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Dates: 04/13/1949 – 04/01/1951

Fonds: Records of the Europe and Central Asia Regional Vice Presidency

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Washington, D.C.

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CORRESPONDENCE



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JAN 16 2018

WBG ARCHIVES
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SLC/0/317

STAFF LOAN COMMITTEE

ACTING LOAN DIRECTOR'S MEMORANDUM

Iceland - Electric Power Development

1. I attach a paper prepared by the Working Party on the request of the Icelandic Government for a loan of the equivalent of about \$2.1 million in European currencies for hydroelectric power development.
2. I recommend that as soon as formal confirmation of French approval to the use of 18% currency is received, the Bank inform the Icelandic Government that the Bank is ready to start negotiations on the hydroelectric projects.

R. A. Wheeler
Acting Loan Director

April 16, 1951

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

STAFF LOAN COMMITTEE

Mr. Sommers
Copy No. 4
SLC/A/236
CONFIDENTIAL

Date: *Mr. F. ...*
Harold Folk
April 17, 1951 *file*

TO: Mr. Sommers

A meeting of the Staff Loan Committee will be held at 11:00 a.m.
on Wednesday, April 18, 1951, in Room No. 1005

*Planned
attached*

Michael L. Lejeune
Harold Folk

Secretary, Staff Loan Committee

AGENDA

Iceland

1. The Committee will consider the attached Acting Loan Director's Memorandum on Iceland - Electric Power Development, SLC/O/317, and the Economic Department's Report, No. E-148, on The Economic Position of Iceland.
2. Attached for the information of the Staff Loan Committee is "Summary Report of the Technical Assistance Mission to Iceland," No. E-149, prepared by Mr. E. Harrison Clark. In his report Mr. Clark:
 - (a) summarizes his conclusions and recommendations to the Government of Iceland and
 - (b) makes recommendations regarding future Bank policy towards Iceland.

Distribution

- | | |
|--------------------------|------------------------|
| 1. Mr. Eugene Black | 9. Mr. A.S.G. Hoar |
| 2. Mr. R. L. Garner | 10. Mr. O. A. Schmidt |
| 3. Mr. W.A.B. Iliff | 11. Gen. R. A. Wheeler |
| 4. Mr. D. Sommers | 12. Mr. E. G. Burland |
| 5. Mr. D. Crena de Iongh | 13. Mr. H. Folk |
| 6. Mr. L. B. Rist | 14. Files |
| 7. Mr. L. B. Rist | 15. Mr. H.N. Graves |
| 8. Mr. R. H. Demuth | 16. Mr. S.R. Cope |
| | 17. Mr. N. Paterson |
| | 18. Mr. M.M. Rosen |
| | 19. Mr. W. Hill |

- (ii) That the Working Party should study part B of Mr. Clark's Report No. E-149 and make recommendations regarding future Bank lending to Iceland.

4. The meeting adjourned at 12:00.

Distribution

- | | |
|------------------------------|------------------------|
| 1. Mr. Eugene Black | 10. Mr. S. W. Anderson |
| 2. Mr. R. L. Garner | 11. Gen. R. A. Wheeler |
| 3. Mr. W.A.B. Iliff | 12. Mr. E. G. Burland |
| 4. Mr. D. Sommers (2) | 13. Mr. M. L. Lejeune |
| 5. Mr. D. Crena de Iongh (2) | 14. Files |
| 6. Mr. L. B. Rist | 15. Mr. H. N. Graves |
| 7. Mr. L. B. Rist | 16. Mr. S. R. Cope |
| 8. Mr. R. H. Demuth | 17. Mr. N. Paterson |
| 9. Mr. A.S.G. Hoar | 18. Mr. M. M. Rosen |
| | 19. Mr. W. Hill |

ICELAND

ELECTRIC POWER DEVELOPMENT

Introduction

1. On September 1, 1950, the Icelandic Government asked the Bank for a loan of the equivalent of \$2.1 million in European currencies to cover the purchase of European equipment for two hydroelectric power plants (Sog and Laxa), transmission lines, substations and distribution systems. The total cost of the power plants and related equipment is estimated to be equivalent to \$12.4 million. (\$9.7 million for Sog and \$2.7 million for Laxa).

