

INTERNATIONAL JOINT COMMISSION

In the Matter of Emergency Regulation of the Level
of Rainy Lake and of other Boundary Waters in the
Rainy Lake Watershed.

CONSOLIDATION

of the

Order Prescribing Method of Regulating the Levels of
Boundary Waters, dated 8 June, 1949,
as amended by
Supplementary Order dated 1 October, 1957,
by
Supplementary Order dated 29 July, 1970,
and by
Supplementary Order dated 5 January, 2000.

This consolidation has been adopted by the Commission as the authoritative text of the Commission's Order of June 8, 1949, as amended, and replaces the individual Order and Supplementary Orders listed above. Further detail regarding the circumstances leading to the adoption of Supplementary Orders can be found in their individual texts.

January 2001

INTERNATIONAL JOINT COMMISSION

In the Matter of Emergency Regulation of the Level
of Rainy Lake and of other Boundary Waters in the
Rainy Lake Watershed.

ORDER PRESCRIBING METHOD OF REGULATING THE LEVELS OF BOUNDARY WATERS

Note:

- 1) This Order pertains to the Companies, their successors or assigns (hereinafter called the Companies) that own and operate the discharge facilities at the outlets of Rainy and Namakan Lakes. At the time of the original 1949 Order, these were the Minnesota and Ontario Paper Company, the Rainy River Improvement Company, and the Ontario-Minnesota pulp and Paper Company Limited. As of the signing of this Order, the Companies are Boise Cascade Corporation and Abitibi-Consolidated Inc.
- 2) All water level elevations referenced herein are relative to mean sea level, as defined by the United States Coast and Geodetic Survey datum, 1912 adjustment.

From the Original 1949 Order

WHEREAS by the terms of a Convention between the United States of America and Canada signed at Ottawa September 15, 1938, and ratified by His Majesty in respect of Canada on May 19, 1939, and by the President of the United States, with the advice and consent of the Senate, on September 10, 1940, and proclaimed by the President of the United States on October 18, 1940, the International Joint Commission is clothed with power to determine when emergency conditions exist in the Rainy Lake watershed, whether by reason of high or low water, and is empowered to adopt such measures of control as the Commission might deem proper with respect to the existing dams at Kettle Falls and International Falls, and with respect to any other existing or future dams or works in boundary waters of the Rainy Lake watershed, the language of Article 1 of said Convention being as follows:

“The International Joint Commission, established pursuant to the provisions of the treaty signed at Washington on the 11th day of January, 1909, relating to questions arising between the United States of America and Canada, is hereby clothed with power to determine when emergency conditions exist in the Rainy Lake Watershed, whether by reason of high or low water, and the Commission is hereby empowered to adopt such measures of control as to it may seem proper with respect to existing dams at Kettle Falls and International Falls, as well as with respect to any existing or future dams or works in boundary waters of the Rainy Lake watershed, in the event the Commission shall determine that such emergency conditions exist.”

and,

WHEREAS, the Companies operated and maintained the two existing Kettle Falls Dams across the principal outlets of Namakan Lake and the existing International Falls Dam across Rainy River, the outlet of Rainy Lake when the June 8, 1949 Order was adopted; the said Rainy Lake being at a lower level than Namakan Lake, and the said Namakan Lake being one of a

series of connecting lakes known as the Namakan Chain of Lakes; and,

WHEREAS, the several lakes comprising the Namakan Chain of Lakes, namely, Little Vermilion, Crane, Sand Point, Kabetogama, and Namakan Lakes, ordinarily stand at substantially the same level, the outflow therefrom and consequently their level being controlled principally by the Companies in operation of the existing Kettle Falls Dams; the said Kabetogama and Crane Lakes being entirely within the United States; and,

WHEREAS, the International Boundary passes through Rainy, Namakan, Sand Point, and Little Vermilion Lakes; and,

WHEREAS, the outflow from and the level of Rainy Lake are generally and customarily determined and controlled by the Companies in the operation of the existing International Falls Dam; and,

WHEREAS, the Companies have artificially regulated the level of Rainy Lake continuously since March 1909, and have artificially regulated the level of Namakan Lake continuously since March 1914; and,

