

July 11th, 1946.

Mr. Otto Holden,
Chief Hydraulic Engineer,
The Hydro-Electric Power Commission of Ontario,
Toronto, Ont.

Dear Mr. Holden:

As suggested at last Tuesday's meeting, held in Montreal, on Lake Dozois project, attended by yourself, Messrs. L. E. Potvin, J. W. McCaunon, J. C. Chagnon, J. E. Gill, M. V. Sauer, C. G. Kingsmill, C. Miller and the undersigned, I am forwarding hereunder general data on this undertaking and, under separate cover, preliminary plans and graphs relevant thereto.

<u>Dozois storage dam site:</u>	Immediately upstream of Grand Lake Victoria, some 50 miles due south of Senneterre and about 350 miles from des Joachims.
<u>Watershed:</u>	3,000 square miles.
<u>Storage capacity:</u>	1,800 square mile feet, or 50,000,000,000 cubic feet, or 1,152,000 acre feet.
<u>Depth of storage:</u>	25 feet.
<u>Annual precipitation:</u>	36 inches.
<u>Run-off:</u>	18 inches.
<u>Run-off required to fill reservoir:</u>	7.2 inches.
<u>Land submerged:</u>	Approximately 50 square miles.
<u>Works:</u>	Concrete and earth dam. Concrete: 210 feet; earth: 400 feet. Two secondary earth dykes: one 300 feet, the other 1300 feet.
<u>Road construction:</u>	From main highway leading to site of dam - 5 miles.

Mr. Otto Holden -2-

Roadway diversion
or raising: Approximately 3 miles.

Bridges: Raising or reconstruction of
three bridges.

Minimum increase
in regulation: 2,000 c.f.s.

Preliminary estimate
of cost: \$2,000,000.00

Date of completion: Spring of 1948.

Other existing reservoirs susceptible of being
operated in conjunction with Dozois to assure,
in the general interest, regulation of Ottawa River:

Rapide VII - Quebec owned - 10 ft. drawdown:
17,000,000,000 c.f.;

Quinze Reservoir (situated in Quebec) - Federally
owned: 50,000,000,000 c.f.;

Temiscamingue Dam (situated in Quebec and Ontario) -
Federally owned: 42,000,000,000 c.f.;

Kipawa Storage and Power Dam - Quebec owned but leased
to Gatineau Power Company -
21,000,000,000 c.f.

Storages in Ontario (?)

Benefits accruing
from reservoirs: The benefits derived from
regulation would be assessed
basically as provided in the
Ottawa River Agreement.

Thanking you again for your courtesy in answering
so promptly our request to discuss this matter,

Yours very truly,

Raymond Latreille
Commissioner.

RL:VB

cc: MM. A. Dussault
J. C. Chagnon


Le 11 juillet 1946.

Monsieur Adjutor Dussault, c.r.,
Sous-Ministre des Ressources hydrauliques,
Hôtel du gouvernement,
Québec, Qué.

Monsieur le Sous-Ministre,

En lisant la lettre annexée à monsieur Otto Holden de la Commission hydroélectrique d'Ontario, vous constaterez que nous avons eu le plaisir de le rencontrer et de lui exposer, d'une manière préliminaire, les divers aspects de notre projet de réservoir au lac Dozois.

Votre tout dévoué,


Raymond Latreille
Commissaire.

RL:VB

cc: M. J.-C. Chagnon.

Le 12 juillet 1946.

Monsieur Adjudant Dussault, c.r.,
Sous-Ministre des Ressources hydrauliques,
Hôtel du gouvernement,
Québec, Qué.

Monsieur le Sous-Ministre,

Au retour d'une visite au lac Dozois du surintendant de la centrale Beauharnois, monsieur C.-G. Kingsmill, et après examen de la situation nous croyons en l'urgence:


- a) de compléter le chemin menant de la route Mont-Laurier - Senneterre au site du barrage;
- b) de placer les commandes pour l'acier de structure et d'armement qui entrera dans la section en béton du barrage;
- c) de construire une ligne de téléphone d'environ dix milles de longueur pour faciliter communication entre site du barrage et Montréal, Québec, etc.;
- d) d'acheter deux génératrices à moteur Diesel (environ 100 HP en tout) pour être utilisés durant la construction et après pour la manipulation des vannes, éclairage, etc.

Les plans et devis du chemin décrit en (a) seront terminés la semaine prochaine et vous seront transmis par monsieur Chagnon aux fins du contrat à accorder.

Pour ce qui est des items b), c) et d) si vous êtes comme nous d'opinion qu'ils ne devraient pas faire partie du contrat de construction du barrage, nous apprécierions d'être autorisés de s'enquérir des prix.

