

INTERNATIONAL LAKE SUPERIOR BOARD OF CONTROL

Minutes of the 17 September 2009 meeting

The International Lake Superior Board of Control met on 17 September 2009 in a seminar room at the Canadian Centre for Inland Waters, Burlington, Ontario. Mr. Fay convened the meeting at 8:35 a.m. The attendees were:

United States

COL J. Drolet (Rep.)

Mr. J. Kangas

LTC. J. Davis
Mr. S. Thieme (Alt.)

Mr. D. Sawruk
Ms. D. Lee
Mr. E. Tauriainen
Dr. M. Colosimo

Board Members

Secretaries

Regulation Representatives

Associates

Canada

Mr. D. Fay

Mr. R. Caldwell

Mr. R. Caldwell

Mr. J. Deluzio
Mr. R. Stefano
Mr. T. McAuley
Comm. P. Trépanier

Item 1. Approval of Agenda

The agenda was approved, with the addition of items related to proposed sea lamprey trapping experiments and proposed fish habitat rehabilitation projects.

COL Drolet provided a brief update on the Asian carp barrier installed in the Illinois. This electrified barrier is meant to deter this invasive species of carp from migrating from the Mississippi River basin into the Great Lakes. Asian carp are within a few kilometres of the barrier. A contentious issue that remains is that large recreational vessels must be towed through the barrier by barges, at a fee of several hundred dollars per trip. The US Army Corps of Engineers recently increased the voltage field at the barrier and increased monitoring efforts.

Item 2. Update on Hydrologic Conditions and Regulation

The Board was provided with the following update on hydrologic conditions for lakes Superior, Michigan-Huron, and Erie. Mr. Caldwell also presented slides showing recent 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 slightly below average while supplies to the Lakes Michigan-Huron basin were above average.
- Lakes Superior and Michigan-Huron levels remain below average, but above levels of last year. Lake Superior was 13 to 17 cm (5 to 7 in.) below average during the past six months. Lakes Michigan-Huron were 13 to 22 cm (5 to 9 in.) lower than 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 86% of average over the past six months, and ranged from 1,560 to 2,120 m³/s. Outflows were as specified by Regulation Plan 1977-A. The gate setting at the Compensating Works was the equivalent of ½ gate open.
- With average supplies, Lakes Superior is expected to remain below average and fall to its chart datum this winter. Michigan-Huron levels are very likely to remain below average for the next six months, but are expected to remain above their chart datum this winter.
- The 1900-1986 “standardized departure” data as used in Plan 1977-A show that Lake Superior’s level was slightly lower relative to Lakes Michigan-Huron at the beginning of September. Lake Superior was about 0.6 units below its mean level, while Michigan-Huron was about 0.5 units below its mean level.

- Since mid 2008, Lake Superior has received about 60 mm (2") less total precipitation than normal.
- According to the NOAA drought monitor, much of the upper Great Lakes basin is again experiencing drought or is abnormally dry. In general, the region has been in a slight drying trend for the past year.
- Mr. Caldwell noted that the NOAA and Environment Canada climatological outlooks for September-November 2009 were consistent (warmer than normal, with equal chances of above, below, or normal precipitation).

The Board agreed that outflows specified by the regulation plan be continued.

Item 3. Update on Long Lac and Ogoki Diversions

The Ogoki Diversions into Lake Nipigon averaged 162.4 m³/s (5,740 cfs) and the Long Lac Diversion averaged 40.2 m³/s (1,420 cfs) from March through August. Combined, these diversions were about 120 percent of average for the period 1944-2008.

Continuous minimum flows (averaging 2.0 m³/s (42 cfs)) were passed northward during March and April preceding a period of wet weather, during which extra flow was spilled northward to prevent local flooding. Water was spilled northward from 25 May to 16 July to mitigate flooding of the Ogoki Reservoir, and since 11 August to reduce the inflow to Lake Nipigon. Inflows to Lake Nipigon are expected to remain at a reduced rate of ~35 m³/s through mid October.

Continuous minimum flows of 2 m³/s (70 cfs) (Saturday of Victoria Day weekend (23 May) through Halloween (31 October)) and 0.55 m³/s (19 cfs) (during the rest of the year) are maintained through Kenogami Dam northward from Long Lake to the Kenogami River (for environmental enhancement). Additional average discharges of 24.7 m³/s (870 cfs) were spilled northward from Long Lake during May due to localized flooding.

Item 4. Flow Verification Measurements

LTC Davis noted that no measurements were performed this year, but measurements will be completed in 2010 at all three hydropower canals. Some flow measurements were made in July and August at model sections in the lower St. Marys River. Flow measurements have been made by various agencies in recent months in Soo Harbour in the vicinity of the recently installed Acoustic Doppler Velocity Meters (ADVMs) (meters funded by the International Upper Great Lakes Study (IUGLS) installed on Bayfield Dike) for verification and flow indexing of the meters.

