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APPLICATION

OF

THE GOVERNMENT OF CANADA

TO THE

INTERNATIONAL JOINT COMMISSION

**For an Order of Approval of the Construction
of Certain Works for Development of Power
in the International Rapids Section of the
St. Lawrence River**

APPLICATION OF THE GOVERNMENT OF CANADA TO THE INTERNATIONAL JOINT COMMISSION FOR AN ORDER OF APPROVAL OF THE CONSTRUCTION OF CERTAIN WORKS FOR DEVELOPMENT OF POWER IN THE INTERNATIONAL RAPIDS SECTION OF THE ST. LAWRENCE RIVER.

OTTAWA, June 30, 1952

THE INTERNATIONAL JOINT COMMISSION,
OTTAWA, Ontario.

SIRS,

1. The Government of Canada hereby submits to the International Joint Commission, under the provisions of the Boundary Waters Treaty of January 11, 1909, this application requesting that the Commission approve the construction of certain works, as described in Section 8 of this application, and the operation of such works under the conditions specified in Section 10 of this application, in the International Rapids Section of the St. Lawrence River, giving consideration to such effects as the construction and operation of these works may have on the levels of water resulting therefrom to be maintained in Lake Ontario and the St. Lawrence River.

2. (a) In addition to the works specified in Section 8 which are covered by this application and which are to be provided and maintained by entities to be designated by the Government of Canada and the Government of the United States of America, Canada will construct, maintain and operate all such works as may be necessary to provide and maintain a deep waterway between the Port of Montreal and Lake Erie;
- (b) Such deep waterway will be provided as nearly as possible concurrently with the completion of the power development works in the International Rapids Section as described in this application; and
- (c) In accordance with the standards contained in the proposed Agreement between Canada and the United States for the development of navigation and power in the Great Lakes-St. Lawrence Basin signed March 19, 1941, and the specifications of the Joint Board of Engineers, dated November 16, 1926, such deep waterway will afford a controlling channel depth of 27 feet with locks approximately 800 feet long, 80 feet wide and 30 feet over the sills.

3. This application is filed in contemplation of the filing of a similar application by the Government of the United States of America. It is requested that both applications be considered as in the nature of a joint application for approval of the

construction of the works to be jointly undertaken by an entity to be designated by the Government of Canada and an entity to be designated by the Government of the United States of America.

4. The International Rapids Section of the St. Lawrence River is located in Canada within the Province of Ontario and in the United States of America within the State of New York. Throughout its length of approximately 48 miles from Chimney Point in the State of New York, downstream to the Village of St. Regis, New York, it is traversed by the international boundary which follows generally the thread of the stream and which forms a part of the boundary line between Canada and the United States of America.

5. The International Rapids Section of the St. Lawrence River since 1860 has an observed average flow of 237,000 cubic feet per second, with an aggregate fall of 92 feet. The total drainage area of the river at Cornwall, Ontario, is approximately 303,000 square miles, including 95,000 square miles of water surface. A suitable site is available at the foot of Barnhart Island near Cornwall, Ontario, and Massena, New York, for the development of the potential power of this section of the river. The water available would justify the installation of 2,200,000 horse power of hydro-electric generating capacity with an average annual output of approximately 12,600,000,000 kilowatt-hours of energy. The St. Lawrence River is navigable throughout its entire length but navigation through the International Rapids Section, the Soulanges Section and the Lachine Section, which sections lie between Chimney Point, New York, and Montreal, Quebec, a distance of 115 miles, is effected by a series of canals and locks with a controlling depth of 14 feet, by-passing a series of rapids. (A map of the Great Lakes-St. Lawrence Basin, Exhibit 1, is attached and made part of this application.)

6. The development of the International Rapids Section of the St. Lawrence River has heretofore been recommended by the International Joint Commission in its report dated December 19, 1921, and by the St. Lawrence Commission of the United States of America in its report dated December 27, 1926, and by the Canadian National Advisory Committee in its report of January 11, 1928, as an important stage in the progressive program for the development of the entire Great Lakes-St. Lawrence Basin.