Cette lettre a reçu l'assentiment de la Commission des Eaux courantes et de l'Hydro-Québec.

Votre tout dévoué,


Raymond Latreille
Commissaire.

RL:VB

cc: MM. L.-E. Potvin
J.-C. Chagnon
M.-V. Sauer
C.-G. Kingsmill



DÉPARTEMENT DES RESSOURCES HYDRAULIQUES
PROVINCE DE QUÉBEC

CABINET DU SOUS-MINISTRE

Québec, le 16 juillet 1946.

Monsieur Raymond Latreille, Commissaire,
Commission Hydroélectrique de Québec,
107 rue Craig Ouest,
MONTREAL.

Cher monsieur,

J'ai bien reçu votre lettre du
12 courant, dans laquelle vous m'énumérez les choses
qu'il serait urgent de compléter relativement au pro-
jet du lac Dozois.

Je vais en causer avec le Minis-
tre demain et je communiquerai incessamment avec vous.

J'aurai d'ailleurs l'occasion de
vous voir d'ici quelques jours.

Veillez me croire,
Votre tout dévoué,

A. Dussault
Sous-ministre.

AD/IL.



DÉPARTEMENT DES RESSOURCES HYDRAULIQUES
PROVINCE DE QUÉBEC

CABINET DU SOUS-MINISTRE

Québec, le 17 juillet 1946.

Monsieur Raymond Latreille, Commissaire,
Commission Hydroélectrique de Québec,
107 rue Craig Ouest,
MONTREAL.

Cher monsieur,

Pour faire suite à ma lettre du 16 juillet, concernant les suggestions que vous avez faites relativement au lac Dozois, j'ai soumis votre lettre du 12 juillet à l'honorable Ministre des Ressources Hydrauliques et nous sommes d'opinion qu'il y aurait lieu pour vous de procéder dans le sens que vous indiquez quant à la route, à l'acier, à une ligne de téléphone, aux génératrices et à tout autre travail urgent.

Nous vous autorisons aussi à demander des prix et nous vous serions obligés de nous en prévenir quand vous discuterez des contrats.

Veuillez me croire,
Votre tout dévoué,

L. Dussault
Sous-ministre.

AD/IL.

Cc: Mr. M. V. Sauer
Mr. C. G. Kingsmill

C. G. Chagnon

July 30, 1946.

Messrs. M. V. Sauer
C. G. Kingsmill.

Dear Sirs:

By Order-in-Council No. 2786, adopted July 17, 1946, an amount of \$200,000 was placed at our disposal for preliminary work relating to Lake Dozois.

Yours truly,



Raymond Latreille
Commissioner.

RL:VB

Le 30 juillet 1946.

Monsieur J.-C. Chagnon,
Ingénieur en chef,
La Commission des Eaux courantes de Québec,
Nouveau Palais de Justice,
Montréal.

Cher monsieur Chagnon,

Pour confirmer ce que je vous avais appris
par téléphone, je vous inclus copie de l'arrêté ministériel
en vertu duquel une somme de \$200,000 a été placée à notre dis-
position pour les travaux préliminaires au lac Dozois.

Votre tout dévoué,



Raymond Latreille
Commissaire.

RL:VB

Le 30 juillet 1946.

Monsieur Adjutor Dussault,
Sous-Ministre des Ressources hydrauliques,
Hôtel du gouvernement,
Québec, Qué.

re: Comptes travaux du lac Dozois

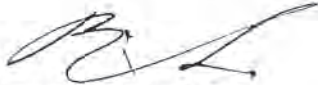
Cher monsieur Dussault,

Après avoir pris connaissance de votre lettre du 23 juillet et de celle que vous adressiez le même jour à l'ingénieur en chef de la Commission des Eaux courantes, je n'ai aucun doute que la méthode que vous suggérez pour le paiement des dépenses incidentes à l'exécution du projet du lac Dozois est conforme à la lettre et à l'esprit de la loi (Bill 49).

En discutant cette question avec monsieur Chagnon, antérieurement à la réception des deux lettres précitées, je lui avais concédé le point que pour les dépenses faites avant l'adoption dudit bill 49 Hydro-Québec n'aurait pas d'objections à ce que la Commission des Eaux courantes en recommande elle-même le paiement.

Dès que monsieur Chagnon nous aurait fait parvenir tous les comptes en suspens, je verrai à les faire approuver par l'Hydro-Québec et à vous les adresser pour paiement à même les \$200,000 votés à cette fin par l'arrêté en conseil No. 2786, du 17 juillet 1946.

