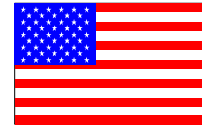




INTERNATIONAL LAKE SUPERIOR  
BOARD OF CONTROL



Canada  
Mr. David Fay, Member  
Mr. Rob Caldwell, Secretary

United States  
BG John W. Peabody, Member  
Mr. John W. Kangas, Secretary

**1 October 2008**

MEMORANDUM TO INTERNATIONAL JOINT COMMISSION

Enclosed are the approved minutes of the Board's 15 September 2008 meeting held in Fort Erie, Ontario. These will be posted to the Board's Web page following receipt of the French translation.

Enclosure

Rob Caldwell  
Secretary, Canadian Section

DISTRIBUTION:  
Board Members  
Mr. J. Kangas  
Regulation Representatives

## INTERNATIONAL LAKE SUPERIOR BOARD OF CONTROL

Minutes of the 15 September 2008 meeting

The International Lake Superior Board of Control met on 15 September 2008 in a meeting room at the Holiday Inn, Fort Erie, Ontario. Mr. Fay convened the meeting at 1:00 p.m. The attendees were:

### United States

COL V. V. Quarles (Alt.)

Mr. J. Kangas

Mr. S. Thieme (Alt.)

Mr. D. Sawruk  
Comm. S. Speck

### Board Members

### Secretaries

### Regulation Representatives

### Associates

### Canada

Mr. D. Fay

Mr. R. Caldwell

Mr. R. Caldwell

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

### **Item 1. Approval of Agenda**

The agenda was approved as proposed.

### **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 and Lakes Michigan-Huron basins in the past six months were generally above average.
- Lakes Superior and Michigan-Huron levels are below average, but above levels of last year. Lake Superior was 11 to 27 cm (4 to 11 in.) below average during the past six months. Lakes Michigan-Huron were 35 to 54 cm (14 to 21 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 91% of average over the past six months, and ranged from 1,590 to 2,440 m<sup>3</sup>/s. Outflows were as specified by Regulation Plan 1977-A, and were limited by Criterion (c) during March, June, and July. The gate setting at the Compensating Works was the equivalent of ½ gate open except in August, when it was increased to the equivalent of 1 gate fully open.
- With average supplies, Lakes Superior is expected to remain below average and fall to chart datum early this winter. Michigan-Huron levels are very likely to remain below average for the next six months, and are expected to also fall to chart datum early this winter.
- The 1900-1986 “standardized departure” data as used in Plan 1977-A show that Lake Superior’s level was slightly higher 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 1.1 units below its mean level.
- Since late 2005, Lake Superior has received 46 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. Even though on 31 July normal conditions prevailed across much of the region, as of 9 September, over half of the U.S. midwest was experiencing abnormally dry or drought conditions.
- Mr. Caldwell noted that there was little agreement between the NOAA and Environment Canada climatological outlooks for September-November 2008.

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

### **Item 3. Update on Long Lac and Ogoki Diversions**

Ontario Power Generation (OPG) had provided the Board with an update on the discharges of the Long Lac and Ogoki Diversions. The Ogoki Diversions into Lake Nipigon (which flows into Lake Superior) averaged 71.8 m<sup>3</sup>/s (2,540 cfs) and the Long Lac Diversion averaged 57.7 m<sup>3</sup>/s (2,040 cfs) from March through August. Combined, these diversions were about 76 percent of average for the period 1944-2007.

Additional average discharges of 66.6 m<sup>3</sup>/s (2,350 cfs) were spilled northward from Long Lake from May through July due to unusually heavy snowmelt and rainfall in the immediate area. High water supplies also resulted in water being spilled northward into the Ogoki River, further reducing the amount diverted to Lake Superior. The diversion, Lake Nipigon, and the reservoir were at their capacities and this action needed to be taken to prevent local flooding. An average flow of 264.3 m<sup>3</sup>/s (9,330 cfs) was spilled into the Ogoki River from June through August.

### **Item 4. Update on U.S. Government Plant Rating**

Mr. Thieme summarized the previous findings at the U.S. Government Plant (USGP). Results suggested an under-reporting error of 6-9% of the flow by the USGP. The likely source of the problem had been isolated to the plant's flow rating equations. Starting in December 2007, Hatch Acres Corporation and SCIPAR reviewed the issue and it was recommended to calculate flow based on turbine wicket gate openings and head rather than power and head. A new relationship has been developed. Additional flow measurements were performed from 18 to 21 August to verify the updated calibration. Analysis of the data is expected to be complete by early October. A 9% adjustment to the flows to compensate for underreporting in the plant's calculation system continues.

