

**INTERNATIONAL JOINT COMMISSION
IN THE MATTER OF THE REGULATION OF LAKE SUPERIOR
AND THE ST. MARYS RIVER (DOCKETS 6 and 8)
SUPPLEMENTARY ORDER OF APPROVAL**

WHEREAS:

On May 26, 1914 the Commission issued an Order of Approval for the obstruction, diversion and use of the waters of the St. Marys River on the United States side of the international boundary at Sault St. Marie, Michigan (Docket 6) and on May 27, 1914 the Commission issued an Order of Approval for the obstruction, diversion and use of the waters of the St. Marys River on the Canadian side of the international boundary at Sault St. Marie, Ontario (Docket 8);

On September 27, 1978 the Commission issued a Supplementary Order of Approval in Docket 8 approving a request by Great Lakes Power Corporation to redevelop its hydroelectric power facility at Sault St. Marie, Ontario;

On September 27, 1978 the Commission issued a Supplementary Order of Approval in both Dockets 6 and 8 to maintain certain existing flows over the St. Marys rapids until such time as suitable remedial works to maintain the sport fishery in the St. Marys rapids have been constructed;

On October 3, 1979 the Commission issued Supplementary Orders of Approval in Dockets 6 and 8 amending certain conditions as to the control and operation of the works approved in the Orders dated May 26 and 27, 1914;

On December 11, 1985 the Commission issued a Supplementary Order of Approval in both Dockets 6 and 8 specifying flow requirements for the remedial works;

The Commission's continuing jurisdiction over the Orders of Approval issued in Dockets 6 and 8 was acknowledged by the governments of Canada and the United States by letters dated February 21, 1977;

On June 18, 2001 the Commission informed the governments of Canada and United States of its intention to develop a plan of study to review the Orders of Approval and regulation of the outflow from Lake Superior;

The International Upper Great Lakes Study commenced in 2007 following approval and funding by the governments of the United States and Canada of a plan of study, phase two of which related to the review of the Orders of Approval and regulation for the outflow from Lake Superior;

In March of 2012 the International Upper Great Lakes Study submitted its final report to the Commission recommending modification to the existing Orders of Approval for Dockets 6 and 8 and a new regulation plan;

The Commission held a series of public hearings in July of 2012 on the final report of the International Upper Great Lakes Study and the proposed changes to the Orders of Approval at the following locations: Sarnia, Ontario and Thunder Bay, Ontario on July 9, 2012; Grosse Pointe Farms, Michigan and Duluth, Minnesota on July 10, 2012; Port Clinton, Ohio and Fish Creek, Wisconsin on July 11, 2012; Holland, Michigan and Milwaukee, Wisconsin on July 12, 2012, Sault St. Marie Ontario on July 14, 2012; Little Current, Ontario on July 15, 2012; Parry Sound, Ontario on July 16, 2012; and Collingwood, Ontario on July 17, 2012 where all interested parties were afforded a convenient opportunity to be heard. The Commission accepted comments on the recommended modifications to the Orders of Approval through August 31, 2012. Transcripts of the hearings and written submissions are available for public view on the Commission's website and at the Section offices in Washington, D.C. and Ottawa, Ontario;

The Commission has considered the views of the public, as expressed through testimony at the public hearings and through other submissions, the advice of its International Lake Superior Board of Control, and the views and comments of the Governments;

During the public comment period the Commission heard general public support for implementing Lake Superior Plan 2012 and that some specific changes to the existing Order are required to implement this new plan;

On April 15, 2013 the Commission issued its Advice to Governments on the Recommendations of the International Upper Great Lakes Study including the Commission's intention to incorporate changes recommended by the Study Board into the Orders of Approval;

The Commission finds that unduly low levels in Lake Superior may be guarded against by requiring that any approved regulation plan not result in a greater frequency of Lake Superior levels being below 183.20 metres (m) (601.05 feet (ft)) International Great Lakes Datum of 1985 (IGLD 1985) than would occur with the preproject St. Marys River condition when tested with supplies of the past as adjusted;

The Commission reaffirms the requirement that the Lake Superior outflows be regulated to balance levels of Lake Superior and Lake Michigan-Huron to the extent consistent with meeting the other criteria of the Orders;