Votre tout dévoué,


Raymond Latreille
Commissaire.

RL:VB



Québec, le 31 juillet 1946.

AD/IL.

Thomas H. Hogg, D. Eng. CHAIRMAN

Hon. G. H. Challies, Phm. B. M. L. A. COMMISSIONER

W. Ross Strike, COMMISSIONER

Osborne Mitchell, SECRETARY



of Ontario

Engineering Department

Public Address
"Hydro" Toronto
CODE - A B C 67 EDITION

620 University Avenue
Toronto 2

August 6, 1946

ADDRESS REPLY ATTENTION OF
O. Holden

Mr. Raymond Latreille,
Commissioner,
Quebec Hydro-Electric Commission,
107 Craig Street West,
MONTREAL, Quebec.

Re: Lake Dozois Storage Project

Dear Mr. Latreille:

It has occurred to me that no acknowledgment of your letter of July 11th, regarding the Dozois storage project, has been sent you. I regret this oversight, and am pleased to advise that since the plans of the project and the data in your letter have been received, we have given intensive study to the structural features of the dam and to the water supply and storage elements.

We hope to communicate with you regarding these matters within the very near future.

Yours very truly,

O. Holden
HYDRAULIC ENGINEER
Rm.

Copy sent Mr. J. C. Chagnon.



BEAUHARNOIS LIGHT, HEAT AND POWER COMPANY

INTERDEPARTMENTAL

Beauharnois, Que.,
August 8th. 1946.

Mr. M. V. Sauer,
General Superintendent,
Generating Stations,
MONTREAL, Que.

Dear Sir: Re: Combined Bridge and Cofferdam
 Lac Dozois Dam Construction

In compliance with your request, I am giving you a brief summary of a preliminary study I have made regarding the possibilities of using a combined cofferdam and bridge for Lac Dozois storage dam construction.

The construction road will lead in from the west side of the Mont Laurier - Val D'Or highway to the east side of the dam site. The concrete control structure of Lac Dozois is located on the west side of the River and will require a construction bridge for the transportation of materials and construction equipment. The following gives a brief description of this scheme, flow conditions, construction schedule and recommendations.

Description of Scheme

This scheme consists of making a combined bridge and cofferdam at the outlet of Lac Dozois as shown by attached sketch. This would be located approximately 1,000 feet upstream from the dam site. This combined cofferdam and bridge would be built during the winter of 1946/47 and after passing the spring flood of 1947 the dam would be closed off, thus drying up the stream bed for the dam construction. During this period the run-off to Lac Dozois would be stored and it would be necessary to raise the water approximately 15 feet to elevation 819 which would store twenty billion cubic feet. It is pointed out that clearing to this elevation of 819 should be completed during the winter of 1946/47. 1119

Flow Conditions

The attached hydrograph shows flow conditions at Rapid 7 where the drainage area is 5,100 square miles. The drainage area at Lac Dozois is estimated to be 3,000 square miles and we could expect the run-off to be roughly 60% shown on this curve, except that it may have higher peaks. It will be noted that the spring flood starts on the average around April 15th, although in 1945 it started on March 25th.



BEAUHARNOIS LIGHT, HEAT AND POWER COMPANY

INTERDEPARTMENTAL

Mr. M. V. Sauer,
General Superintendent
Generating Stations

August 8th. 1946.

Re: Combined Bridge and Cofferdam Lac Dozois Dam Construction

Flow Conditions (cont'd.)

The peak spring flood run-off occurs between May 10th and June 10th and the flood recedes down to summer flow around July 1st. A fall flood occurs in some years in October and November.

In order to take full advantage of the above scheme, it would be necessary to build this combined bridge and cofferdam during the winter of 1946/47 while the flow is low. The gates would then be open during April, May and June to allow the spring flood to pass, after which they would be closed to allow the main river channel construction of Lac Dozois to proceed.

For the purpose of this study, the maximum discharge capacity of this combined cofferdam and bridge was figured at 24,000 c.f.s. or 8 c.f.s. per square mile. This requires 6 deep gates, 12 feet wide, fitted with stop logs, and 25 bush type gates.

Cofferdam Construction

Referring to the drawings of Lac Dozois, there is rock near the surface on the west side. These piers would be constructed either of concrete or rock filled crib with concrete sill. After constructing this, the bottom of the bush type gate sections would be constructed and sealed off with gravel. It would be necessary to design the bridge heavy enough to carry a 30-ton dragline.