Item 5. Hydropower Plant Maintenance & Other Outages

Brookfield Renewable Power: A series of scheduled maintenance outages were undertaken at the Clergue Generating Station. Unit G3 was shut down from 11 to 28 April, Unit G1 was shut down from 1 to 14 May, and Unit G2 was shut down from 1 to 5 June for annual inspections. Units G1 and G2 were also shut down on 4 March and Units G2 and G3 were shut down on 11 March for transmission work and breaker maintenance by GLP Transmission Group. The plant was fully shut down during off peak hours on 4 April through 13 April to remove generation from the Ontario grid due to negative market pricing. A full plant shutdown occurred on 6 June to facilitate a tailrace deck inspection and tailrace safety boom repairs. A shutdown during daylight hours is scheduled for 19 September to facilitate the annual underwater cable inspection and maintenance for Lake Superior Power Ltd. Mr. Stefano added that scheduled maintenance work will occur in Spring 2010 between 12 April and mid May. A transformer may also be replaced during this period, and this work is expected to take two weeks.

Edison Sault Electric Company (ESELCO): Mr. Sawruk reported that routine maintenance was conducted during the reporting period. Refurbishment of the erosion protection lining of the power canal is expected to continue during September and October and again in 2010. An underwater canal inspection was completed in two hours on 3 September, resulting in a short plant shutdown, and maintenance of their log boom required a three-hour flow reduction on 17 September.

United States Government Plant (USGP): As reported previously, the turbine runner for Unit 10 was damaged by cavitation. Temporary repairs were made and the unit is operational and running. LTC

Davis reported that a contract for permanent repairs has been awarded. Work is to be completed no later than 31 December 2009.

Several outages have occurred since March resulting in about 41 hours of downtime for inspections and to correct electrical faults. The monthly Lake Superior outflows were met by transferring the unused water allocations to ESELCO.

The power entities were able to schedule their water use during the shutdowns and reductions and the full monthly water allocations as specified by the Board were able to be released within each month. No problems related to water levels were reported as a result of the above flow variations.

Item 6. Compensating Works

Item 6a. Inspections

Routine monthly inspections of the structure continued over the past six months. The structure remains in generally good condition. LTC Davis reported that the next major inspection of the American side is scheduled for 24 May 2010. Mr. Stefano added that the major inspection of the Canadian side will be completed in Fall 2010 after completion of maintenance work on the gates.

Item 6b. Maintenance: Recent & Planned

Brookfield Renewable Power is undertaking a major repainting and refurbishment program of their portion of the Compensating Works between 2007 and 2010, at a total cost of about \$10 million. Mr. Stefano reported that work on Gates 6 and 8 commenced on 9 June and is expected to be completed by 4 October. Blast cleaning and repainting, replacement of any severely corroded steel, along with any necessary concrete repairs are being completed while the gates are dewatered. Steel armouring of the upstream noses of several piers is being added. Mr. Deluzio noted that the 4th and final phase of the work will focus on Gates 1 and 2 in 2010. Gate 1 is now expected to remain open throughout the refurbishment effort, although short closures may prove necessary if critical repairs are found to be needed to the bottom of the gate or elsewhere beneath the water line.

LTC Davis reported that some minor routine maintenance was also performed on the U.S. side of the structure.

Item 7. Peaking and Ponding Update

Mr. Caldwell reported that, due to higher levels in the lower St Marys River and higher monthly outflows this reporting period, the Board did not need to restrict ponding operations. 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, and Mr. Caldwell noted that a full review is scheduled for 2010, as previously requested by the IJC. Mr. Fay added that a review of peaking and ponding is part of the terms of reference of the IUGLS, and studies have been proposed. The Board agreed to request a postponement of the review from the IJC.

Item 8. Communications

Item 8a. 2009 Meeting with the Public Debrief

The Board reviewed the meeting/teleconference with the public held the evening of 4 June from Lake Superior State University in Sault Ste. Marie, MI.

It was reiterated that this forum is an excellent opportunity to explain matters and educate people while receiving important feedback. The next meeting/teleconference was tentatively scheduled for early June 2010 in Canada.

Mr. Fay added that the Board continues to provide monthly media releases informing the public about Lake Superior regulation and water level conditions and provides hydrologic update information to the IJC to maintain a Board Web site. The Detroit District Corps of Engineers maintains additional information on its own Board Web site and continues to issue monthly memoranda to shipping interests, advising them of expected flows in the St. Marys River.