### **Item 5. Hydropower Plant Maintenance & Other Outages**

*Brookfield Renewable Power:* A series of scheduled maintenance outages were reported. Unit C3 was shut down from 7 to 12 April, Unit C2 was shut down from 23 to 30 May, and Unit C1 was shut down from 2 to 6 June for annual inspections. Unit C3 was also shut down on 30 April and 1 May due to transformer damage, on 22 and 23 May for transformer welding repairs, on 8 and 9 August to repair a rupture in the piping for the bearing lube oil, and on 12 September due to failure of a bearing lube pump. Unit C2 was also shut down on 5 to 7 May due to oil pump problems. Mr. Deluzio noted that purchasing of new transformers has been moved up in the company's capital plan and the first replacement transformer will be ordered next year, with installation likely the year after. Mr. Deluzio reported that shutdowns during daylight hours are expected on 4 October to facilitate the annual underwater cable inspection and maintenance for Lake Superior Power Ltd. as well as a diving inspection of Parks Canada's effluent pipe in the Clergue tail race. A safety boom installed on 19 November 2007 in the Clergue tail race failed and will also be repaired at this time. Mr. Deluzio added that operating staff have recently been re-trained to emphasize the importance of ensuring they continue to make every effort to pass the Board-allocated out-flow each month.

*ESEC:* Mr. Sawruk reported that ESEC continues to consider work related to extension of the life of their hydropower plant and prolonged outages may be necessary in the future. The company decided to focus on work to extend the operation of the existing plant through 2075. Limestone is being placed in the power canal to re-line it as timber planking is replaced. Occasional plant shutdowns will be necessary for diver safety. Concrete work is being performed along the canal banks as well. The seals on the power canal head gates were replaced. This work started on 30 July and was finished on 30 August. In September, work resumed on patching the gate piers. The additional work is expected to take up to six weeks, and is being done at night during off-peak flow hours.

Currently, Unit 70 is down for a major overhaul. Unit 30 is down due to a broken shaft and will remain off-line over the winter. Mr. Sawruk added that ESELCO's ability to use its monthly flow allocations has not been affected, and that two units (of 70 total) are fully rewound every year on a 35-year cycle.

*USGP:* Mr. Thieme reported that the Corps will soon contract for permanent replacement of blade sections on the runner for Unit 10, which was damaged previously by cavitation. Work is scheduled for

summer FY09 pending availability of funds. The potential for a plant freeze-up with the unit off-line precludes doing the work during the winter.

Several scheduled and unscheduled outages were reported. On 4 March, Unit 10 was down for 4 hours to replace a servo motor. Units 1 and 3 were shut down to investigate mechanical problems for about 80 hours from 21 to 24 April. Unit 3A was down on 19 June to tighten a packing gland and again on 3 and 5 July for about an hour each day due to a speed sensor failure. All units were taken off line for about 6 hours between 8 and 10 July due to outages at the Magazine Street substation. Units 1, 2, 3 & 10 were also taken off-line for about 6 hours for equipment maintenance by ESELCO on 16 July. On 4 July the T-1 line from Barkley, KY was down for 16 hours. The plant was operated locally during this period.

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. Mr. Thieme reported that the annual inspection of the American side is scheduled for 30 September. The remaining gates will also be inspected this fall, once the refurbishment work on the Canadian side is completed for this season and the normal gate openings are re-established.

The Board was apprised of concerns raised regarding the possible deteriorated condition of the Wisconsin railroad piers supporting the railway bridge, located immediately downstream of the Compensating Works and in the three power canals. It was reported that recently, the railway company completed a diving inspection on the piers, but results are unknown. Officials from the power entities had objected to the dive for safety reasons (water velocities in the power canals were deemed too high for divers to safely enter the water at the time). Mr. Sawruk reported that, apparently, an ethanol plant to be constructed in Michigan soon may result in more train transits across this bridge (since wood fibres from Canada may be used for raw materials). It was agreed that the Board will contact the company to reiterate its responsibilities with regard to regulatory operations and to reinforce the importance of maintaining the structure in good repair.

### *Item 6b. Maintenance: Recent & Planned*

Brookfield 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 \$1 million. Work on Gates 3 and 5 was completed last year. Work on Gates 4 and 7 commenced on 19 June and is now expected to be completed by the end of October. Mr. Deluzio showed several photos of the dewatering structures and painting shrouds installed. 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 Piers 6 to 8 is being added.

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

## **Item 7. Peaking and Ponding Update**

Due to low levels in the lower St Marys River and low monthly outflows earlier this year, the Board restricted ponding operations from the opening of the Soo Locks on 25 March through April. Starting in May, levels rose significantly and ponding was permitted for the rest of the reporting period. 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.