Cost

The preliminary estimated cost of this structure is as follows:

1. Crib work - 9250 yds. at \$15.	\$139,000.
2. Carpenter work on bush gates	6,000.
3. Stop logs	5,000.
4. Bridge - 400 lin. ft. at \$20.	8,000.
5. Concrete - 100 yds. at \$20.	2,000.
Sub Total	\$160,000.
Miscellaneous	15,000.
Total	\$175,000.



BEAUHARNOIS LIGHT, HEAT AND POWER COMPANY

INTERDEPARTMENTAL

Mr. M. V. Sauer,
General Superintendent
Generating Stations,

August 8th. 1946.

Re: Combined Bridge and Cofferdam Lac Dozois Dam Construction
Cost (cont'd.)

This compares with the price of \$176,000. for the cofferdams of Scheme 3. Hence, it would appear that there would be some economy in this scheme of a combined bridge and cofferdam and it would appear to be the price of the construction bridge.

Dam Construction Schedule

The dam construction schedule would proceed as per Scheme 1; that is, build the concrete foundations on the west side out of the damsite for the spillway section. This, including the west abutment, would be completed by July 1st. After this date the gates of the combined cofferdam and bridge would be closed and the east abutment concrete, sluice foundations and east abutment fill completed. It is estimated that the amount of time while twenty billion cubic feet of run-off is stored is as follows:

A. Average year	2.8 months
B. Wet year	1.4 "
C. Dry year	4 "

With a wet year it may be necessary to open the dam for a period of two weeks and reclose again after the first month of closing. However, it is believed except with an unusually wet year, that all the concrete foundations and the bottom part of the dam could be completed in 1.4 months. In the case of an unusually dry year, the power houses below Rapid 7 may require additional water which would necessitate opening the dam some time in August. However, it is believed that by this time the dam foundations would be poured. If the run-off is normal, no trouble at all would be anticipated.

Preliminary Conclusions and Recommendations

The above scheme has the following advantages:

1. In a normal year, an economy of the price of a construction bridge
2. With shutting off the total flow and unwatering the River bed it eliminates all cofferdams near the dam site and allows concrete foundations to be poured in good weather conditions.



BEAUHARNOIS LIGHT, HEAT AND POWER COMPANY

INTERDEPARTMENTAL

(4)

Mr. M. V. Sauer,
General Superintendent
Generating Stations

August 8th. 1946.

Re Combined Bridge and Cofferdam Lac Dozois Dam Construction

Advantages (cont'd.)

3. This scheme will make available approximately twenty billion cubic feet of storage for the 1947/48 storage drawdown year on the Ottawa River. This will increase the regulated flow approximately 1,600 c.f.s. which will increase primary power during 1947/48.

The disadvantages of the above scheme are as follows:-

1. In the event of an unusually wet year, there would be lost time at the dam construction due to intermittent flow while the river bottom foundations of the dam are being built.
2. In the event of an unusually dry year, the power houses below Rapid 7 may require intermittent flow which in turn would interrupt the construction progress at the dam site.
3. All clearing up to elevation 619 (76 square miles) must be completed by June 1947.

The above study should be considered as a preliminary but shows that there are good possibilities in this proposed combined bridge and cofferdam scheme. It is recommended that further studies be made of all hydraulic records available to see what would happen in a dry year and wet years. Also, studies should be made to see if the pool downstream from the dam site would unwater. At present, the Quebec Streams Commission survey party are obtaining field data to study this point.

Yours very truly,

Charles Miller

Assistant General Superintendent

CM/L

cc: Mr. C. G. Kingsmill

Beauharnois, Que.,
August 12th 1946.

MEMORANDUM

LAC DOZOIS STORAGE DAM

A conference was held in Mr. Latreille's office on Aug. 8th to review the progress of the plans and design of Lac Dozois storage dam. The following were present:

Mr. Chagnon		Chief Engineer, Que. Streams Commission
Mr. Latreille)	
Mr. Sauer)	Quebec Hydro-Electric Commission
Mr. DeGuise)	
Mr. Miller)	

The following items were discussed:

Construction Road Mont Laurier-Senneterre Highway to Dam Site

Mr. Chagnon brought prints of a plan and profile of this proposed section of the road which is approximately four miles long. There is one hill where considerable rock would be encountered and the present plans may be to detour in order to miss the rock. Mr. Sauer examined the grades and stated that 6% was not too steep. Mr. Chagnon is going to have some additional field data added to the profile which will show rock and earth.

It was suggested that a call for bids be made on the unit price basis as soon as possible. It would therefore be possible to make changes in the profile and alignment of the road at a later date if necessary.