2. The Icelandic Government also indicated its intention to approach the Bank with respect to:

- (a) a fertilizer factory involving foreign exchange expenditures equivalent to about \$3.8 million, of which \$2.6 million would be in U. S. dollars provided by ECA and up to \$1.2 million in European currencies;
- (b) a cement plant involving foreign exchange expenditures of \$2 million, most of which would be in European currencies;
- (c) an agricultural development program.

These projects are not covered by the present memorandum.

Note: All amounts in this paper are expressed in U.S. dollar equivalents at current rates of exchange. The present rate for the Icelandic kronur (Kr.) is:

Kr. 16.32 = \$1.00
Kr. .1 = 6.1 U.S. cents

3. The following table shows how it is proposed to obtain the necessary funds for the hydroelectric projects:

<u>Lender</u>	<u>Source of Funds Lent</u>	<u>Dollar Equivalents in Millions</u>
<u>Dollars</u>		
Icelandic Government:	Loans from ECA ✓	2.0
	Grant from ECA	2.8
		<u>4.8</u>
<u>Local Currency</u>		
Icelandic Government	ECA counterpart	3.4
Reykjavik Municipality	own funds	0.7
Akureyri Municipality	own funds	0.2
*Bond issue (by Sog & Laxa)	private investors ✓	1.2
		<u>5.5</u>
<u>European Currencies</u>		
Icelandic Government	Loan from the Bank for purchases in:	
	Sweden	1.0
	Denmark	0.5
	Norway	0.1
	United Kingdom	0.3
	Western Germany	0.2
		<u>2.1</u>
	Total	<u>12.4</u>

4. At a meeting of the Staff Loan Committee held on January 15, 1951 (SLC/A/213) it was agreed that:

- (a) the Bank request the European Governments concerned to approve the use out of their 18% subscriptions, of the currencies required for the hydro projects;
- (b) when such approvals had been obtained the Icelandic Government be informed of the Bank's willingness to enter into negotiations.

* It is hoped that the equivalent of \$1.2 million can be raised by the issue of bonds. ECA counterpart will, however, be used to the extent that sufficient funds cannot be obtained from the bond issue.

Availability of European Currencies

5. Both Norway and Denmark have agreed to release a sufficient amount out of their 18% subscriptions to cover the purchases to be made in their countries as shown in the preceding table. The United Kingdom has agreed to release from its 18% subscription, funds sufficient to cover purchases in the U.K. and one half of purchases to be made in Sweden and Western Germany. France has unofficially indicated willingness to make a release to cover the remaining one half of purchases in Sweden and Western Germany and official confirmation of this is expected within the next few days. The Icelandic Government will accordingly be invited to send representatives to Washington to negotiate as soon as formal confirmation of the approval of the French Government has been received.

Engineering Aspects of the Projects

6. Further information on the projects confirms that, from an engineering point of view, they are sound and of high priority. An outline of the technical aspects of the projects, which remain substantially unchanged, was included in the paper enclosed with the Loan Director's Memorandum of January 11, 1951 (SLC/O/296).

The Economic Situation

7. An outline of the economic position of Iceland is given in the attached report, E-148.

8. Iceland is at present highly dependent upon fish catches and world fish markets.

9. Heavy wartime military expenditures by the Allies and, immediately after the war, favorable fish prices enabled Iceland to build up foreign exchange reserves to \$89 million by the end of 1944, to pay off nearly all her foreign debt, raise the national income, and initiate in 1945 a heavy investment program. In the last two or three years, however, there has been a weakening in the market for fish and Iceland's foreign earnings have fallen off markedly. Although it was thus necessary in these years to reduce investment and consumption the fact that Iceland was receiving substantial ERP and other foreign aid, part of which was on a grant basis, enabled investment to be maintained at a high level.

10. Investment in the last few years has, despite direct and indirect foreign aid, involved using up practically all the country's foreign exchange resources etc., running down stocks, and severely

restricting the import of consumption goods. Its main directions until recently were the fishing fleet, quick-freezing plants, herring oil and meal factories and extensive residential construction and public works. Partly because of weaknesses in the overall planning of investment and in the structure of existing financial institutions, however, much of the investment has yielded little immediate benefit to the external financial position.

