF CONTROL

Minutes of the 20 September 2012 meeting

The International Lake Superior Board of Control met on 20 September 2012 in the Lost Channels Room at Glen House Resort near Lansdowne, Ontario. Mr. Jaymie Gadal was appointed as interim Canadian Chair for the Board on 12 September, but was unable to attend the Board meeting. Mr. Aaron Thompson, Canadian Chair, International Niagara Board of Control, graciously chaired and convened the meeting at 1:15 p.m. The attendees were:

<u>United States</u>		<u>Canada</u>
	Board Members	
COL R. Peterson (Alt.)		
	Secretaries	
Mr. J. Kangas		Mr. R. Caldwell
	Regulation Representatives	
LTC. R. Ells		Mr. R. Caldwell
Mr. J. Allis (Alt.)		Mr. J. Bruxer (Alt.)
	Associates	
Mr. K. Kompoltowicz		Mr. R. Stefano
		Mr. J. Deluzio
		Mr. D. Fay
		Mr. A. Thompson

Item 1. Approval of Agenda

The agenda was approved.

Item 2. Hydrologic Conditions and Regulation Update

The Board was provided with the following update on hydrologic conditions for lakes Superior, Michigan-Huron, and Erie. Mr. Bruxer presented slides showing recent net basin water supplies, levels and flows (observed and forecasted), precipitation, a drought overview, climate outlooks, and Lakes Superior/Michigan-Huron water balance parameters.

- Over all, water supplies to the Lake Superior basin for the past six months were below average while supplies to the Lakes Michigan-Huron basin were well below average. The June to August 3-month net basin supply to Lakes Michigan-Huron was a new record low.
- Lakes Superior and Michigan-Huron levels remain below average, and below levels of last year. Lake Superior was 21 to 30 cm (8 to 12 in.) below average during the past six months. Lakes Michigan-Huron were 30 to 59 cm (12 to 23 in.) below average. Levels of Lake Superior have been consistently below average since April 1998, while levels of Michigan-Huron have been consistently below average since January 1999.
- Lake Superior outflows were 83% of average over the past six months, and ranged from 1,500 to 2,180 m³/s. Outflows were as specified by Regulation Plan 1977-A, except in June to facilitate sea lamprey control tests, and in August to facilitate flow measurements. The gate setting at the Compensating Works remained at the equivalent of ½ gate open, except during the 4-day flow measurement campaign.
- With average supplies, lakes Superior and Michigan-Huron are expected to remain below average and remain below their chart datum elevations through winter.
- The 1900-1986 “standardized departure” data as used in Plan 1977-A show that Lake Superior’s level was somewhat lower relative to Lakes Michigan-Huron at the beginning of September. Lake Superior was about 2.2 standard deviations below its mean level, while Lakes Michigan-Huron were about 1.8 standard deviations below their mean level.
- Since last year, Lake Superior has received about 80 mm (3”) less total precipitation than normal.
- According to the NOAA drought monitor, much of the upper Great Lakes basin remains abnormally dry.
- The NOAA and Environment Canada climatological outlooks for September-November are consistent (warmer than normal) for temperature, and precipitation (equal chances of above, below, or normal precipitation)

Item 3. Flow Verification Measurements

LTC Ells noted that hydropower flow verification measurements were performed this year from 21 to 24 August at the Compensating Works. Gate settings ranging from 1 to 5 gates open were measured. A report will follow. Flow measurements were also made on 24 and 25 August on model sections in the lower St. Marys River. These measurements are for use in the calibration of hydraulic models and are not related to the power plant or compensating works flow verification programs. The power plant measurement program will continue on a five-year cycle and will next be undertaken in 2015.

An estimated over-discharge deviation of $45 \text{ m}^3/\text{s}$ was approved by the International Joint Commission (IJC). However, an extra amount of only about $30 \text{ m}^3/\text{s}$ was passed since dense fog in the Rapids on the first day prevented a higher gate setting, as the absence of anglers in the area could not be readily verified. A human error resulted in an incorrect gate setting at the end of the measurement campaign, resulting in Gates 9, 10, 14, and 15 being opened in lieu of the typical Gates 7 to 10. Gate 15 was also inadvertently opened 30 cm (12") in lieu of the typical 20 cm (8") until 11 September. It was estimated that about $5 \text{ m}^3/\text{s}$ of additional flow was passed during that period. Openings were re-set to the typical pattern on 20 September. New protocols have been established to prevent such errors in the future.

Item 4. Hydropower Plant Maintenance & Other Outages

U.S. Government Hydropower Plant

LTC Ells reported that several scheduled and unscheduled outages have occurred since March, totalling 242 hours. Cavitation damage on Unit 3A is being repaired. Repairs to the timber crib dam have been completed. No additional maintenance is scheduled in the next six months.