Stop Logs Gate Section vs. Gantry Crane Operated Steel Gates

Mr. Sauer showed a study drawing showing 18 foot stop log section gates. This required a 40 ft. extra length in the concrete section of the dam, but Mr. Sauer stated that he was making a further study of increasing the discharge capacity of the deep sluices and making one less gate. He stated that stop log gates would result in a less overall cost of the dam and at the same time give greater flexibility of flow control.

RE LAC DOZOIS STORAGE DAM (cont'd.)Stop Logs Gate Section vs Gantry Crane Operated Steel Gates (cont'd).

He further pointed out that in the case of a breakdown of the gantry crane, it would be impossible to move a large steel gate, whereas stop logs can be readily manipulated and blown off by dynamite if necessary.

On the other hand, Mr. Chagnon was in favour of steel gates rather than stop logs as they can be operated faster. He stated that Quebec Streams Commission had several dams with steel gates which operated satisfactorily. Any objections for ice conditions in the winter could be eliminated by putting the lifting trolley on towers, but this would be more expensive.

No definite decision was made on the type of gates and Mr. Sauer is having additional studies made on stop logs. Mr. Sauer further stated that Dominion Bridge are asking a very high price for the gates, being \$480.00 a ton as compared to \$215.00 a ton in 1943 for the Ile Juillet gates and \$90.00 a ton for the Coteau gates in 1935. He is also obtaining a competitive price from Vickers.

Cofferdam Studies

Mr. Latreille inquired about the combined bridge and cofferdam studies. Mr. Sauer stated that a preliminary study had been made with flooding up to 1119 which would allow two months unwatering. One objection to this scheme is that there is a saw mill at elevation 1114 and also some of Dorval's camps are between elevations 1115 and 1120. There is also a section of the road which is as low as 1115 approximately 1200 feet long with the lowest point at 1115.

Mr. Miller was requested to make additional studies using 1113 as the high water mark which is now the natural high water mark of the Lake. The storage would be reduced considerably and would shorten the period of unwatering.

Later on, Mr. DeGuise brought up the point about the length of time required to give notice to have the saw mill and other camps moved from the flooded area. He suggested that since they had to be moved in any case, that they could just as well be moved before the spring flood of 1947.

Beauharnois, Que.,
August 12th, 1946.

(3)

RE: LAC DOZOIS STORAGE DAM (cont'd.)

Earth Dam Material

Mr. Latreille passed out reports of analysis of earth samples by Les Laboratoires Industriels & Commerciaux Limitee, which he had just received. Samples 5 and 6 have good possibilities. Mr. Chagnon is going to find out how much of this material is available. He also stated that the chief of the survey party, Mr. Cousineau, will be in Montreal on August 12th.

Mr. Chagnon also stated that Mr. Gill had made a survey of gravel pits along the road and an analysis of this was to be sent down for testing.

Earth Foundation Samples of East and West Abutments

Mr. Chagnon stated that as yet time had not permitted the taking of undisturbed samples on the east and west earth foundations in order to study the percolation characteristics. He also stated that he had arranged to get a pump in order to carry out some field tests on test pits suggested by Mr. Sauer.

High Water Limit of Lac Dozois Reservoir

The proposed high water elevation of Lac Dozois dam is 1130 at which point the storage capacity is fifty billion cubic feet. It was pointed out that if the reservoir were raised to elevation 1135, the storage capacity would be sixty-six billion cubic feet or an increase of 33%.

Since it only required 7" of annual run-off to fill the reservoir at 1130 and 9.5 inches of run-off to elevation 1135, (less that 50% of average yearly run-off), there would be plenty of run-off to fill the reservoir up to 1135 almost every year. Mr. Chagnon thought that it would be possible to flood to elevation 1135 although two or three spots would require further investigation; also some changes in the road raising profile would be required.

Mr. Latreille suggested that provision for additions of flash boards might be made in order to raise the high water level another five feet to elevation 1135. This would involve making the concrete section of the dam at elevation 1138 instead of 1135 and possibly raising the earth dykes from 1140 to 1142.

Beauharnois, Que.
August 12th 1946.

(4)

LAC DOZOIS STORAGE DAM (Cont'd.)

High Water Limit of Lac Dozois Reservoir (cont'd.)

There appears to be economy in this scheme of reducing the unit price of storage; for example, assume that the present project for fifty billion cubic feet cost \$2,000,000., the cost of storage would be as follows:

Elevation 1130 - 50 billion cu. ft. cost \$2,000,000
Hence 1 billion cu. ft. cost $\frac{2,000,000}{50}$
= \$40,000.

Elevation 1135 - storage capacity 66 billion
Cost = $66 \times 40,000 = \$2,640,000.$

Hence at the same unit price per billion cubic feet of storage as above, we could afford to pay \$2,640,000 or an increase of \$640,000.