The Commission finds that certain regulation practices should be formally included in this Supplementary Order subject to directives approved by the Commission;

The Commission finds that controlling the rate that the gates are opened and closed in the Compensating Works at the head of the St Marys Rapids would better protect fish in those rapids;

The Commission finds that this Supplementary Order retains essentially the regime for the regulation of the outflows from Lake Superior established in the Commission's October 3, 1979 Orders of Approval for Dockets 6 and 8;

The Commission finds that for clarity and certainty some conditions in the 26 May 1914 and the 27 May 1914 Orders of Approval, as amended by the 3 October 1979 Supplementary Orders, should be renumbered so that similar conditions have the same paragraph number.

NOW THEREFORE THIS COMMISSION ORDERS AND DIRECTS

- i. *Condition 5 of the 27 May 1914 Order of Approval is renumbered as Condition 4.1 of the same Order. Condition 7 of the 27 May 1914 Order, as amended by the 3 October 1979 Supplementary Order, is renumbered as Condition 6 of the same Order. Condition 10a. of the 27 May 1914 Order, as adopted on 4 February 1915, is renumbered as Condition 10 of the same Order.*
- ii. *Condition 5 of the 26 May 1914 Order, renumbered and amended as Condition 6 by the 3 October 1979 Supplementary Order, and Condition 6 of the 27 May 1914 Order, as amended by the 3 October 1979 Supplementary Order, are deleted and the following Condition 5 is substituted therefore:*

"5. All compensating works heretofore built and all works built under this Order, as amended, including all power canals, their head gates and by-passes, shall be so operated as to maintain the monthly mean level of Lake Superior as nearly as may be within its recorded range of stage below elevation 183.86 m (603.22 ft) IGLD 1985; provide no greater probability of exceeding elevation 183.86 m (603.22 ft) IGLD 1985 than would have occurred using the 1955 Modification of the Rule of 1949; and to the extent consistent with the above, maintain the levels of Lake Superior and Lakes Michigan-Huron at the same relative position within their recorded ranges of stage and with respect to their mean monthly levels, assuming supplies of the past as adjusted; and in such a manner as not to interfere with navigation. The levels of Lake Superior

and Lakes Michigan-Huron referred to throughout this Supplementary Order are as defined in Condition 6. Supplies of the past as adjusted are defined as the monthly water supplies for the period 1900 to 2008 adjusted to a condition assuming a continuous diversion out of the Great Lakes Basin of 91 cubic metres per second (m^3/s) (3200 cubic feet per second (cfs)) at Chicago and a continuous diversion into the Great Lakes Basin from the Albany River Basin as set out in the table below:

Month	Average Diversion (m^3/s)	Average Diversion (cfs)
January	113	3991
February	99	3496
March	85	3002
April	79	2790
May	181	6392
June	252	8899
July	207	7310
August	170	6003
September	133	4697
October	127	4485
November	122	4308
December	125	4414

Such operation shall be in accordance with a plan of regulation, approved by the Commission, and consistent with the following criteria:

a. The level of Lake Superior shall be maintained within its recorded range of stage when tested with supplies of the past as adjusted. The regulated monthly mean level of Lake Superior shall not exceed elevation 183.86 m (603.22 ft) IGLD 1985 or fall below elevation 182.76 m (599.61 ft) IGLD 1985 under these conditions.

b. To guard against unduly high stages of water in the lower St. Marys River, the excess discharge at any time over and above that which would have occurred at a like stage of Lake Superior prior to 1887, shall be restricted so that the elevation of the water surface immediately below the locks shall not be greater than 177.94 m (583.8 ft) IGLD 1985. The 1887 stage discharge relationship for Lake Superior is defined by the equation:

$$Q = 824.7(\text{Lake Superior} - 181.43)^{1.5}$$

where Q = Outflow through the St. Marys River in cubic metres per second,

Lake Superior = mean level in metres IGLD 1985 of Lake Superior.