Brookfield Renewable Energy Group (BREG)

Mr. Stefano reported that scheduled maintenance outages continued and Unit G1 was shut down from 13 to 17 May for annual inspections. Unit G2 will be shut down from 1 to 10 October and Unit G3 from 19 to 25 November. On 17 May, a temporary shutdown was undertaken to permit installation of lamprey control test equipment. A temporary plant shutdown was necessary on 1 September for the annual underwater cable inspection and maintenance for Lake Superior Power Ltd. Lamprey control test instrumentation was also removed. A series of unscheduled Unit G1 outages also occurred.

Cloverland Electric Co-op

LTC Ells reported that several scheduled and unscheduled outages have occurred since March, totalling 365 hours. Many of these outages were to facilitate work on the railroad bridge. No additional maintenance is scheduled for the next six months.

Hydropower allocations were able to be passed each month.

Item 5. Compensating Works

Item 5a. Inspections

Ongoing, routine, monthly inspections of the Compensating Works occurred in the past six months.

Mr. Stefano noted that the August inspection conducted on the Canadian portion by BREG found the Compensating Works facilities to be in good condition. The annual Fall inspection will be completed by the end of September.

LTC Ells reported that the 11 September inspection conducted on the U.S. portion jointly by the U.S. Army Corps of Engineers (USACE) Soo Area Office and Cloverland Electric Co-op found the Compensating Works facilities to be in good condition. The incorrect gate setting at Gate 15 was found during the inspection, and rectified immediately.

Item 5b. Maintenance: Recent & Planned

Ongoing routine maintenance continued.

Item 6. Peaking and Pondering Update

Mr. Caldwell reported that, due to adequate levels and outflows in the lower St Marys River this reporting period, the Board did not need to restrict ponding. No shipping delays due to ponding operations have been reported. The Board continues to include a semi-annual update on peaking and ponding in each progress report to the Commission. LTC Ells noted that the recent grounding of the 1000-ft freighter, *Paul R. Tregurtha*, was thought to have been due to human error and was not associated with water levels.

Mr. Fay suggested that, in lieu of the full analytical report every five years or so previously required, the IJC may now be satisfied with a 5-yr. summary in every tenth semi-annual progress report that would provide an overview of recent peaking and ponding operations.

Item 7. Communications

Item 7a. 2012 Meeting with the public – summary

Mr. Caldwell reported that the Board hosted its annual public meeting and teleconference on the evening of 21 August in Sault Ste. Marie, ON. Six members of the public and media attended at Sault College, while one person participated via the teleconference line.

Former Canadian Member, Mr. David Fay, presented information describing the IJC, the Board, the control structures, the regulation plan, and the current and expected water levels. Mr. Gale Bravener, Department of Fisheries and Oceans, provided a summary of the sea lamprey control testing conducted in the St. Marys River this year. The meeting was then opened for public comment, questions, and concerns. The slide presentation shown at the meeting hall was made available online to callers beforehand, and callers are able to interact with the chairman and other participants.

Participants expressed concern about the continued low levels and ongoing drought, and re-iterated their trepidation towards climate change and variability impacts. The potential outcomes of the IJC hearings in July (regarding the proposed new regulation plan and integrated Orders), such as large or unbalanced Lake Superior outflow releases, continue to cause concern as well. After the meeting, attendees had an opportunity to talk one-on-one to the Board and Commission representatives present.

The date and location of the next meeting will be set at the spring business meeting. The low attendance was discussed. It was pointed out that, although only seven people participated, several participants represented organizations or media outlets with a much greater reach, and the Board is required (by the IJC) to host at least one face-to-face meeting annually. More efficient Board representation will be considered. Development of a Board Facebook page will be explored. The Corps indicated a new communications expert has recently been hired to help out part-time with the various Boards' communications needs.

Mr. Kompoltowicz reported that the USACE Detroit District Board Website has been deactivated. The IJC-hosted Board Website remains active.

Item 8. Other Business

Item 8a. Sea Lamprey Control Trapping Tests

Mr. Caldwell summarized that, in March, the Great Lakes Fishery Commission (GLFC) requested that the Board consider a proposal to repeat their 2011 experiments in 2012, focused at the BREG plant. GLFC tested the potential for improving trapping efficiencies downstream of the BREG plant. It was thought that trapping efficiency may be affected by altering the temporal distribution of St. Marys River flows during the lamprey spawning season (late May through July). It was hypothesized that trapping of sea lamprey might be greatly improved by changing both the timing and rate of releases through the plant. Previous analyses suggested that maintaining high hydropower releases at night might improve trapping efficiency.