It is believed the increase in cost of the storage dam to raise the level from 1130 to 1135 could be built for less than \$100,000. which would considerably reduce the unit price of storage. This additional storage will be required in the future as the increase in regulated flow will be 5,400 c.f.s. instead of 4,000 c.f.s. for a reservoir at elevation 1130.

Accordingly, the possibility of raising the reservoir level from 1130 to 1135 either now or at a future date should be given very careful study. If it is feasible and economical all provisions in the present dam site and highway raising should be made accordingly.

(Sgd) Charles Miller

CM/L

cc: Messrs. Dussault
Chagnon
Latreille
Sauer
Kingsmill
DeGuise

Le 13 août 1946.

Monsieur Adjutor Dussault, c.r.,
Sous-Ministre des Ressources hydrauliques,
Hôtel du gouvernement,
Québec, Qué.

Lac Dozois

Monsieur le Sous-Ministre,

Pour compléter votre dossier, je vous inclus le
compte-rendu d'une conférence au sujet du projet de barrage
au lac Dozois, tenue aux bureaux de la Commission hydroélec-
trique de Québec, vendredi, le 9 août.

Votre tout dévoué,



Raymond Latreille
Commissaire.

RL:VB



DÉPARTEMENT DES RESSOURCES HYDRAULIQUES
PROVINCE DE QUÉBEC

CABINET DU SOUS-MINISTRE

Québec, le 19 août 1946.

Monsieur R. Latreille, Commissaire,
Commission Hydroélectrique de Québec,
107 rue Craig Ouest,
MONTREAL.

Cher monsieur Latreille, Re: Lac Dozois.

J'ai bien reçu votre lettre du 13 courant, avec laquelle j'ai trouvé le compte-rendu d'une conférence relativement au projet de barrage au lac Dozois, tenue à vos bureaux le 9 août courant.

Je vous en remercie et
vous prie de me croire,

Votre tout dévoué,
A. Dussault
Sous-ministre.-

AD/IL.



DÉPARTEMENT DES RESSOURCES HYDRAULIQUES
PROVINCE DE QUÉBEC

CABINET DU SOUS-MINISTRE

Québec, le 22 août 1946.

Monsieur R. Latreille, Commissaire,
Commission Hydroélectrique de Québec,
107 rue Craig Ouest,
MONTREAL.

Cher monsieur Latreille,

J'ai bien reçu votre lettre du 21 courant et je vous remercie des explications que vous me fournissez.

Veuillez me croire,
Votre tout dévoué,

A. Dussault
Sous-ministre.-

AD/II.

August 23, 1946.

Mr. J. B. Woodyatt, President,
Northern Quebec Power Company,
355 St. James Street West,
Montreal.

Dear Sir:

For some time past, your Company has been aware of the Government's intention to build a storage dam on the upper watershed of the Ottawa for the purpose of furthering the regulation of that river.

After extensive studies conducted by the Quebec Streams Commission to that end, the Legislature, by virtue of an Act sanctioned at the last Session, has authorized Hydro-Quebec to execute all the works required to establish and operate a reservoir at Lake Dozois, in the County of Pontiac.

Acting in close cooperation with the Quebec Streams Commission, preliminary plans of the proposed dam and auxiliary works have now been drawn. As your Company will be one of the beneficiaries, we are sending you copies of said plans, thus giving you an opportunity to peruse them.

A meeting of your engineers and ours could be arranged, at your convenience, in which further details could be discussed.

Yours very truly,

(sgd) L. E. Potvin

President.

RL:VB

cc: Messrs. Adjutor Dussault,
J. G. Chagnon
M. V. Sauer
C. G. Kingsmill

NORTHERN QUEBEC POWER COMPANY LIMITED

355 ST. JAMES ST. WEST

MONTREAL

August 30, 1946.

Mr. L. E. Potvin,
President,
Quebec Hydro-Electric Commission,
107 Craig St. West,
Montreal.

Dear Mr. Potvin,

Thanks for your letter of Aug. 23rd with copies of
your plans for the Lake Dozois storage. We will be
pleased to go over them with your engineers, as you
suggest, just as soon as we have had a chance to study
them a bit.

Yours very truly,

Garth Woodgall
for the President.

JBW-c.
NQP

(C o p i e)

LA COMMISSION DES EAUX COURANTES DE QUEBEC

Nouveau Palais de Justice

Montréal

le 6 septembre 1946.

Monsieur Raymond Latreille, Commissaire,
Commission Hydroélectrique de Québec,
107 ouest, rue Craig,
Montréal.