WHEREAS, on the north rim of Namakan Lake a natural high-level outlet, known as the Bear Portage outlet, was in 1949 obstructed or partially obstructed by a crude timber and rock-fill barrier which apparently was constructed by the Companies or their predecessors without specific authorization, the effect of this barrier being to cause the Namakan Chain of Lakes occasionally to rise to a somewhat higher stage than would be reached if the barrier were not in existence; and,

WHEREAS, after due notice in each instance, the Commission held five public hearings on the questions raised by said Convention when considering its 1949 Order, in the course of

which evidence was adduced and all interested parties were given full opportunity to be heard, and those appearing and so desiring were heard; and,

WHEREAS, prior to adopting the 1949 Order, the Commission and its International Rainy Lake Board of Control made careful field investigations and technical studies of Rainy Lake and of the several lakes comprising the Namakan Chain of Lakes, and of other boundary waters of the Rainy Lake watershed, and of precipitation and runoff records of the drainage area tributary to Rainy Lake, and of the lands bordering and immediately adjacent to said lakes and boundary waters in both the United States and Canada, and gave extended consideration to the effects of both extremely high and extremely low lake levels upon the interests of the Companies, which utilized a large part of the flow of the Rainy River to produce power at their International Falls dam for use in their industrial operations at Fort Frances, Ontario and International Falls, Minnesota; and upon the interests of the State of Minnesota, the Province of Ontario, and riparian owners and proprietors; and it appeared to the Commission that:

During the 40-year period, 1909 to 1948 inclusive, the level of Rainy Lake has fluctuated between a minimum elevation of 1098.86 feet (334.93 meters) on April 11, 1909, and a maximum elevation of 1112.51 feet (339.09 meters) on June 8, 1916; and,

During the 37-year period, 1912 to 1948 inclusive, the level of Namakan Lake has fluctuated between a minimum elevation of 1106.18 feet (337.16 meters) on April 13-14, 1923, and a maximum elevation of 1122.86 feet (342.25 meters) on May 23, 1916; and,

Very high levels in Rainy Lake and the Namakan Chain of Lakes during the summer and early autumn of each year are desirable from the viewpoint of the Companies because under such conditions larger volumes of water may be held in storage to augment the production of power at the Companies' International Falls dam during the season of low runoff, and because the elevation of Rainy Lake is determinative, in part, of the power head available at the said International Falls dam; but under such conditions, with Rainy Lake and the Namakan Chain of Lakes at artificially high levels, riparian lands and the shore properties thereon are adversely affected due to erosion and caving banks, fallen

trees along the shore, flooding of shore improvements, and the disturbing of established shore lines with attendant unsightly conditions; and,

Very low lake levels result in unsightly and unsanitary conditions, and are otherwise objectionable; and they usually prevail for longer periods of time than do the very high lake levels; and,

High discharges at the Kettle Falls and the International Falls Dams are damaging to all interests affected thereby, including the Companies' power interests; and,

Both extremely high and extremely low levels in Rainy Lake and the Namakan Chain of Lakes are highly objectionable to the large segment of the general public concerned with recreational values in both the United States and Canada; and,

WHEREAS, with the object of securing to the peoples of Canada and the United States the most advantageous use of the waters of Rainy Lake and the Namakan Chain of Lakes for the combined purposes of navigation, sanitation, domestic water supply, power production, recreation, and other beneficial public purposes, it is desirable to formulate and put into effect a definite practicable method or rule for regulation of the levels of said lakes to prevent the occurrence of both extremely high and extremely low levels, and restrict lake fluctuations to a prescribed range, insofar as possible.

From the 1957 Supplementary Order

WHEREAS, following the floods of 1950 and 1954 the Commission directed its International Rainy Lake Board of Control to prepare a report on regulation practices, and after considering the Board's July 31, 1956 report, and holding a public hearing, the Commission, by Supplementary Order dated October 1, 1957, amended its Order of June 8, 1949 to permit greater flexibility in the regulation of the level of Namakan Lake, the amendment to terminate September 30, 1962 unless the Commission continued it in force beyond that date.