7. The Canadian Temporary Great Lakes-St. Lawrence Basin Committee (consisting of representatives of the Department of External Affairs, the Department of Transport, the Hydro-Electric Power Commission of Ontario and the Quebec Streams Commission) and the United States St. Lawrence Advisory Committee (consisting of representatives of the Department of State, the Corps of Engineers, United States Army, the Federal Power Commission and the Power Authority of the State of New York) in a joint report dated January 3, 1941, recommended the various works to be constructed in connection with power development in the International Rapids Section. Since that time further study and planning have been done on the works recommended in the above report by several agencies, including the Department of Transport, Canada, and the Corps of Engineers, United

States Army, with the co-operation of other public agencies of Canada and the United States of America. (A plan showing the major works to be performed in the International Rapids Section of the St. Lawrence River, Exhibit 2, is attached and made part of this application; a water profile map of the International Rapids Section, Exhibit 3, showing water levels in connection with the proposed works is attached and made part of this application).

8. This application requests approval of the construction of certain works, jointly by entities to be designated by the respective Governments in accordance with the "Controlled Single Stage Project (238-242)" which was part of the Report of January 3, 1941, referred to in the preceding paragraph, containing the features described below and shown in Exhibit 2.

(a) *Channel Enlargements*—Channel enlargements will be undertaken from above Chimney Point to below Lotus Island, designed to give a maximum mean velocity in any cross-section of the channel which will be used for navigation not exceeding four feet per second at any time, also between Lotus Island and Iroquois Point and from above Point Three Points to below Ogden Island designed to give a maximum mean velocity in any cross-section not exceeding two and one-quarter feet per second with the flow and at the stage to be permitted on the first of January of any year, under regulation of outflow and levels of Lake Ontario in accordance with Method of Regulation No. 5, as prepared by the General Engineering Branch, Department of Transport, Canada, dated Ottawa, September, 1940. Downstream from the power houses channel enlargements will be carried out for the purpose of reducing the tail water level at the power houses.

Final locations and cross-section of these channel enlargements will be determined from further studies.

(b) *Control Facilities*—Adequate control facilities will be constructed for the regulation of the outflow from Lake Ontario.

(c) *Power House Structures*—The power house structures will be constructed in the north channel extending from the lower end of Barnhart Island to the Canadian shore, and so located that one structure will be on each side of the International Boundary. Each power house structure will include the main generating units to utilize economically the river flows available to it, with provision for ice handling and discharge sluices.

(d) *Dams and Associated Structures*—A control dam will be constructed extending from Iroquois Point on the Canadian side of the river in an easterly direction to the United States mainland above Point Rockway.

A dam will be constructed in the Long Sault Rapids at the head of Barnhart Island.

Dykes and associated works will be provided as may be necessary in both the Province of Ontario and the State of New York.

All the works in the pool below the control dam will be designed to provide for full Lake Ontario level.