Monsieur,

LAC DOZOIS

Je vous envoie sous ce pli les documents suivants:

- 1) trois copies d'un tableau en date du 28 août 1946
indiquant la nature du sol suivant le tracé du
chemin reliant la route Mont-Laurier - Senneterre
à la sortie du lac Dozois -
- 2) copie d'une lettre de notre ingénieur, M. J.Emile Cousineau,
en date du 4 septembre 1946, re: échantillons de gravier
Nos. 9-1, 9-2, 9-3, 9-4. -
- 3) copie d'une lettre du soussigné à M. J.-Emile Cousineau,
en date du 6 septembre 1946, re: drainage de la savane
située entre les stations R-10 et R-11 du profil du chemin -

Votre tout dévoué,

(signé) J. C. Chagnon

JCC/ML

J.C.Chagnon
Ingénieur en chef.

Le 9 septembre 1946.

Monsieur Adjutor Dussault, c.r.,
Sous-Ministre des Ressources hydrauliques,
Hôtel du gouvernement,
Québec, Qué.

Monsieur le Sous-Ministre,

Je vous inclus un mémoire en date du
5 septembre, relatant les vues exprimées par les membres
de la Commission, nos ingénieurs et ceux de la Commission
des Eaux courantes, sur certains aspects du projet du lac
Dozois, lors d'une conférence tenue le 5 septembre.

Votre tout dévoué,

Raymond Latreille
Commissaire.

RL:VB

16 septembre 1946.

Monsieur J. E. Cousineau, i.c.
a/s La Commission des Eaux Courantes,
Val d'Or, Cté Abitibi, P. Q.

Cher Monsieur,

Comme suite à votre lettre du 13 septembre, je
vous inclus copie des essais physiques des échantillons
Nos. 9-1 à 9-4 et 15-1 à 15-3.

Votre tout dévoué,

RL/jd

Raymond Latreille,
Directeur.



DÉPARTEMENT DES RESSOURCES HYDRAULIQUES
PROVINCE DE QUÉBEC

CABINET DU SOUS-MINISTRE

Québec, le 17 septembre 1946.

Monsieur R. Latreille, Commissaire,
Commission Hydroélectrique de Québec,
107 rue Craig Ouest,
MONTREAL.

Cher monsieur Latreille,

Vous trouverez sous pli
un chèque au montant de \$50,000.00 re: travaux au
Lac Dozois, le tout se rapportant à l'arrêté minis-
tériel No: 2786.

Veillez me croire,
Votre tout dévoué,

H. Dussault
Sous-ministre.-

AD/IL.
Incl.

18 septembre 1946.

Monsieur Adjutor Dussault,
Sous-ministre,
Département des Ressources Hydrauliques,
Hôtel du Gouvernement,
Québec, P. Q.

Cher Monsieur Dussault,

J'accuse réception avec remerciements d'un chèque
au montant de \$ 50,000. couvrant certaines dépenses pré-
liminaires aux travaux du lac Dozois et d'une ligne de
transmission Cadillac-Normetal.

Votre tout dévoué,

RL/jd


Raymond Latreille,
Commissaire.

Montreal, September 21st, 1946

**MINUTES OF A MEETING HELD ON SEPTEMBER 23rd 1946, re:
PROPOSED STORAGE DAM AT LAKE DOZOIS.**

Attended the meeting:

Mr. L. E. Potvin,	Chairman
Mr. J. W. McCammon,	Commissioner and General Manager
Mr. R. Latreille,	Commissioner
Mr. M. V. Sauer	Gen. Supt. Generating Stations
Mr. C. G. Kingmill,	Gen. Supt. Beauharnois Plant
Mr. J. G. Chagnon,	Ch/Eng. Quebec Streams Commission
Mr. C. Miller	Beauharnois
Mr. Yvon de Guise	

Messrs A. Dussault, Deputy-Minister, of Lands & Forests, and Mr. J. Emile Gill of the Quebec Streams Commission, were also present at the morning session of this meeting.

CONSTRUCTION OF BRIDGES ALONG MAIN HIGHWAY

Mr. P. A. Dupuis, engineer of the Public Works Department, in Quebec, being in Montreal on his return from a trip to Lake Dozois, was invited to discuss the problem of rebuilding the bridges affected by the raising of the water level along the Mont-Laurier - Senneterre highway.

The President mentioned to Mr. Dupuis that the Minister of the Public Works Department had apparently misunderstood the proposal made by the Quebec Hydro regarding the allocation of cost for the bridges to be rebuilt.