From the 1970 Supplementary Order

WHEREAS the Commission, after affording opportunity for the interested parties to be heard and deeming such action to be in the public interest, extended the termination date of the October 1, 1957 amendment on two occasions; and,

WHEREAS, following heavy rains that occurred at various times since 1957, and especially throughout the summer of 1968, which caused both Rainy and Namakan Lakes to rise considerably above the full pool elevations set forth in the Commission's Order then in force, and following low water conditions that occurred at various times since 1957, which caused both Rainy and Namakan lakes to fall below the minimum elevations set forth in the Order, the Commission directed its International Rainy Lake Board of Control to examine further measures of regulating the lakes and, after considering the Board's March 1969 report as well as an April 1970 report by its International Rainy River Water Pollution Board, which noted certain minimum flows to be maintained in the Rainy River to avoid exposing unsightly fibrous sludge and to prevent the occurrence of low dissolved oxygen levels, and after holding a public hearing, the Commission by Supplementary Order dated July 29, 1970, further amended its Order of June 8, 1949, based on experience which demonstrated the difficulties of operating the outlet works so as to ensure that lake levels will be at precise elevations on certain dates and to further qualify the Commission's determination of "emergency conditions" within the meaning of the Convention signed on September 15, 1938.

From the 2000 Supplementary Order

WHEREAS, after considering a November 1993 proposal by an ad-hoc group of

American and Canadian citizens known as the Rainy-Namakan Water Level International Steering Committee, a February 1994 Statement in Response by the Companies to the 1993 International Steering Committee proposal, and April 28, 1999 draft and October 26, 1999 final reports from its International Rainy Lake Board of Control, and after holding public hearings, the Commission revised its Order on January 5, 2000, to continue to carry out its responsibilities under the 1938 Convention for avoiding emergency conditions by instituting revised rule curves and other requirements which provide a careful balance between upstream and downstream concerns, and among the various interests, including environmental concerns, hydropower, flood risk, and boating. The January 5, 2000 Supplementary Order also took into account improvements to water quality in the Rainy River that allow lower discharges under low-flow conditions than were previously desirable; and,

WHEREAS the Commission determined in its January 5, 2000 Supplementary Order that some variation in the regulated levels may be desirable from year to year, within defined rule curve bands; and,

WHEREAS the Commission understood that monitoring programs would be implemented by the resource management agencies to enable the impacts of the January 5, 2000 rule curves on the biological and aquatic communities to be identified, and to provide an adequate source of information for future reviews.

WHEREFORE THIS COMMISSION DETERMINES THAT:

From the 1970 Supplementary Order

A. Emergency conditions exist in and along the shores of the Namakan Chain of Lakes when

the level of Namakan Lake is higher than elevation 340.95 meters (1118.6 feet) above mean sea level, excluding the effect of wind and currents, and the inflow at that time is in excess of the total outflow capacity of the present structures at Kettle Falls; emergency conditions also exist when the level of Namakan Lake is lower than elevation 337.90 meters (1108.6 feet) above mean sea level and the outflow has been reduced to 28.3 m³/s (cubic meters per second), equivalent to 1000 cfs (cubic feet per second);

From the 1970 Supplementary Order

- B. Emergency conditions exist in and along the shores of Rainy Lake when its level is higher than elevation 337.75 meters (1108.1 feet) above mean sea level, excluding the effect of wind and currents, and the inflow at that time is in excess of the total outflow capacity of the present structure at International Falls-Fort Frances; emergency conditions also exist when the level of Rainy Lake is lower than elevation 336.68 meters (1104.6 feet) above mean sea level and the outflow has been reduced to the minimum allowable discharge prescribed by Order of this Commission; and

From the 1970 Supplementary Order

- C. In order to prevent the occurrence of such emergency conditions, it is necessary to anticipate high and low inflows to said lakes insofar as possible and so regulate the outflow at the Kettle Falls Dams and the International Falls-Fort Frances Dam as to avoid as far as possible the occurrence of such conditions.

NOW, THEREFORE THIS COMMISSION DOETH ORDER AND DIRECT THAT:Note:

The original 1949 Order directed the Companies, insofar as possible, to keep the level of Rainy and Namakan lakes precisely on a single rule curve (which varied seasonally) defined for each lake. The 1957 Supplementary Order made no change in rule curve on Rainy Lake, but defined both an upper and lower rule curve for most of the year on Namakan Lake, with the level to be maintained between these limits at the discretion of the Companies, and with a single rule curve remaining only for the summer months. The 1970 Supplementary Order defined an upper and lower rule curve for both lakes, with operation between these curves at the discretion of the Companies, and prescribed minimum outflows from the lakes. The 2000 Supplementary Order revised the 1970 upper and lower rule curves for both lakes, required that the Companies target the middle portion of the rule curve band subject to other direction from the International Rainy Lake Board of Control, and revised the prescribed minimum outflows. This Order, dated January 18, 2001, consolidates and replaces the previous Order and Supplementary Orders as of February 28, 2001.