## **Item 8. Communications**

### *Item 8a. 2008 Meeting with the Public Debrief*

The Board reviewed the meeting with the public/teleconference held the evening of 12 June from Sault College in Sault Ste. Marie, ON. This was the first public meeting where a toll-free telephone line was made available to facilitate the participation of out-of-town residents. About nine members of the public

and media plus Board and Commission representatives attended while five people called in by phone. A short slide presentation shown at the meeting hall was made available online to callers beforehand. Callers were able to interact with the chairman, Canadian Member, Mr. David Fay, and other participants during the event. The meeting was then opened for public comment, questions, and concerns. Most participants were pleased with the new meeting format. They were also pleased with the rising lake levels, but remain concerned about potential impacts due to climate change and variability. Though people are aware that hydrologic factors (i.e., drought, increased evaporation, decreased runoff, etc.) have resulted in the low levels, many thought that other factors (such as regulatory practices, unreported diversions, consumptive use, erosion in the St. Clair River, etc.) were adding to the problem significantly. Many also reiterated their impatience with having to wait for the International Upper Great Lakes Study Board to resolve whether erosion in the St. Clair River may be impacting levels. People were advised that there were no significant unreported diversions from the upper lakes, that climate variability or possibly climate change were the causes of recent low supplies, and that regulation was of limited benefit in dealing with the widespread drought (that had been affecting the region until recently). After the meeting, attendees had an opportunity to talk to Board and Commission representatives.

It was reiterated that there remains concerns about the extent of advertising for the meeting, and that better signage may have resulted in more attendees. It was agreed that this year's format will be retained for future meetings. The next meeting/teleconference was tentatively scheduled for early to mid-June 2009 in the U.S.

#### **Item 9. Other Business**

##### *Item 9a. Status of International Upper Great Lakes Study*

Mr. Fay reported that the Study is proceeding and is still on schedule for completion in March 2012, with a draft report on the St. Clair River attribution study due in February 2009. It was agreed that this item be removed from future agendas now that the Study Board is reporting directly to the Commission.

##### *Item 9b. Status of Lock Replacement*

A new "Poe sized" lock is proposed to replace the existing Davis and Sabin locks, to provide for more efficient movement of waterborne commerce. The total cost is estimated at \$342 Million, with a 10-year construction window anticipated. Mr. Thieme reported that the 2007 Water Resources Development Act directed that construction shall be at full U.S. Federal expense. Just under \$2 Million was appropriated this year to prepare a letter report documenting actions necessary to move the project forward to construction, complete environmental compliance activities, update costing, and prepare an implementation schedule. Plans and specification for the cofferdam will be finalized for a possible construction start next year if Congress appropriates funds. Design efforts continue on other project features.

##### *Item 9c. Board Membership Changes*

Mr. Caldwell noted that BG John W. Peabody was appointed U.S. Member on 4 August. COL Vincent V. Quarles was appointed U.S. Alternate Member on 28 July, succeeding COL John D. Drolet. There were also changes among the Board's support staff and associates in recent months. The U.S. Regulation Representative is now LTC James B. Davis and Mr. Barry Guzzo (Sault Ste. Marie Canal National Historic Site) returned to his former role as the Canadian On-Site Representative.

#### **Item 10. Review Semi-Annual Progress Report**

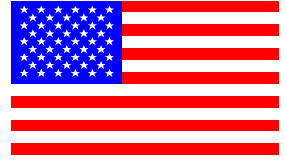
The Board reviewed and made some changes to the draft Semi-Annual Progress Report.

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 29 October. The reception is scheduled for 6:30 p.m. that evening. The spring meeting will take place in the U.S. in early March, perhaps in Chicago, IL. Mr. Kangas noted that the Spring IJC Appearances in Washington, DC, are scheduled for 31 March to 3 April 2009.

There being no other business, the meeting adjourned at approximately 3:30 p.m.



## **INTERNATIONAL LAKE SUPERIOR BOARD OF CONTROL**

### **BOARD MEETING**

**15 September 2008  
1300-1630 hours**

**Holiday Inn  
1485 Garrison Road  
Fort Erie, Ontario**

#### **Final Agenda**

- 1 Approval of agenda
- 2 Update on hydrologic conditions and regulation
- 3 Update on Long Lac and Ogoki diversions
- 4 Update on U.S. Government Plant rating
- 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 2008 Meeting with the Public debrief
- 9 Other business:
  - a Status of International Upper Great Lakes Study
  - b Status of Lock Replacement
  - c Board Membership changes
- 10 Review semi-annual progress report
- 11 Next meeting and IJC appearance

ENCLOSURE 1