This relationship is set forth in a report of the Coordinating Committee on Great Lakes Basic Hydraulic and Hydrologic Data dated November 20, 2013.

c. To guard against unduly low levels in Lake Superior, the outflow from Lake Superior shall be regulated such that the frequency of Lake Superior levels below 183.20 m (601.05 ft) IGLD 1985 is no greater than would have occurred with the Lake Superior outlet conditions that existed prior to 1887, as defined by the 1887 stage-discharge relationship for Lake Superior, when tested with supplies of the past as adjusted.

d. The maximum regulated flow from Lake Superior in the winter shall be limited in consideration of ice management in the St Marys River.

Notwithstanding any of the above criteria, in the event of supplies to Lakes Superior, Michigan, or Huron more extreme than supplies of the past as adjusted, the Commission will indicate the appropriate outflows from Lake Superior to suitably and adequately protect all interests upstream and downstream of the works. At such times, the Commission will also indicate, as the occasion may require, the interrelationship between the criteria, the conditions, and other requirements of this Supplementary Order, as amended."

iii. *Condition 7 of the 26 May 1914 Order of Approval, as amended by the 3 October 1979 Supplementary Order, and Condition 8 of the 27 May 1914 Order of Approval, as amended by the 3 October 1979 Supplementary Order, are deleted and the following Condition 7 is substituted therefore:*

" 7. A Board of Control to be known as the International Lake Superior Board of Control, consisting of an equal number of members from Canada and the United States, is hereby established. The members of the Board of Control shall be appointed by the Commission. The operation of all works referred to in Condition 5 regarding control and operation of this Order shall be under the direct control of the Board. The duties of the Board shall be to:

- a) periodically review and develop for Commission approval plans of regulation under which the compensating works and power canals and their head gates and bypasses shall be operated so as to achieve the purpose set forth herein.
- b) determine the flow required by the approved plan of regulation and allocate the amount of water available for power purposes.
- c) determine when within-day and day-to-day variations of flow known as peaking and ponding may be made by the hydropower entities, consistent with any directives that may be issued by the Commission.

- d) alter or suspend peaking and/or ponding operations or deviate from the flow specified by the approved regulation plan when it determines that immediate action is necessary to respond to emergency conditions that pose threats to human life, threaten the integrity of the flow regulation structures, or could cause major damage to property or the environment. The Board shall inform the Commission immediately of any changes in the flow due to emergencies.
 - e) conduct minor deviations, consistent with the Commission's directive on minor deviations from plan flow. Deviations are to be within the criteria and other requirements of this Order and be without appreciable adverse effects to interests.
 - f) obtain the Commission's advance approval for any other deviations from the flow determined by Regulation Plan; with the exception of peaking and ponding operations in c), emergency deviations in d), and minor deviations in e).
 - g) inform the public and stakeholders of changes of the Lake Superior outflow, the flow through the compensating works and relevant Board activities.
 - h) report any violation of this Order to the Commission; and to give effect to any instructions of the Commission, as issued from time to time, with respect to this Order.
 - i) report semi-annually to the Commission on its activities, including all peaking and ponding operations, deviations from the plan flow, and the status of maintenance of the control works. The Board shall also report at any other time as determined by the Commission.
- In the event of any disagreement among the members of the Board which they are unable to resolve, the matter shall be referred by them to the Commission for decision. The Board may, at any time, make representations to the Commission in regard to any matter affecting or arising out of the terms of this Order with respect to water levels and outflows."

iv. *A new Condition 8 is added to the 26 May 1914 and 27 May 1914 Orders of Approval, as amended by the 3 October 1979 Supplementary Orders of Approval:*

"8. The rate at which the gates in the compensating works are opened and closed shall be such as to minimize the risk of fish and other aquatic animals from being flushed or stranded in the St. Marys Rapids."

This Order shall be subject to review fifteen years after the effective date of this Supplementary Order or as otherwise determined by the Commission. At a minimum this review will assess the extent to which the results predicted by the research and models used to develop any approved regulation plan occurred as expected under this Supplementary Order. The review shall at a minimum consider monitoring information provided by government agencies and others available at the time of the review that may indicate the effect of the changes contained in this Supplementary Order.

Signed on the 17 day of July, 2014

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Gordon W. Walker

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Lana B. Pollack

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Dereth B. Glance

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Benoit Bouchard

A handwritten signature in blue ink, appearing to read "Richard M. Moy", written over a horizontal line.

Richard M. Moy