



EXTERNAL AFFAIRS
CANADA

Ottawa, September 14, 1938.

Sir, .

I have the honour to transmit to you copies of the application of the West Kootenay Power and Light Company Limited concerning the revival of this Company's amended application for approval of works in the Kootenay River and for the right to store water in Kootenay Lake.

This application is being transmitted to the International Joint Commission, in accordance with the provisions of Article 4 of the Boundary Waters Treaty of 1909, for appropriate action.

I have the honour to be,

Sir,

Your obedient servant,

Under-Secretary of State
for External Affairs.

The Secretary,
International Joint Commission,
Ottawa, Canada.

AMENDED APPLICATION
—OF—
WEST KOOTENAY POWER
AND LIGHT COMPANY
LIMITED

—TO—

THE INTERNATIONAL
JOINT COMMISSION

◆ ◆ ◆

FOR APPROVAL OF WORKS IN THE
KOOTENAY RIVER AND FOR THE
RIGHT TO STORE WATER IN
KOOTENAY LAKE.

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R. C. CROWE
Solicitor for Applicant

AMENDED APPLICATION OF WEST KOOTENAY POWER AND LIGHT COMPANY, LIMITED TO THE INTERNATIONAL JOINT COMMISSION FOR APPROVAL OF WORKS IN THE KOOTENAY RIVER AND FOR THE RIGHT TO STORE WATER IN KOOTENAY LAKE.

TO THE HONOURABLE THE INTERNATIONAL JOINT COMMISSION, Ottawa, Canada, and Washington, D. C.

THE UNDERSIGNED, as solicitor for the West Kootenay Power and Light Company Limited, (hereinafter called The Company) respectfully represents:

(1) That the Company is a corporation chartered by special act of the Province of British Columbia, Canada, being Chapter 63 of the Statutes of British Columbia, 1897, and amendments thereto, being found in Chapter 78 of the Statutes of British Columbia, 1911, and Chapter 76 of the Statutes of British Columbia, 1929, copies of which said act and said amending acts are set forth as Appendix 1 to the original application herein, the purpose of the Company as set forth in said act and amending acts being that of acquiring and holding water licenses, and the developing and selling of power therefrom and doing all things necessary or incidental thereto, including the building of dams and compensating works for the storage of water in rivers, streams or lakes within a radius of one hundred and fifty (150) miles from the City of Rossland in said Province.

(2) That the Company by said charter is authorized to purchase, acquire and hold land and real and personal property that may serve the purpose of its incorporation.

(3) That the Company is in a position financially to carry out the proposed works hereinafter referred to.

(4) That the Company is the owner of several water licenses granted by the Province of British Columbia in respect of water flowing in the Kootenay River at several natural power sites in that stretch of the river between the City of Nelson, British Columbia, and the mouth of the Kootenay River where it flows into the Columbia River, at which sites the Company has erected large power plants at a cost of several millions of dollars and which plants have an installed maximum capacity of about two hundred thousand (200,000) horsepower, which plants require ten thousand four hundred (10,400) cubic feet per second of water to enable them to produce continuously their installed horsepower.

(5) That the Kootenay River has its source in eastern British Columbia, near the fifty-first parallel. It flows in a southerly direction into Montana, U. S. A., thence westerly to Bonners Ferry, Idaho, U. S. A., thence northerly and crosses into British Columbia at Port Hill, Idaho, and discharges into Kootenay Lake near Kootenay Landing, B. C., approximately twenty-eight (28) miles from the International Boundary.

Kootenay Lake has a length of sixty-six (66) miles with an average width of two to three miles and an area of one hundred and seventy (170) square miles. The West Arm, which branches off from the main lake near Procter, B. C., has a length of twenty (20) miles and emerges into a continuation of Kootenay River, through narrows at Grohman Creek, about two (2) miles westerly from Nelson, B. C. The twenty (20) mile stretch of river between Grohman Creek and the confluence with the Columbia River has sufficient fall for other valuable power developments in addition to those above mentioned.

(6) That the flow in the Kootenay River varies from average high water of one hundred and seven thousand (107,000) cubic feet per second in summer months to four thousand eight hundred (4,800) cubic feet per second in the winter. During November, December, January, February and March of each year the water flowing is frequently only sufficient to operate the two larger plants of the Company at fifty per cent. capacity,

whereas during the high water period a very much larger amount of water than is required flows down the river.

Maximum peak flow since the year 1900 occurred in 1903 when the flow in the Kootenay River below Nelson was approximately one hundred and fifty-one thousand (151,000) cubic feet per second and the level of Kootenay Lake at Nelson stood at 21.6 feet above the Nelson gauge zero mark. The highest water on record occurred in 1894 when the level at the same point was 28.2 feet above zero and about two hundred thousand (200,000) cubic feet per second was flowing in the river below Nelson.