11. Internally, the drive to maintain the exceptionally high standard of living acquired during wartime, together with heavy investment activity during a period of declining exports has led to a continued inflation. This, together with adverse developments in world fish markets, forced a second devaluation of 42.5% in March 1950, bringing the total devaluation of the Krona to 60% in six months. So far the government has been unable to stop inflation completely but the budget, is now no longer an inflationary factor, and credit is severely controlled, with the result that the real volume of investment is being somewhat reduced. On the other hand, while wages are no longer adjusted to the cost-of-living index, it is feared that there will be pressure for another round of wage increases later in the spring. Despite a great improvement in the financial outlook, it may not be possible to achieve complete stability in 1951.

12. Although there is still a substantial payments deficit, a balance could be achieved by reducing the rate of investment and thereby of imports. Fortunately Iceland's external debt is relatively small. Equivalent to only \$6.4 million, of which \$2.6 million is in dollars, it should be well within Iceland's capacity to repay. Peak requirements for interest and amortization are only \$440,000 per annum, compared with present annual exports and invisible earnings of about \$40 million. Iceland could thus justifiably borrow abroad for economic development provided that her total investment program is smaller than at present and is well directed towards improving her balance of payments. Her capacity to service additional debt is less in the case of dollars than in other currencies and she should if possible reserve dollar borrowing for essential items which can be obtained only in dollars.

Conclusions

13. Developments since January 15, 1951, when the Loan Director's Memorandum dated January 11 (SLC/O/296) was submitted to the Staff Loan Committee, do not suggest that there is any need to change the views then expressed. It is accordingly recommended that:

- (a) in the long run, substantial assistance by the Bank would depend upon its being satisfied regarding the size and com-

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SLC/O/ *Wheeler*

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JAN 16 2018

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STAFF LOAN COMMITTEE

ACTING LOAN DIRECTOR'S MEMORANDUM

Iceland - Electric Power Development

1. I attach a paper prepared by the Working Party on the request of the Icelandic Government for a loan of the equivalent of about \$2.1 million in European currencies for hydroelectric power development.
2. I recommend that as soon as formal confirmation of French approval to the use of 18% currency is received, the Bank inform the Icelandic Government that the Bank is ready to start negotiations on the hydroelectric projects.

R. A. Wheeler
Acting Loan Director

April 16, 1951

position of the Icelandic investment program as a whole and its effectiveness in diversifying the economy and improving the country's external financial position;

- (b) the hydroelectric program (Sog and Laxa) already under way is clearly of very high priority and the additional foreign debt, which it would involve, would increase peak annual debt service to only \$710,000 which is well within Iceland's ability to pay.
- (c) accordingly, a loan for the Sog and Laxa projects could be made without awaiting further investigation into the investment program.

S. R. Cope
Loan Officer

D R A F T

ICELAND

ELECTRIC POWER DEVELOPMENT

Introduction

1. On September 1, 1950, the Icelandic Government asked the Bank for a loan of the equivalent of \$2.1 million in European currencies to cover the purchase of European equipment for two hydroelectric power plants (Sog and Laxa), transmission lines, sub-stations and distribution systems. The total cost of the power plants and related equipment is estimated to be equivalent to \$12.4 million. (\$9.7 million for Sog and \$2.7 million for Laxa).

2. The Icelandic Government also indicated its intention to approach the Bank with respect to:

- (a) a fertilizer factory involving foreign exchange expenditures equivalent to about \$3.8 million, of which \$2.6 million would be in U.S. dollars provided by ECA and up to \$1.2 million in European currencies;
- (b) a cement plant involving foreign exchange expenditures of \$2 million, most of which would be in European currencies;
- (c) an agricultural development program.

These projects are not covered by the present memorandum.

3. The following table shows how it is proposed to obtain the necessary funds for the hydroelectric projects:

<u>Lender</u>	<u>Source of Funds Lent</u>	<u>Dollar Equivalents in Millions</u>
<u>Dollars</u>		
Icelandic Government:	Loans from ECA	2.0
	Grant from ECA	<u>2.8</u>
		<u>4.8</u>

<u>Lender</u>	<u>Source of Funds Lent</u>	<u>Dollar Equivalents in Millions</u>
<u>Local Currency</u>		
Icelandic Government	ECA counterpart	3.4
Reykjavik Municipality	own funds	0.7
Akureyri Municipality	own funds	0.2
X // Commercial banks	own funds	<u>1.2</u>
		<u>5.5</u>
<u>European Currencies</u>		
Icelandic Government	Loan from the Bank for purchases in:	
	Sweden	1.0
	Denmark	0.5
	Norway	0.1
	United Kingdom	0.3
	Western Germany	<u>0.2</u>
		<u>2.1</u>
	Total	<u>12.4</u>

4. At a meeting of the Staff Loan Committee held on January 15, 1951 (SLC/A/213) it was agreed that:

- (a) the Bank request the European Governments concerned to approve the use out of their 18% subscriptions, of the currencies required for the hydro projects;
- (b) when such approvals had been obtained the Icelandic Government be informed of the Bank's willingness to enter into negotiations.