Mr. Potvin explained that the Commission was willing to pay for the present value of the actual bridges if they had originally been built to the elevation required by ^{navigation} plus the additional cost of raising them by the height of the storage at each bridge. He thought, however, that the extra amount of money needed for the erection of permanent bridges, with concrete piers and a steel or reinforced concrete superstructure, should be borne by the Department of Public Works, in Quebec.

Mr. P. A. Dupuis was to inform the President of the cost of the present bridges and would explain to his Minister the proposal made by Hydro-Quebec for the allocation of cost of bridges.

Mr. Dupuis believed that the piers of the main bridges could be poured this winter if the work progressed without any delay. He was informed that it was intended to complete the dam by the fall of 1947 and if the spring water of 1948 were to be stored, it was most urgent to proceed immediately with the design and construction of the bridges.

Mr. Dupuis anticipated that no unsurmountable difficulty would arise in obtaining structural steel as these heavy sections were said to be imported from stock in United States mills.

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ESTIMATE OF COST OF LAKE DOZOIS DAM.

Mr. Sauer then produced estimates of the cost of Lake Dozois storage dam, for both reservoir elevation 1130 and 1135. The cost of the dam itself was said to be determined with the usual average approximation, but there was much uncertainty as to the cost of raising the highway, rebuilding bridges, etc. as several other possible alternatives were yet to be studied after field topography would be complete^d.

The various items covered were discussed individually. The classes of work to be done by the general contractor were segregated and material or equipment to be supplied by the Commission was also listed.

Much discussion took place around the item "Clearing for Towing Lanes". Mr. Sauer pointed out that no real estimate of the cost of this work had been attempted, but the figures given had simply been deducted from the cost of similar work for Rapid VII Development and a comparison of the reservoir areas involved.

Mr. McCammon recalled that at a previous meeting with timber limits licensees, it had been stated that logging operations around the reservoir area would not normally take place until several years from now and that possibly natural conditions need not be changed for a long time. Mr. Miller gave to the meeting the results of studies he had made on the subject, in connection with Lake Manouan dam. It had been found on Lake Pamoussachion, where a storage dam is being operated by Price Bros. Co. that after some ten or fifteen years of fluctuation of the water level, the ice had flattened down the trees that had been left standing and no clearing would be required now.

OPPORTUNITY OF MAINTAINING RESERVOIR LEVEL AT 1130 or 1135

From Mr. Sauer's figures, it appeared that an increase of 5 feet in reservoir level would entail an additional expense of roughly half a million dollars, over the probable cost for the lower elevation.

In other words, the unit cost for the additional storage between elevations 1130 and 1135 is slightly lower than that for the original development with reservoir at 1130.

The meeting was unanimous in concluding that it was economical to provide now for this additional storage capacity, if it is taken into consideration that it may delay somewhat the construction of Lake Victoria storage dam which was estimated by the Quebec Streams Commission to cost around Five Million Dollars, under present-day prices and that moreover, it may bring about a substantial decrease in the capacity and cost involved for this last reservoir.

ORDERING OF TIMBER FOR CONSTRUCTION BRIDGE AND FIRST STAGE OF COFFERDAM

Mr. Latreille brought the attention of the meeting to the fact that the tentative construction schedule setting forth the date of January 8th, 1947 for the beginning of construction, it was imperative to place the order in a very near future for the timber of the temporary bridge at the dam site and the first stage of cofferdam work.

Yellow

Mr. Potvin inquired from Mr. Sauer as to the probable date at which it was expected that we could ask for bids for the construction of the dam. Mr. Sauer mentioned October 15th 1946 as giving the minimum period of time required. Allowing several weeks for the return of the contractors' proposals, it became evident that this would not leave enough time to the general contractor to place the order for timber and get the cribs in position before freeze-up in November.

So, it was concluded that the Commission would try to locate a contractor able to supply at a reasonable price and within the period of time that can be allowed, if not all the timber required for the temporary bridge and the first stage of cofferdam, at least that for the piers of the temporary bridge.

MISCELLANEOUS ORDERS

Mr. Kingsmill agreed to prepare a bill of material for the hardware required in connection with the temporary bridge and the first stage of cofferdam. He is also to prepare a list of the various sizes of timber to be used.

that followed

From the following discussion, it was also agreed to place immediately an order for 20000 bags of cement to be delivered for February and 70000 bags later on as the work progresses.

The purchase was also approved of Diesel engines for the operation of the deep gates. The advantages were stressed of having them early so that they could be of use during construction.

The guides required in the openings for gates were also to be ordered in a near future as the present steel strike may delay delivery. Mr. Sauer also mentioned the possibility of turning in old rails to a local steel mill and asking them to make up the equivalent amount of reinforcing steel required.

J. De Guise