Usually the annual rise in the water levels commences about the end of March and it reaches its flood peak generally between May 25th and July 10th and on receding, about the end of August, reaches the level of four and one-half feet (4.5 feet) above the zero mark on the gauge at Nelson, B. C., which zero mark is the average low water level based on the average low water flow for several years.

(7) That at the time when the Company first commenced its power development on the Kootenay River aforesaid very large acreages of land between Bonners Ferry in the State of Idaho, U. S. A., and thence northerly to the International Boundary line at Port Hill, Idaho, were flooded by water from the Kootenay River during the months of each year constituting the high water period and as the river fell later in the season, acted as a reservoir for the said river, but in recent years very large portions of said acreages have been reclaimed by confining the Kootenay River to its normal low water channel between earthen dikes thus depriving the river of said reservoir with the result that in low water period the average flow of the river has been reduced and in high water period the average flow has been increased which in turn has resulted in depriving the Company of a considerable portion of the former average minimum flow of the river and therefore reducing the amount of power which the Company is able to develop in the low water periods.

(8) That the Company now has an application,

dated September 6th, 1929, before the International Joint Commission for the approval of the construction of a storage dam and compensating works and plans therefor in the Kootenay River at or near Granite, B. C., and a public hearing in connection therewith was held by the said Commission at Bonners Ferry, Idaho, on November 6th, 1929, which said hearing was adjourned without final action at the request of the representatives of certain interests in the State of Idaho, in order that further scientific studies could be made as to the effect that the proposed works would have on property in the State of Idaho, which said studies the Company realized would delay any final action on its said storage application for at least one year.

(9) The Consolidated Mining and Smelting Company of Canada Limited, the chief power customer of the Company, had undertaken to the International Joint Commission in certain proceedings then before the said Commission, to construct extensive sulphuric acid and fertilizer plants at Trail, B. C., to utilize the sulphur gases coming from its smelter, and by so doing to relieve the situation that had arisen in consequence of its said gases drifting over the International Boundary line and resulting in claims of damage being made by residents of the State of Washington, the said undertaking being to the effect that said plants would be in operation by August or September of the year 1931, and in the operation of which plants a very large amount of electric power would be required, which said power was not then available and could not be made available unless the power Company could increase its production of electric power either through the said storage of water on Kootenay Lake, or through the erection of another power plant to supply the additional power during the winter of 1931-1932 and thereafter.

(10) In consequence of the above mentioned facts the power Company commenced the construction of a power dam and power plant at Corra Linn, B. C., being on the Kootenay River about five (5) miles below the site of the storage dam proposed to be constructed at Granite, B. C., in the Company's original application to this Com-

mission, and completed said dam about the 10th of October, 1931. The power plant however is not yet completed but it is expected to be completed within the next two or three months.

(11) The said dam at Corra Linn, B. C., has been so constructed that it can be operated efficiently solely as a power dam without raising the level of the river at the International Boundary line. It can also be operated to provide the storage of water in Kootenay Lake requested in the Company's original application but by so doing the level of Kootenay River would be raised at the Boundary line and therefore the consent of the International Joint Commission is necessary to the operation of the dam as a storage dam under and pursuant to Article IV of the Treaty of January 11th, 1909, between the United States and Great Britain. In the building of the said dam no additional cost has been incurred to make it available as a storage dam than would have been incurred were it to be used purely as a power dam.

(12) The Company states that in addition to the completion of the said dam at Corra Linn, B. C., it has removed from the bed and banks of Kootenay River between the said dam and Granite, B. C., large quantities of rock and gravel in order to facilitate the free flow of Kootenay River between said points, but that this work will not result in the natural level of Kootenay River at the Boundary line being raised at any time or in any way, but will have the effect of lowering Kootenay Lake during the high water from one half foot when the flow from the lake equals one hundred thousand (100,000) cubic feet per second to 1.7 feet when the flow equals two hundred thousand (200,000) cubic feet per second.

(13) The Company states that the volume of water leaving Kootenay Lake is naturally limited by the cross sectional area of the Kootenay River channel at Grohman Narrows, B. C., a point about two miles above Granite, B. C., and about two miles below Nelson B. C., and therefore by enlarging the cross sectional area of said narrows a greater quantity of water would be allowed to pass at

all stages of the lake level, making possible a lowering of the level of Kootenay Lake and of Kootenay River at the International Boundary line during the high water stages.

(14) The Company proposes therefore, if the consent of the International Joint Commission is given to this application, to enlarge the cross-sectional area of Grohman Narrows by removing therefrom substantial amounts of rock, gravel and boulders which will permit of the discharge out of the lake of a larger quantity of water than under the present natural conditions, and will therefore tend to lower the high water at all stages above the storage line hereinafter mentioned.