1. Namakan LakeFrom the 2000 Supplementary Order

- 1(a) The Companies, their successors or assigns shall operate the discharge facilities at the Kettle Falls Dams as authorized by the International Rainy Lake Board of Control in such manner that insofar as possible the level of Namakan Lake, unaffected by wind or currents, will be between the following minimum and

maximum elevations on the dates shown or between elevations which can be interpolated therefrom between these dates, these elevations being above mean sea level. Furthermore, the companies, their successors or assigns shall normally target the middle portion of the band so described and shall keep the International Rainy Lake Board of Control informed in advance of their intended actions. The International Rainy Lake Board of Control shall monitor hydrologic conditions and the Companies' actions and may provide the Companies with directions for the operation of their discharge facilities. The Companies shall carry out any instructions provided by the International Rainy Lake Board of Control, which may from time to time include instructions to target levels elsewhere in the band.

Namakan Lake Elevations

<u>Date</u>	<u>Minimum</u>		<u>Maximum</u>	
	<u>(meters)</u>	<u>(feet)</u>	<u>(meters)</u>	<u>(feet)</u>
1 Jan	339.70	1114.5	340.00	1115.5
1 April	338.95	1112.0	339.70	1114.5
15 April	338.95	1112.0		
1 June			340.95	1118.6
7 June	340.70	1117.8		
1 Sept	340.45	1117.0	340.65	1117.6
1 Oct	340.45	1117.0	340.65	1117.6

From the 1970 Supplementary Order

- 1(b) Whenever the level of Namakan Lake is in excess of 341.10 meters (1119.1 feet), as will occur occasionally when flood inflows are in excess of the outflow capacity of the present dams at Kettle Falls, all gates and fishways in those dams

shall be fully open to ensure the most rapid possible return to the maximum elevation prescribed in sub-paragraph 1(a).

From the 2000 Supplementary Order

- 1(c) Whenever the level of Namakan Lake is lower than the minimum elevations prescribed in sub-paragraph 1(a), the total outflow from the Namakan Chain of Lakes into Rainy Lake shall be reduced to 30 m³/s (1060 cfs) instantaneous; furthermore, whenever the level of Namakan Lake is lower than the drought line prescribed below, as may occur during periods of deficient inflow, the total outflow from Namakan Chain of Lakes may be further reduced, at the discretion of the International Rainy Lake Board of Control following appropriate consultations with resource agencies and affected municipalities and others, to not less than 15 m³/s (530 cfs) instantaneous.

Namakan Drought Line

<u>Date</u>	<u>Elevation (m)</u>	<u>Elevation (ft)</u>
1 Jan	338.95	1112.0
30 June	338.95	1112.0
1 July	340.15	1116.0
30 Sept	340.15	1116.0
1 Oct	338.95	1112.0

2. Rainy Lake

From the 2000 Supplementary Order

- 2(a) The Companies, their successors or assigns shall operate the discharge facilities at the International Falls-Fort Frances Dam as authorized by the International Rainy

Lake Board of Control in such manner that insofar as possible the level of Rainy Lake, unaffected by wind or currents, will be between the following minimum and maximum elevations on the dates shown or between elevations which can be interpolated therefrom between these dates, these elevations being above mean sea level. Furthermore, the companies, their successors or assigns shall normally target the middle portion of the band so described and shall keep the International Rainy Lake Board of Control informed in advance of their intended actions. The International Rainy Lake Board of Control shall monitor hydrologic conditions and the Companies' actions and may provide the Companies with directions for the operation of their discharge facilities. The Companies shall carry out any instructions provided by the International Rainy Lake Board of Control, which may from time to time include instructions to target levels elsewhere in the band.

