

INTERNATIONAL JOINT COMMISSION

Directive to the International Lake Superior Board of Control on

Peaking and Ponding Operations in the St. Marys River

This directive provides specific guidance regarding supervision by the International Lake Superior Board of Control of peaking and ponding operations conducted by the entities that own and operate hydropower facilities subject to the Commission's 17 July 2014 Supplementary Order of Approval¹ (2014 Supplementary Order) on the St Marys River at Sault Ste. Marie. This updates and replaces previous Commission letters to the Board on peaking and ponding operations by the hydropower entities.

Pursuant to Condition 7 of the 2014 Supplementary Order, the operation of all works referred to in Condition 5 of the Order shall be under the direct control of the International Lake Superior Board of Control (the Board). The Board will set monthly mean discharges for the St. Marys River through the flow control structures located at Sault Ste. Marie and determine, subject to the conditions in the 2014 Supplementary Order and this directive, when there may be restrictions to peaking and ponding operations by the hydropower entities.

Peaking and ponding are the within day and the day-to-day variations in the flow made by the hydropower plant operators, generally to better match their electricity generation with demand if available water is less than their plant capacities. Typically, higher electricity demand occurs during the weekday daytime hours and peak flows are released through the turbines to generate electricity to meet this demand. On weekends, energy demand is lower and hydropower entities prefer to run at reduced flow, or "pond", in order to operate their plants most efficiently.

If the amount of water allocated for hydropower in a given month is less than the capacities of the hydropower plants, the hydropower entities may conduct peaking and ponding operations such that they release their total monthly water allocation on average over the month. These peaking and ponding operations are subject to the conditions specified below.

Peaking and ponding operations shall be carried out under the supervision of the Board, and shall be subject to prior approval from the Board at the beginning of each month. Generally, the hydropower entities are expected to apportion their allocated water in the month such that their flows during "on-peak" weekday periods are at the maximum efficient capacities of their plants and the remainder of their allocation is distributed equally over the remainder of the month ("off-peak" periods) such that the total mean monthly flow equals their monthly water allocation.

During the navigation season, if off-peak flows are expected to result in sustained weekend and holiday levels at the U.S. Slip gauge falling below 176.09 m (IGLD 1985), and they are likely to be a concern to navigation interests in the lower St. Marys River, then the Board will direct the hydropower entities to restrict ponding operations for the month or a portion thereof. If ponding is restricted, then the hydropower entities shall release full on-peak flows for a continuous eight hour period from 08:00 hrs to 16:00 hrs (or a similar continuous period of eight hours concurrent with that of the other hydropower

¹ For the purposes of this directive, references to the 17 July 2014 Supplementary Order (2014 Supplementary Order) are references to the 26/27 May 1914 Orders of Approval, as amended by the 17 July 2014 Supplementary Order and other Supplementary Orders.

entity) on each day of weekends and holidays where the U.S. Slip levels is expected to fall below the threshold.

The increase in flow during weekends and holidays is to be offset by lower flows during off-peak weekday hours, or by shorter durations of on-peak flows on weekdays, such that the monthly mean Lake Superior outflow is not altered from that set by the Board in accordance with the 2014 Supplementary Order.

The Board will ensure that the hydropower entities provide it with their proposed schedules each month prior to the date of Lake Superior regulation, based on the preliminary Lake Superior outflow estimates provided by the Board one week prior to the date of final regulation, whereon the actual Lake Superior outflow for the upcoming month is established. The actual Lake Superior outflow value established during final regulation computations at the beginning of each month will be used by the Board to determine expected U.S. Slip levels and establish whether ponding restrictions are necessary. Near mid-month, the Board shall re-evaluate if ponding restrictions are needed for the remainder of the month. The Board will promptly notify the hydropower entities of ponding restrictions.

The hydropower entities shall submit to the Board, each week, reports of their actual hourly flows for each day of the previous weekly reporting period.

The Board will ensure that the hydropower entities advise it as soon as possible of any situation that requires alteration of the approved peaking and ponding operations. The Board shall be informed of measures being taken to re-establish the approved operations.

The Board may direct the hydropower entities to alter or suspend peaking or ponding operations at any time under emergency conditions (e.g., unforeseen circumstances such as equipment failures, ship groundings, electrical system difficulties, etc.) 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 will promptly inform the Commission's Engineering Advisors of such alterations.

Based on the anticipated pattern of peaking and ponding operations for the month, the Board's U.S. Regulation Representative's office is to issue, at the beginning of the month, expected hourly flows for the month. This information will be revised as necessary, as soon as possible, each time the hydropower entities indicate any changes in their flow schedules. This information is to be distributed to the hydropower and shipping interests, interested stakeholders and the public by the Board.

The Board shall provide, as part of its semi-annual reports to the Commission, a description of the impacts of peaking and ponding on water levels and on interests. On a five year basis, beginning in 2016, the Board shall review peaking and ponding practices and write to the Commission summarizing the outcome of its review and including any recommendations for adjustments to this directive as necessary.

Signed this 27th day of April, 2015



Secretary
Canadian Section



Secretary
United States Section