- (e) *Highway Modifications*—In both the Province of Ontario and the State of New York provincial and state highways, and other roads, will be relocated in those portions subject to flooding, and reconstructed to standards at least equal to those now in existence.
 - (f) *Railway Modifications*—Such railway relocations as may be required as a result of the works herein described will be made in the Province of Ontario and the State of New York to standards at least equal to those now in existence.
 - (g) *Navigation Facilities*—Provision will be made for the continuance of 14-foot navigation throughout the International Rapids Section during the construction period.
 - (h) *Flooded Areas*—Lands and buildings in both the Province of Ontario and the State of New York will be acquired or rehabilitated as required. Inundated wooded areas will be cleared.
9. (a) The entity to be designated by Canada to construct the proposed facilities, shall submit to Canada for approval, prior to and during the progress of construction of the works, all detailed plans of the works, or of parts thereof, or such of these plans as Canada may require and such programs of construction as Canada may require, and before proceeding with the works shall obtain Canada's approval thereof in writing, and such entity, before making any change in the site or in the general or detailed plans which have been so approved or in the works constructed or under construction in pursuance thereof, shall submit to Canada for approval, all plans of such proposed changes, or such of these plans as Canada may require, and before proceeding with the changes shall obtain Canada's approval thereof in writing. (It is understood that Canada's approval, as provided for above, will not be unreasonably withheld or delayed.)
- (b) The applicant requests the approval of the International Joint Commission for the establishment by the two Governments of a Joint Board of Engineers, consisting of an equal number of representatives of Canada and the United States to be designated by the respective Governments, for the purpose of reviewing, supervising and co-ordinating the plans, specifications and construction of the works specified above.
10. The works shall be designed, constructed, operated and maintained according to the following conditions:
- (a) All main features of the project described herein shall be so planned, located, constructed and operated as to be adaptable to the improvement of the International Rapids Section of the St. Lawrence River for navigation purposes, to the aid and benefit of commerce and navigation, and to the preservation of the rights and interests of Canada and the United States in the waters of the International Rapids Section of the St. Lawrence River under the Boundary Waters Treaty of 1909. The works shall be operated and maintained in conformity with the requirements of the prior rights and

interests of navigation on the St. Lawrence River and in such a manner as to protect the rights and interests of others engaged in the development of power in the River below the International Rapids Section. The maintenance and operation of the works on the Canadian side of the International Boundary shall be subject to the supervision of Canada.

- (b) Upon the completion of the works and, if necessary, during the construction thereof, and subject to the provisions of paragraph (e) of this Section, the discharge from Lake Ontario and the flow through the International Rapids Section shall be regulated in accordance with Method of Regulation No. 5 as prepared by the General Engineering Branch, Department of Transport, Canada, dated Ottawa, September 1940, and shall be based on the Rule Curves forming part of that Method of Regulation. This Method of Regulation is designed to permit the lowering of the extreme high water levels and the raising of the extreme low water levels of Lake Ontario. Copies of these Rule Curves, with a description of the method of their application, are attached hereto as Exhibit 4.
- (c) Subject to the provisions of paragraph (e) of this Section, the flow through the International Rapids Section in any period shall equal the discharge from Lake Ontario as determined for that period in accordance with Method of Regulation No. 5 referred to in paragraph (b) of this Section and this flow shall be maintained uniformly throughout that period.
- (d) A "Board of Control" (referred to hereinafter as the Board) consisting of an equal number of representatives of Canada and of the United States shall be established by the International Joint Commission. The duties of the Board shall be to ensure compliance with the conditions in regard to the regulation of the discharge from Lake Ontario and the flow through the International Rapids Section as set forth hereinbefore, and to carry out such other duties as may be delegated to it by the International Joint Commission.
- (e) The Board may temporarily modify or change any or all of the restrictions as to flow and water levels as specified above in order to carry out experiments for the purpose of determining what permanent modifications or changes may be advisable, and after such experiments the International Joint Commission may recommend to the two Governments any modifications or changes considered advisable, and the two Governments, consistent with the provisions of paragraph (a) of this Section, may by exchange of notes make such modifications or changes permanent.
- (f) Upon completion of the works, and subject to paragraph (e) of this Section, the works shall be operated initially for a test period of ten years, or such shorter period as may be approved by the International Joint Commission, with the water level at the power houses held at a maximum elevation of 238.0, sea level datum, and in the event that the Board considers that operation with the water level at the power houses held to a maximum elevation exceeding 238.0 would be advisable, the International Joint Commission may authorize operation at a maximum elevation exceeding 238.0.