Rainy Lake Elevations

<u>Date</u>	<u>Minimum</u>		<u>Maximum</u>	
	<u>(meters)</u>	<u>(feet)</u>	<u>(meters)</u>	<u>(feet)</u>
1 Jan	337.20	1106.3	337.45	1107.1
1 April	336.70	1104.7	337.00	1105.6
1 May	336.80	1105.0	337.40	1107.0
1 June	337.30	1106.6	337.60	1107.6
1 July	337.50	1107.3	337.75	1108.1
15 Aug	337.50	1107.3	337.75	1108.1
1 Dec	337.30	1106.6	337.60	1107.6

From the 1970 Supplementary Order

- 2(b) Whenever the level of Rainy Lake is in excess of 337.90 meters (1108.6 feet), as will occur occasionally when flood inflows are in excess of the outflow capacity

of the dam at International Falls-Fort Frances, all gates in that dam shall be fully open to ensure the most rapid possible return to the maximum elevation prescribed in sub-paragraph 2(a).

From the 2000 Supplementary Order

2(c) Whenever the level of Rainy Lake is lower than the minimum elevations prescribed in sub-paragraph 2(a), the outflow from the dam at International Falls-Fort Frances shall be reduced to 100 m³/s (3530 cfs) instantaneous; furthermore, whenever the level of Rainy Lake is lower than the drought line prescribed below, as may occur during periods of deficient inflow, the outflow from the dam at International Falls-Fort Frances may be further reduced at the discretion of the International Rainy Lake Board of Control following appropriate consultations with resource agencies and affected municipalities and others, to not less than 65 m³/s (2300 cfs) instantaneous. If outflows are so further reduced at the discretion of the Board, the Companies shall monitor dissolved oxygen levels as the Board may require.

Rainy Lake Drought Line

<u>Date</u>	<u>Elevation (m)</u>	<u>Elevation (ft)</u>
1 Jan	336.90	1105.3
1 April	336.70	1104.7
30 June	336.70	1104.7
1 July	337.20	1106.3
24 Oct	337.20	1106.3

From the 1970 Supplementary Order

- 2(d) The existing barrier which obstructs or partially obstructs the high-level Bear Portage outlet, and which has deteriorated by natural process, shall not be repaired, strengthened, raised, lowered, or otherwise modified in any way by the Companies, their successors or assigns, or by any other corporation or person without specific authorization from this Commission.

From the 1970 Supplementary Order

3. Notwithstanding Paragraphs numbered 1 and 2 of this Order, if extremely high or low inflows to Namakan Lake or Rainy Lake are anticipated, the International Rainy Lake Board of Control, after obtaining the approval of the Commission, may authorize the levels of Namakan Lake and/or Rainy Lake to be raised temporarily to greater than the maximum or lowered temporarily to less than the minimum elevations respectively prescribed in Paragraphs numbered 1(a) and 2(a) of this Order.

From the 2000 Supplementary Order

4. All obligations imposed in the said Order dated June 8, 1949, as amended by the Supplementary Orders dated October 1, 1957; July 29, 1970; and January 5, 2000, upon the Companies, their successors or assigns apply jointly and severally to Boise Cascade Corporation and Abitibi-Consolidated Inc. and their successors or assigns.

From the 2000 Supplementary Order

5. This Order shall be subject to review 15 years following adoption of the Commission's Supplementary Order of 5 January 2000, or as otherwise determined by the Commission. The review shall, at minimum, consider monitoring information collected by natural resource management agencies and others during the interim that may indicate the effect of the changes contained in the Supplementary Order of January 5, 2000.

From the 2000 Supplementary Order

6. In the event of any conflict regarding English and metric units given in this Order, metric units shall prevail.

From the 2000 Supplementary Order

7. Figure 1 provides an illustration of the requirements of this Order.

From the 1949 Supplementary Order

8. The Commission reserves the right to have the aforementioned Bear Portage barrier removed, or cause its crest to be lowered, in event the Commission shall find at any time that said barrier interferes seriously with the achievement of the objectives of this Order.

From the 1957 Supplementary Order

9. The Companies shall maintain their control works in the Kettle Falls dams in such manner that changes in the outflow may be made promptly at all times.

From the 1949 Supplementary Order

10. The Commission also reserves the right to amend or rescind this Order at any time, and to issue such supplementary or other Orders in the premises as it might deem to be in the public interest; but this Order, from and after the date of its adoption by the Commission, shall be in full force and effect until otherwise ordered by the Commission.