Availability of European Currencies

5. Both Norway and Denmark have agreed to release sufficient ^{amount out their} of the 18% subscriptions to cover the purchases to be made in their countries as shown in the preceding table. The United Kingdom has agreed to release from its 18% subscription funds sufficient to cover purchases in the U.K. and one half of purchases to be made in Sweden and Western Germany. France has unofficially indicated willingness to make a release to cover the

remaining one half of purchases in Sweden and Western Germany and official confirmation of this is expected within the next few days. The Icelandic Government will accordingly be invited to send representatives to Washington to negotiate as soon as formal confirmation of the approval of the French Government has been received.

12 to be signed
The Economic Situation

7. *ref. E-148* Iceland is at present highly dependent upon fish catches and world fish markets.

7. Heavy wartime military expenditures by the Allies and, immediately after the war, favorable fish prices enabled Iceland to build up foreign exchange reserves to \$89 million by the end of 1944, to pay off nearly all her foreign debt, raise the national income, *and* initiate in 1945 a heavy investment program. In the last two or three years, however, there has been a weakening in the market for fish and Iceland's foreign earnings have fallen off markedly. Although it was thus necessary in these years to reduce investment and consumption the fact that Iceland was receiving substantial ERP and other foreign aid, part of which was on a grant basis, enabled investment to be maintained at a high level.

8. Investment in the last few years has, despite direct and indirect foreign aid, involved using up practically all the country's foreign exchange resources etc. running down stocks, and severely restricting the import of consumption goods. Its main directions until recently were the fishing fleet, quick-freezing plants, herring oil and meal factories and extensive residential construction and public works. Partly because of weaknesses in the overall planning of investment and in the structure of existing financial institutions, however, much of the investment has yielded little immediate benefit to the external financial position.

9. Internally, the drive to maintain the **exceptionally** high standard of living acquired during wartime together with heavy investment activity during a period of

declining exports have led to a continued inflation. ~~Prices, though under controls,~~
~~rose by 23% between 1945 and 1949 but in the twelve months following the devaluations~~
~~of September 1949~~^{prices}~~rose a further 24% to reach 53% above 1945 levels.~~ Adverse develop-
ments in world fish markets and rising internal prices forced a second devaluation of
42.5% in March 1950, bringing the total depreciation of the Krona to 60% in six months.
So far the government has been unable to bring^{to} a complete halt the inflationary process
but the budget, ~~which ran substantial deficits in 1948 and 1949,~~ is now no longer an
inflationary factor, and credit is severely controlled, with the result that the real
volume of investment is being somewhat reduced. On the other hand, while wages are no
longer adjusted to the cost-of-living index, it is feared that there will be pressure
for another round of wage increases later in the spring. There has undoubtedly been a
very great improvement in the internal financial situation, but it is doubtful whether
complete stability will be achieved this year.

10. Fortunately Iceland's external debt is relatively small. Equivalent to only
\$6.4 million, of which \$2.6 million is in dollars, it should be well within Iceland's
capacity to repay. Peak requirements for interest and amortization, including those for
the \$4 million loans contemplated to complete the hydroelectric projects are only \$710,000
per annum, compared with present annual exports and invisible earnings of about \$40
million.

11. Iceland can justifiably borrow abroad for economic development provided that
her total investment program is smaller than at present and is well directed towards im-
proving her balance of payments. Her capacity to service additional debt is less in the
case of dollars than in other currencies and she should if possible reserve dollar borrow-
ing for essential items which can be obtained only in dollars. The hydroelectric program
already under way is clearly of very high priority and the addition of \$2 million in

European currencies presents no debt service problem. In the longer run, any further substantial Bank assistance would depend on rationalization of the investment program with particular reference to diversification of the basis of the country's economy, a reduction in the rate of investment and the adoption of policies to control inflation.