EXHIBIT 4

TO ACCOMPANY APPLICATION OF THE GOVERNMENT OF CANADA TO THE INTERNATIONAL JOINT COMMISSION FOR AN ORDER OF APPROVAL OF THE CONSTRUCTION OF CERTAIN WORKS FOR DEVELOPMENT OF POWER IN THE INTERNATIONAL RAPIDS SECTION OF THE ST. LAWRENCE RIVER

REGULATION OF LAKE ONTARIO—METHOD No. 5

1. For the first month or period during which Regulation is to be applied, the discharge to be permitted will be that determined from Plate No. 1, based on the water level of the Lake at the beginning of the month or period, modified by the application of a "Correction" that will be based on the supply to the Lake during the previous month or period and determined from Plate No. 2.

2. A "Correction", determined as outlined in paragraph 1, will be applied to the discharge for each month or period, as determined from Plate No. 1, subject, however, to the conditions set out in paragraph 4 hereinafter.

3. For the second and subsequent periods, the discharge to be permitted before modification by the "Correction" will be based on the water level of the Lake that would have prevailed at the end of the previous period had no "Correction" been applied, except for the month of January, when the actual water level at the end of December will be used.

4. The application of the "Correction" will be governed by the following rules:

- (i) No "Correction" to be applied during December to March inclusive.
- (ii) "Correction" for all other months to be based on mean supply during previous month.
- (iii) "Correction" to be applied in April to be based on mean supply during the previous period of November to March inclusive.
- (iv) No "Correction" to be applied in May if positive.

5. The supply to Lake Ontario during any period will be the algebraic sum of the discharge from the Lake and the storage on the Lake during the period.

A P P E N D I X B

OR LEGEND

STRUCTURES

EXISTING RIVER

ULTIMATE POOL

CUTS OR DREDGING

DYKES

GREAT LAKES - ST. LAWRENCE BASIN ST. LAWRENCE RIVER POWER PROJECT INTERNATIONAL RAPIDS SECTION GENERAL PLAN SHOWING MAJOR WORKS IN PROJECT