Item 9. Other Business

Item 9a. Status of Lock Replacement

LTC Davis provided an update on the new "Poe sized" lock to replace the existing Davis and Sabin Locks at the Soo Locks complex at Sault Ste. Marie, MI. Construction began on 30 June 2009.

Item 9b. Status of Great Lakes-St. Lawrence Seaway Study

LTC Davis reported that work is complete on the Supplemental Reconnaissance Report (SRR) and the Report is being reviewed by US Army Corps of Engineers (USACE) Division Headquarters in Cincinnati. No expansion of locks or connecting channel size is being recommended.

Remaining FY09 funds will be used to address review comments on the SRR. FY10 funding of \$400,000 will be used to finalize the scope of feasibility phase efforts that are identified based upon the recommendations in the Report, to formulate Project Management Plan(s) and prepare draft Feasibility Cost Sharing Agreement(s) (FCSA(s)). FY11 funding would be used to execute FCSA(s) and initiate Feasibility Studies.

Item 9c. Proposed Sea Lamprey Trapping Experiments

Dr. Scudder Mackey, Project Manager, Ecosystem Technical Working Group, IUGLS provided a summary presentation to the Board of a work plan approved in principle by the Study Board. Several experiments are proposed to test the potential for improving sea lamprey trapping efficiencies at the traps located immediately downstream of the hydropower plants at Sault Ste. Marie by altering the temporal distribution of St. Marys River flows during their spawning period (late May through July). It is hypothesized that trapping of sea lamprey might be greatly improved by the manipulation of both the timing and rate of flow releases through the hydropower plants and possibly the rapids. The proposed experiments would be coordinated by the Great Lakes Fisheries Commission. Though previous analyses suggest that maintaining high hydropower releases (i.e. on-peak flows) during nighttime may aid trapping efficiency, a variety of flow rates are likely to be tested. At this point, Dr. Mackey stated they are seeking the Board and power entities' cooperation to vary the flow releases during the sea lamprey spawning period in 2010 to facilitate the experiments. The requested flow manipulations may include deviations from the Plan 1977-A flow. Escapement of sea lamprey upstream through the Compensating Works at multiple gate opening settings may also be studied, if conditions permit.

The Board agreed in principle to cooperate with the experiments, but awaited further details and discussions with the experimenters. The Board advised Dr. Mackey that the prior approval of the Commission was required for any deviations from the monthly mean flow specified by the regulation plan.

Dr. Mackey expects a final proposal to be available in approximately two months. Board support staff will provide Dr. Mackey with hourly flow data since April 2002.

Item 9d. Proposed Fish Habitat Rehabilitation Projects

Mr. Kangas raised the question to the Board whether or not the three proposed fish habitat rehabilitation projects (with the Great Lakes Fisheries Commission as proponent, located in the St. Marys River between Little Rapids and Rock Cut), were transboundary water issues. It was noted that these proposals may fall under the Great Lakes Restoration Initiative, and are likely still in the preliminary study phase. It was agreed that these projects, as proposed, may increase the conveyance capacity of the U.S. channel and may result in lower Soo Harbour levels and less flow to the North Channel around Sugar Island. Hydraulic modeling would be necessary to show potential impacts. USACE will continue to monitor these proposals.

Item 10. Review Semi-Annual Progress Report

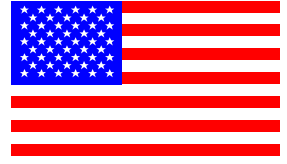
The Board reviewed and made some changes to the draft Semi-Annual Progress Report.

The Canadian Secretary will incorporate the changes, update the data, and distribute advance copies to the IJC prior to its October meeting.

Item 11. Next Meeting and IJC Appearance

The IJC Appearance has been scheduled for 10:15 a.m. on 28 October. The reception is scheduled for 6:30 p.m. that evening. The spring meeting will take place in the U.S. on 8 March in Detroit, MI. The Spring IJC Appearances in Washington, DC, are scheduled for 20 to 22 April 2010.

There being no other business, the meeting adjourned at 11:40 p.m.



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BOARD MEETING

17 September 2009
0830-1200 hours

Canadian Centre for Inland Waters
867 Lakeshore Road
Burlington, Ontario

Agenda

1. Approval of agenda
2. Hydrologic conditions and regulation update
3. Long Lac and Ogoki diversions
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. 2009 Meeting with the Public debrief
9. Other business:
 - a. Status of Lock Replacement
 - b. Status of Great Lakes – St. Lawrence Seaway Study
 - c. Proposed Sea Lamprey Trapping Experiments
 - d. Proposed Fish Habitat Rehabilitation Projects
10. Review semi-annual progress report
11. Next meeting and IJC appearance

ENCLOSURE 1