Engineering Aspects of the Projects

6. ~~12.~~ Further information on the projects confirms that, from an engineering point of view, they are sound and of high priority. An outline of the technical aspects of the projects, which remain substantially unchanged, was included in the paper enclosed with the Loan Director's Memorandum of January 11, 1951 (SLC/O/296).

*Recommendations
will be added*

S. R. Cope
Loan Officer

April 16, 1951

ICELAND
Ex OFFICE MEMORANDUM

TO: Mr. A. S. G. Hoar

DATE: April 16, 1951

FROM: S. W. Anderson *SWA*

SUBJECT: ICELAND: The Sog and the Laxa Projects

Noted

Mr. Spottswood has provided me with certain information with respect to the proposed procurement for these projects. I have checked with ECA who say that they know of no difficulty with respect to the dollar equipment, consisting mostly of generating, transforming and switch gear requirements, as well as one of the Francis turbines. They promised to let me know if they hear of any troubles at this end.

I have no adequate information on which to base an opinion at this moment as to possible procurement troubles in Europe on materials which we will finance. In view of the fact that practically all of the orders have been placed, however, there is a strong presumption of lack of trouble. In looking over the list it would not seem to me that there would be trouble on much of it anyhow. Traveling cranes from Germany would be troublesome if they were procured here.

I believe in this case there is certainly no reason for alarm, and therefore I can see no possible basis for not proceeding with negotiations. When the loan has been signed and we get further construction schedules I assume we will be able to judge a little more accurately whether bottlenecks are possible.

cc: General Wheeler
Mr. Cope
Mr. Spottswood
Mr. Paterson

Mr. S. Anderson

100-100000
SOG-7
April 10, 1951

A. D. Spottswood

ICELAND - List of Goods

Attached is List of Goods for the two hydroelectric projects which the Bank has been requested to finance in Iceland. ECA will finance the items to be purchased in the U.S. The Bank has been requested to finance the purchase of the equipment from Europe. Only a very minor part of the equipment listed has yet to be ordered. Contracts for practically all of the equipment have been placed.

cc: Gen. R. A. Wheeler
Mr. Cope
Mr. Paterson
Treasurer's Department

ADSpottswood/al

LIST OF GOODS - ICELAND

2 Hydroelectric Power Projects - The Sog and the Laxa

(In 1000 - U.S. Dollars)

<u>Description</u>	<u>U.S. Dollars</u>	<u>Swedish kr.</u>	<u>Danish kr.</u>	<u>Norwegian kr.</u>	<u>U. K. Pounds</u>	<u>German D.M.</u>	<u>Total</u>
Two 15,500 kw generators, station transformers, switchgear (Westinghouse, U.S.A.)	1,440.0						1,440.0
Substation equipment and underground cables (IGE - U.S.A.)	1,390.0						1,390.0
One Francis Turbine (James Leffel Co., Springfield, Ohio, U.S.A.)	126.0						126.0
One generator, station transformers, switchgear (Westinghouse USA)	581.0						581.0
One Francis Turbine		252.7					252.7
Dam Gates		46.3				147.4	193.7
Traveling Cranes						21.5	21.5
Steel Cross arms		36.1					36.1
Reinforcing steel		8.0	57.7		52.4		118.1
Steel Pipe and Tanks						28.7	28.7
Wood Stave Pipe				40.7			40.7
Steel Bands for W.pipe		38.6					38.6
Timber and Poles		109.6	1.2				110.8
Cement			146.7				146.7
Miscellaneous building materials		43.2	40.1		27.8		111.1
Construction machinery		98.2	8.6				106.8

Orders for practically all of the above items have been placed. The equipment from the U.S.A. will be financed by the ECA. Only the items from Europe will be financed by the IBRD.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

OUTGOING WIRE

DATE: APRIL 3, 1951

TO: LT- EYSTEINN JONSSON
MINISTER OF FINANCE
REYKJAVIK (ICELAND)

TEXT: (VIA RCA)

CLASS OF SERVICE DESIRED	
NIGHT LETTER ☒	CODE ☐
DEFERRED ☐	FULL RATE ☐
TELETYPE ☐	

ACKNOWLEDGE WITH THANKS RECEIPT YOUR LETTER AND
AGRICULTURAL PROGRAM.

HARRISON CLARK
INTBAFRAD

personal.
*agricultural program
will come down later.
4/17/51 a moore.*

AUTHORIZED BY:

NAME

E H Clark

DEPT.