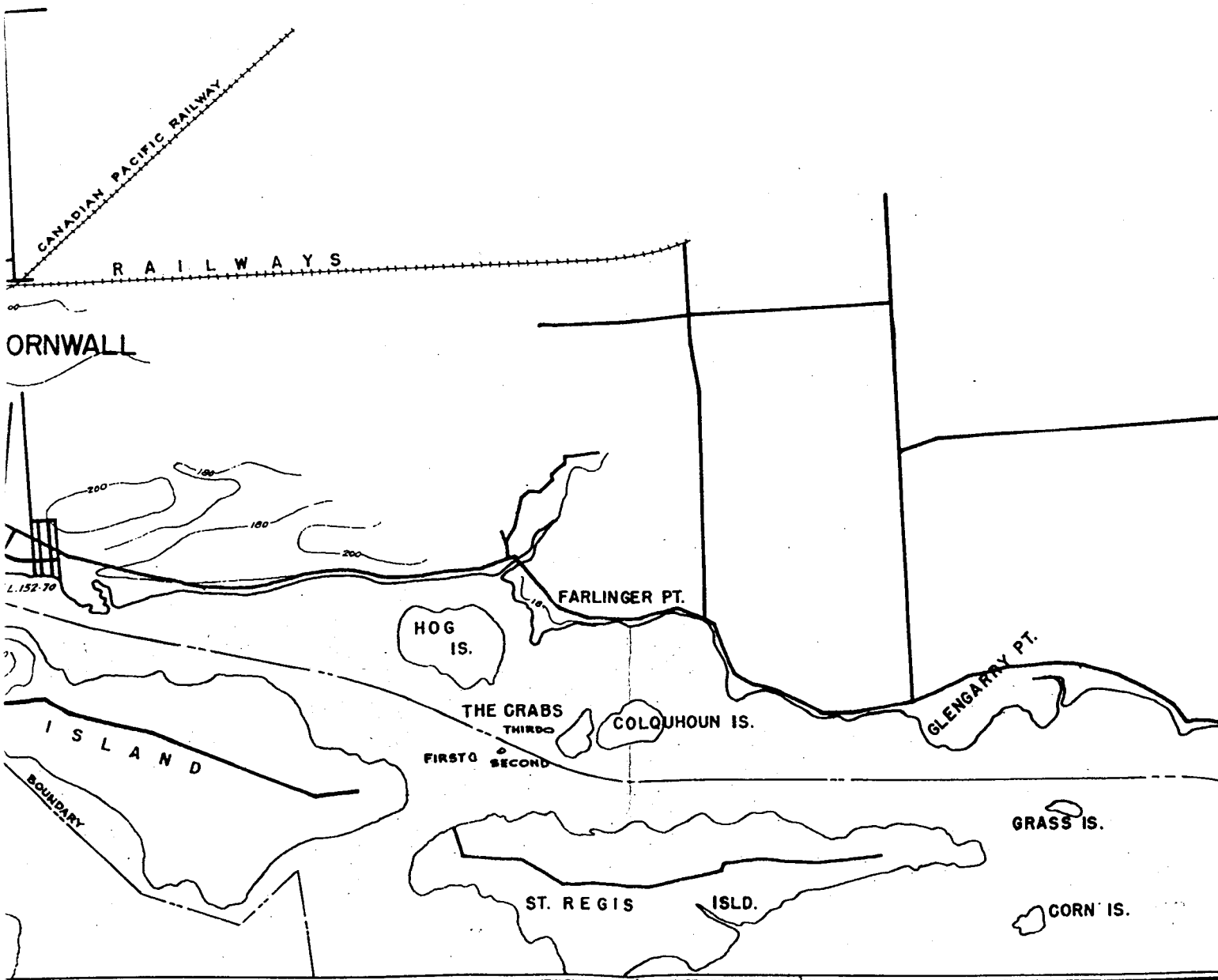
SCALE IN FEET



TO ACCOMPANY APPLICATIONS OF THE UNITED STATES OF AMERICA AND CANADA TO THE INTERNATIONAL JOINT COMMISSION FOR APPROVAL OF THE CONSTRUCTION OF CERTAIN WORKS JOINTLY BY ENTITIES TO BE DESIGNATED BY THE GOVERNMENTS OF THE UNITED STATES OF AMERICA AND CANADA RESPECTIVELY.

DATE MAY 12, 1952

EXHIBIT 2



A P P E N D I X C

APPENDIX C

1. The power development works under this Application are those specified in Section 8 of the Application.
2. Total costs of the works described in Section 8 shall be based on Canadian costs and United States costs and the total shall be equally divided between the two constructing entities.
3. The costs to be divided should be based on actually experienced and audited expenses.
4. In relation to the three principles above, the three following provisions apply:
 - (a) The amount to be paid to Canada, as specified in the Agreement of December 3, 1951, between Canada and Ontario, in lieu of the construction by the power-developing entities of facilities required for the continuance of 14-foot navigation, shall be excluded from the total cost of the power project to be divided between the Canadian and United States power-developing entities, in consideration of the fact that actual replacement of 14-foot navigational facilities will be

rendered unnecessary by reason of the concurrent construction of the deep waterway in Canada.

- (b) The Authority to be established pursuant to the provisions of the St. Lawrence Seaway Authority Act, Chapter 24 of the Statutes of Canada, 1951 (Second Session), shall contribute an agreed sum of money towards the cost of the channel enlargement which the power-developing entities must undertake in the St. Lawrence River, as set out in paragraph 4 of the Annex to the Canada-Ontario Agreement of December 3, 1951, and in section 8 of the Application to the International Joint Commission, in consideration of the benefits which will accrue to navigation from such channel enlargement.

- (c) All costs for construction, maintenance and operation of the project except machinery and equipment in the respective power houses

shall be borne equally by the two entities. All costs for construction, maintenance and operation of machinery and equipment in their respective power houses shall be paid by the respective entities and shall be deemed to satisfy the principle of an equal division between the two entities.