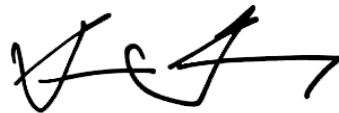
This Order, dated January 18, 2001, consolidates and replaces the previous Order and Supplementary Orders as of February 28, 2001.



Murray Clamen

Secretary

Canadian Section



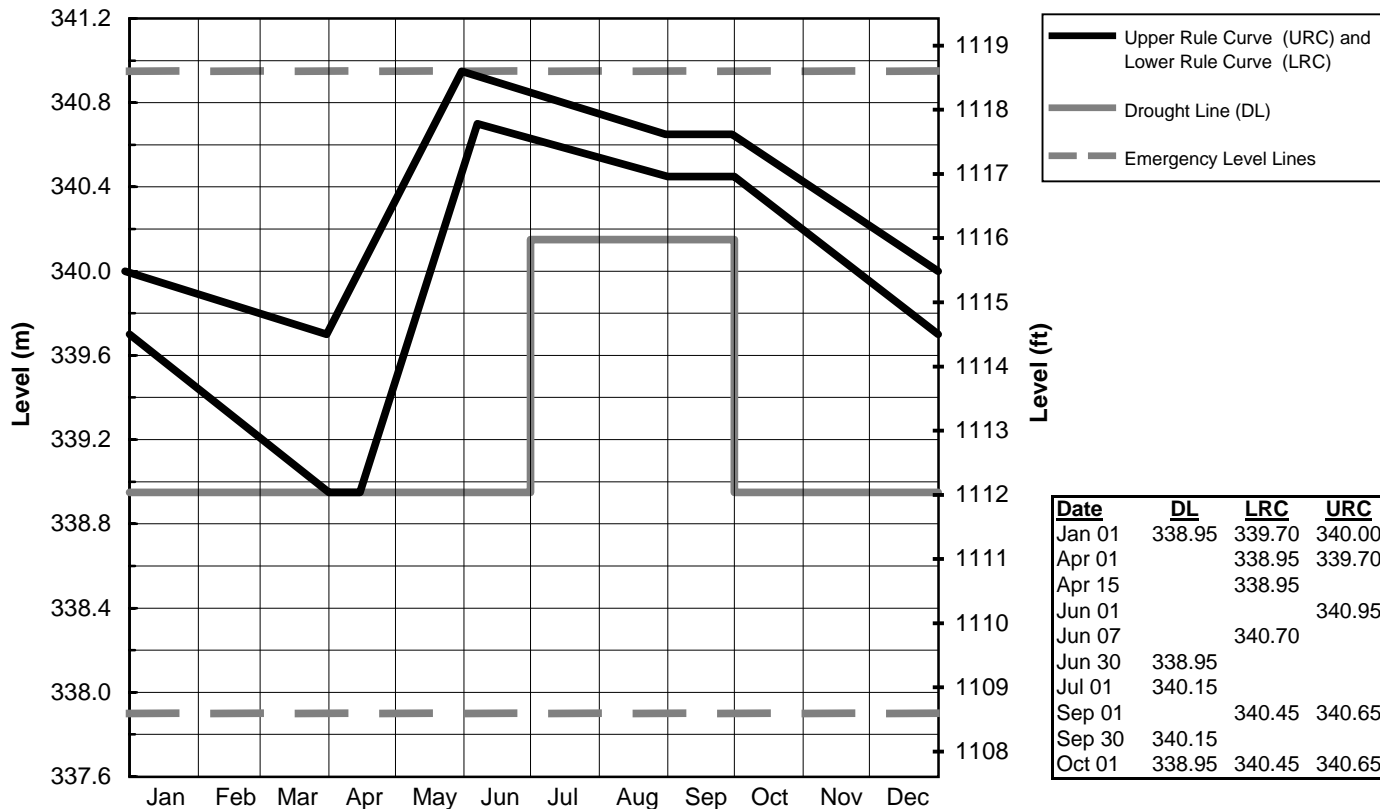
Gerry Galloway

Secretary

United States Section

Figure 1

Namakan Lake



Rainy Lake