Economic Department

For Use by Archives Division

Checked for Dispatch

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INTERNATIONAL BANK FOR
RECONST. AND DEVEL.

ECONOMIC DEPARTMENT

WEEK

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COMMUNICATIONS SECTION

FOR THE DEPARTMENT OF THE TREASURY

APR 3 4 41 PM 1951

DISPATCHED
INTERNATIONAL BANK FOR
RECONST. AND DEVEL.

THE BOARD
HARRISON STARK

COMMUNICATIONS SECTION

COMMUNICATIONS SECTION

(1 IV NOV)

COMMUNICATIONS SECTION
MINISTRY OF FINANCE
HARRISON STARK

DATE

TIME

WEEK

RECEIVED	
DATE	TIME
RECEIVED	DATE
RECEIVED	DATE
STATE OF SERVICE DESIGNED	

OUTGOING MESSAGE

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

CROSS REFERENCE SHEET

COMMUNICATION: Letter

DATED: April 2, 1951

Acknowledged April 19, 1951
Further Reference May 2, 1951

TO: Mr. Pierre Paul Schweitzer
Financial Counsellor
Embassy of the French Republic
Washington, D. C.

FROM: Henry W. Riley, Asst. Treasurer

SUMMARY: Re: Use of 18% capital stock for financing loan to Iceland.

FILED UNDER: FRANCE-Capital

CROSS REFERENCE: OPERATIONAL FILES-Iceland ~~loan~~ nego.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INCOMING WIRE

DATE OF WIRE: **APRIL 2, 1951**

TO: **HARRISON CLARK
INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT**

FROM: **REYKJAVIK**

ROUTING
ACTION COPY TO MR. CLARK
INFORMATION COPY TO
Decoded By

TEXT:

✓ Iceland Mr's
**HAVE RECEIVED YOUR LETTER OF MARCH 20TH. AGRICULTURAL
PROGRAM AND LETTER AIR MAILED MARCH 20TH HOPE DULY ARRIVED.**

MINISTER OF FINANCE

APR 2 3 35 PM 1951

DUPLICATE

DEPT. OF STATE

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

APR 3 9 34 AM 1951

RECEIVED

MINISTRY OF FINANCE

URGENT 100 1000 PM APR 3 1951
FROM THE DEPARTMENT OF STATE
TO THE MINISTRY OF FINANCE

RE:

URGENT

FROM:

DEPARTMENT OF STATE
WASHINGTON, D.C.
APRIL 3, 1951

TO:

DATE OF INFO:

APRIL 3, 1951

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WASHINGTON, D.C.
APR 3 1951
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INCOMING AIR

RECEIVED BY THE DEPARTMENT OF STATE

March 27, 1951

Mr. Spottswood

Dear Mr. Briem: -

Mr. Bjarnason's letter of March 14th and your letter of March 20th both arrived yesterday. The information regarding the various purchases abroad contained in Mr. Bjarnason's letter and your letter is greatly appreciated.

I shall refer the letters to our Treasurer's Department, and I feel sure that the information you have given will be most helpful to them in their efforts to secure release of the various European currencies required for the Laxa project.

Yours sincerely,

A.D. Spottswood

Mr. Erikur Briem
The State Electricity
Authority
118 Laugaveg
Reykjavik
Iceland

ads/gkg *[Signature]*

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

OFFICE MEMORANDUM

TO: Files

DATE: March 23, 1951

FROM: N. J. Paterson *NJ*

SUBJECT: Iceland

A working party meeting was held in room 415 on March 21, 1951, to consider future action as regards the Icelandic loan proposal in the light of a verbal report made by Mr. Clark.

Those present were:

Mr. S. R. Cope
Dr. H. W. Robinson
Mr. A. D. Spottswood

Mr. E. Harrison Clark
Miss V. Morsey
Mr. N. J. Paterson

1. Mr. Clark gave a brief introductory account of the Icelandic economy in the post-war period. Economic and social dislocations had been caused by troop concentrations in Iceland and heavy investment for military purposes during the war. Immediately following the war the fish market, on which Iceland is almost entirely dependent, had been particularly good and under the stimulus of this, the expenditure of foreign exchange reserves, and large foreign grants, the Icelandic Government undertook an extremely heavy investment program to reconstruct the economy. In the five post-war years investment in Iceland had amounted to \$300 million. In 1950, in spite of the heavy post-war investment, exports fell to the lowest level since 1942.
2. Mr. Clark considered that Iceland was not at present able to stand on its own feet economically, but could do so in time. At present the investment program is being maintained at a very high level largely because of ECA aid. After ECA aid terminates in 1952, however, continuation of investment would pose many problems.
3. The present investment program concentrates very heavily on the construction of two hydro-electric plants; one at Sog, the other at Laxa, and a fertilizer plant. These three projects alone will cost around \$18 million.
4. Mr. Clark considered that fishing industries should be given the first priority, preferably for packaging, marketing and the rationalization of quick freezing. The amount needed would be small. Also, there was the need for more power: the Sog project, which would serve small industries and the population concentration near Reykjavik, was considered particularly desirable. The Laxa project, serving a smaller population, was also desirable but not as urgently needed as the Sog project. Investment could also be made in land drainage, restocking and improvement of the sheep, beef and dairy cattle herds and poultry, grain storage and other small investments for agriculture. Cement production deserves a high priority; there are also some possibilities for exploitation of the mineral resources of the country, including perhaps the production of sulphur. The fertilizer plant mentioned above was probably the least urgent.

5. It was now too late, however, to consider the ideal assignment of priorities as the Government was committed to the Sog and Laxa hydro-electric stations and also in the fertilizer plant. The Sog project was clearly appropriate for Bank financing. The Laxa project could also probably be considered appropriate, although it would be preferable if it could be deferred for about a year. The fertilizer plant might be considered as appropriate for Bank financing in due course if its capacity was reduced to about one half of the 6,000 or 7,500 tons annual capacity now contemplated; a plant of 6,000 tons annual capacity would be excessive for Iceland's demands for fertilizer and excess production would have to be "dumped" overseas. The political background, however, was that, on the one hand, the Sog and Laxa plants would satisfy political pressure from the south and north of the country respectively; on the other hand, power development generally was desired by the Conservative party in return for which the Conservatives had agreed to support the demands of the Agrarian party for the fertilizer plant. These two parties form a strong coalition government. There was much frank acknowledgment in Iceland of the political strings attached to the present investment program and an equally frank admission that, whatever the respective merits of the projects, it was politically impossible to alter them at this stage. The impact of these substantial investments this year and next would delay the formulation of a more rational investment program. Mr. Clark said that he proposed to make this point strongly in his report to the Icelandic Government.

6. Mr. Clark next dealt with the institutional changes necessary to integrate the investment program of the country as a whole. At the present time there was a complete lack of coordination in investment. There was no central bank, as such, but two competing commercial banks, owned by the Government, which exercised some central bank functions. Mr. Murphy, of the Fund, had recommended the establishment of a central bank and, in conjunction with this proposal, Mr. Clark had suggested that an investment department of this bank be established with its own assets and liabilities to rationalize the country's investment program. Legislation for this central bank would probably not pass before October. It was proposed that the investment department would control consolidated government funds which were now handled separately by some thirty different authorities. The research staff of the investment department would be common with that of the central bank and it was considered that competent officials could be recruited in Iceland for this purpose. The Government has established a committee to look into the setting up of such a department. Investment for the private sector of the economy had in the past been controlled by an economic board. Mr. Clark would recommend to the Government that this board, as at present constituted, be abolished and its powers transferred to the investment department of the central bank while a new economic Board would be established to control Government investments. The investment department would be non-political and would be controlled by the board of the Central Bank. It was hoped that Mr. Eiriksson, who is held in high esteem by Mr. Clark and other members of the working party, would be in charge of the operations of the department. It was envisaged that the department, in addition to directing the flow of

both government and private investment, would undertake, or have undertaken, technical as well as economic research. It would also attempt to stimulate increased savings and investment which, in the present period of high income, were surprisingly low. In this connection the Government would have to build up a bond and stock market. Icelandic companies' legislation also needed revision.

7. Mr. Clark next dealt with the role of possible bank finance in Iceland. He explained that ECA would finance the dollar costs of the projects; the local currency costs could be met domestically and the Bank would be involved only to the extent of European costs. Local currency financing would be done in part by the use of counterpart funds and any inflationary impact could be absorbed by further dollar grants. Mr. Clark considered that Iceland is creditworthy, but for some years will be dependent on foreign aid to sustain its economy. It will not, however, continue to be indefinitely dependent on foreign aid and could service foreign debt without using grants for this purpose. Mr. Clark expressed the opinion that the Icelandic Government would be receptive to continuing Bank advice on both economic and technical matters.