(15) That the dam as constructed at Corra Linn will not increase the natural elevation of the waters in Kootenay Lake or Kootenay River at the International Boundary line at any stage above the storage line hereinafter mentioned, and then only when being operated to effect such storage under and pursuant to the consent now being sought from the International Joint Commission. The said dam is constructed with sluice gates which will discharge a much greater flow of water than has ever been recorded in Kootenay River, it being possible to discharge through said sluice gates more than two hundred and fifty thousand (250,000) cubic feet per second when the elevation of the water in the fore bay of the Corra Linn dam is at seventeen hundred and forty-five (1745.) Geodetic Survey of Canada Datum 1928 Adjustment.

(16) The Company states that the dam at Corra Linn has been built of reinforced concrete on solid rock and is provided with motor operated sluice gates supported between massive reinforced concrete piers.

(17) The Company desires, by the construction of the compensatory works already completed in the river and the compensatory work to be completed at Grohman Narrows as above mentioned and by the operation of the said dam at Corra Linn to provide storage of approximately six feet of water above elevation 1739.32 the present average low water mark in Kootenay Lake which

know the zero mark Geodetic Survey of Canada Datum 1928 Adjustment on the gauge at Nelson, B. C., which will assure the Company of having approximately ten thousand four hundred (10,400) cubic feet of water per second flowing through its power plants on Kootenay River at Corra Linn and below during the low water period.

(18) The Company proposes to effect said storage by partially closing the sluice gates in the said Corra Linn dam when the water of Kootenay Lake reaches a stage of approximately four ~~and a half~~ feet (4.5) above the said average low water mark at which level about twenty-three thousand seven hundred (23,700) cubic feet per second of water is flowing out of the river below Nelson and then allow the lake to slowly rise until it has reached the stage of six feet above said average low water mark, thus providing a storage in Kootenay Lake of approximately six hundred and seventy-eight thousand four hundred and fifty (678,450) acre feet.

The storage at no time would be increased above the said six (6) feet above the said average low water mark, but will be reduced throughout the months of November, December, January, February and March as required to maintain an outflow from Kootenay Lake throughout the said period of ten thousand four hundred (10,400) cubic feet per second and the said storage in any event will be all drained out to the said average low water mark at or about the end of March or when the waters of said river and lake commence to rise again as the result of the increase of water flowing into the said lake and river in the springtime, at which time the Company would open the sluice gates of Corra Linn dam to allow all water to pass through the dam that would then be naturally flowing out of Kootenay Lake, including the additional flow made possible by the compensatory works in the river above mentioned.

(19) That the effect of operating the said dam so as to create the said storage will be to maintain the level of Kootenay Lake and Kootenay River at the International Boundary line at a slightly higher stage during the low

water period than it would naturally be in some years when the level would have otherwise receded to the average low water mark or below it.

(20) The Company respectfully submits that the said works completed and proposed and the method of operation of the dam as proposed by the Company will not have any injurious effect on any interests in the United States or any State thereof. Furthermore, the said proposed works and the operation of the said dam in the above mentioned manner will make it possible to decrease the high water levels at the International Boundary line and beyond it, to the benefit of all interests in the United States and particularly to all interests in the State of Idaho, and is a benefit now being sought by said interests.

(21) That the following drawings and plans filed herewith shall be read with and form a part of this application:—

F-2 General Plan of site of Corra Linn dam and Power Plant.

F-125 Plan of Kootenay River from west arm of Kootenay Lake to Corra Linn.

F-230 Profile of Kootenay River and Kootenay Lake from Corra Linn to Bonners Ferry, Idaho.

F-231 General Arrangement Power House and Dam at Corra Linn.

(22) That Appendix 1 of the Original Application for storage rights in Kootenay Lake, dated 6th September 1929, and now filed with the International Joint Commission, continue to be a part of this application as though incorporated herein.

WHEREFORE the undersigned hereby applies to the International Joint Commission for the approval of

the said works and the plans thereof and of the construction
said works substantially in accordance with said plans
and for the right to store in Kootenay Lake and Kootenay
River in the manner above mentioned six (6) feet of
water above the elevation 1739.32 on the Nelson, British
Columbia, Gauge, Geodetic Survey of Canada Datum
1928 Adjustment, being the elevation that has been taken
as the average low water mark of Kootenay Lake at the
said City of Nelson.

Respectfully submitted,
R. C. CROWE,
Solicitor for West Kootenay
Power and Light Company Limited.

Dated at Trail, B. C.,
this 8th day of February, 1932.