The Board and power entities again cooperated with the proponents to vary the flow releases during the sea lamprey spawning period. On 18 April, the Board requested that the IJC approve discretionary deviations from 1 June

through 31 July up to the Criterion (c) flow limits. The IJC approved this request on 25 April. The actual flow manipulations included minor increases above the Plan 1977-A flow during June only.

About 50 m³/s above the Plan-prescribed outflow was passed in June. Criterion (c) applied in July, so no additional flow was able to be released that month. On 29 May, the Compensating Works gate setting was altered from the customary half-gate setting to Gates 13 to 16 partially open in an effort to improve trapping below Gate 16 and to hopefully aid with nest surveys. The gates were reset following the flow measurements at the Compensating Works. The flow measurement program was postponed until after nest surveys were completed in mid August.

Ms. Jessica Barber, U.S. Fish and Wildlife Service, provided a summary presentation on the 2011 and 2012 tests. She was scheduled to attend the meeting, but sent regrets shortly beforehand due to a family emergency. Results of the test showed that the relationship between increased flows and increased daily catch success was insignificant, so no further flow adjustments will be sought. Water temperature offers a better indication of expected trapping efficiency. Efficiency of the portable traps downstream of Gate 16 improved, and so there is now a standing request to switch from using Gates 7 to 10 to Gates 13 to 16 during May through July (when a ½ gate equivalent setting is indicated). Board staff requested that at least one-week's notice be given if the switch is to occur based on water temperatures. Otherwise, switching will be performed annually on set dates (e.g., 1 May and 1 August).

Item 8b. Inventory and Verification of Diversion Intakes/Outfalls

Mr. Caldwell reported that three Board representatives toured various Canadian facilities and installations on 22 and 23 August to audit the water usage and measurement techniques of each agency/entity that uses and diverts water from the upper St. Marys River. Most records were found to be in order. However, one entity has been over-reporting usage by about 2 to 8 m³/s (70 to 280 cfs) for about three decades, whereas another has been under-reporting usage by approximately 1 to 20 m³/s (about 35 to 700 cfs) for an undisclosed period of time (perhaps since construction was completed in the 1890s). Full summaries are expected from both entities soon. Flow estimates will be revised as necessary. Mr. Stefano brought to the Board's attention that 0.1 m³/s is passed through a 41-cm (16") pipe at the BREG plant from mid-May to late August each year (since 2008) to act as a sea lamprey attractant. The net impact of these reporting errors/exclusions would likely be an under-reporting of less than 10 m³/s (350 cfs). U.S. facilities and installations will be audited in 2013.

Item 8c. Board's views on IUGLS report

Mr. Caldwell reported that, by letter dated 30 August, the IJC seeks the Board's consensus views and advice regarding the International Upper Great Lakes Study's regulation report, completed in March. It was noted that the public comment period was recently extended to 30 September. Mr. Bruxer presented a summary of the report findings and recommendations. Views are currently somewhat mixed. Though some attendees indicated they would be comfortable supporting the Study findings, others requested more time for a thorough analysis and review (before consensus views could be offered). IJC staff were advised that it is unlikely that the Board will be prepared to respond at the upcoming IJC Appearances in October, and that the Board will need more time.

Item 9. Review Semi-Annual Progress Report

Mr. Caldwell requested timely receipt of any additional comments or changes to the draft Semi-Annual Progress Report. He will incorporate any changes, update the available data, and distribute advance copies to the IJC prior to its October meeting.

Item 10. Next Meeting and IJC Appearance

The IJC Great Lakes Boards of Control Appearances have been scheduled for 8:30 to 10:00 a.m. on 16 October (a Tuesday in lieu of the typical Wednesday, and the Superior Board is to be the last of the Great Lakes Boards to present). The IJC seeks issue-oriented discussions. The reception is scheduled for 6:30 p.m. The Spring meeting will likely take place between 11 and 22 March 2012 in Chicago, IL. The Spring IJC Appearances in Washington, DC, are scheduled for the week of 15 April 2013.

There being no other business, the meeting adjourned at 4:40 p.m.

INTERNATIONAL LAKE SUPERIOR BOARD OF CONTROL

BOARD MEETING

**20 September 2012
1300-1600 hours**

**Glen House Resort
409-1000 Islands Parkway
Lansdowne ON K0E 1L0**

Agenda

1. Approval of agenda
2. Hydrologic conditions and regulation update
4. Flow verification measurements
5. Hydropower plant maintenance and other outages
6. Compensating works
 - a. Inspections
 - b. Maintenance: recent and planned
7. Peaking and ponding update
8. Communications
 - a. 2012 Meeting with the public – summary
9. Other business:
 - a. Sea lamprey control trapping tests
 - b. Inventory and verification of diversion intakes/outfalls
 - c. Board's views on IUGLS report
10. Review semi-annual progress report
11. Next meeting and IJC appearance