8. After general discussion in the working party, it was agreed that:

- (a) the Bank should lend for both power projects (Sog and Laxa);
- (b) the Bank should try to persuade the Icelandic Government to have the fertilizer plant either deferred or reduced in capacity;
- (c) As an inducement to the Icelandic Government to do this the Bank should express a continuing interest in the Icelandic investment program, and maintain close liaison with the investment department of the central bank.

9. Before opening negotiations with Iceland the following action would be taken as soon as possible:

- (a) Mr. Spottswood would have a technical report prepared by a consultant on the fertilizer plant so that the Bank would be in a better position to present a convincing argument for its deferment or reduction in capacity;
- (b) Mr. Cavanaugh would discuss further with Mr. Hoppenot the question of French 18% release and would acquaint Mr. Hoppenot with the reasons advanced by Iceland for not having ordered certain types of equipment from France. An attempt would be made to obtain the release of the remaining Norwegian kroner equivalent of about \$700,000 from 18% funds to cover Icelandic purchases in Norway;
- (c) A paper would be prepared for the Staff Loan Committee with which would be circulated the Economic Department's report brought up to date with an annex prepared by Mr. Clark and, if possible, a report on the projects.

NJPaterson:bd

cc: Members of the Working Party

FILE COPY

Mr. A.D. Spottswood

March 23, 1951

E. Harrison Clark

Report on Iceland Electric Power

1. I have very few comments, but here they are:
 - a) page 1 - suggest noting that the public utilities are Government owned.
 - b) page 1 - according to Mr. Steingrímur Jonsson, about 50% of the Sog's present production is for domestic consumption and the rest for industrial and other use. I would think the rate for industries may be substantially higher than 20%.
 - c) page 2 - would it be possible to add Switzerland and Italy. The table is very interesting and I'd like to use it in my report.
 - d) page 6 - I understand that under a new agreement the Government, upon completion of the Sog project, will own about 45% of the Sogsvirkgun.
 - e) page 6 - Although there are such assets and liabilities as given in the third paragraph, in actual fact the Sogsvirkgun is very poorly financed, and has little in the way of cash or surplus to finance any capital expansion. It is run on a hand-to-mouth basis and I hope we can help to correct this.
 - f) page 10 - I think the second paragraph might be worded somewhat as follows: "the additional power is basic to further industrial expansion and the development of the country's resources. While the precise nature of the future development has not been formulated, hydroelectric power will play an important role in any future program for reducing Iceland's heavy dependence on the fishing industry."
 - g) page 12 - sixth line. I am not clear as to the meaning of this sentence. Can you go further into the question of the effects of the fertilizer or cement plant on the need for future power investment.
 - h) page 13 - top of page. Is this outside the large projects or does it include them.
 - i) page 16 - I believe the situation in regard to financing is that Reykjavik provides an annual grant, while the Central Government will purchase those bonds of Sog which are not publicly sold. At the present time, around 3 m. Kr. in bonds have been sold to the public. I think the entire ECA advance is on a grant basis (p. 17).

FILE COPY

Mr. A.D. Spottswood

- 2 -

March 23, 1951

However, the counterpart equivalent of the local costs may be loaned to the project (at I presume 6% since the 6% bonds will be bought from the counterpart funds). There are, however, some unsettled legal questions in connection with the counterpart equivalent of the ECA dollar costs. I am attaching a copy of a memo on this subject which went from ECA to the Government.

j) page 18 - At the present time, the rates will not be sufficient to cover financial and operating charges in 1953 and 1954, nor will they cover normal annual capital investments (4 m. kr.) until about 1957. This, I think, will be an important point to discuss with the Government during the negotiations.

k) page 26 - I am attaching a table covering the phased requirements for ~~Laxa~~ on a fiscal year basis, which may be sufficient for your purpose.

2. There are a few typographical errors:

Page 2 - second line from bottom. Names should read:

Siglufjordur and Isafjordur

Page 6 - 12th line - Hafnarfjordur

Page 14- Swedish Kr. is spelled Kronor and Icelandic, Kronur

Page 7 - 3rd line - name should read Sigurdur. The Swedish "firm" given is apparently a Swedish Government bureau.

Attachments

EHClark/js

cc: Files

FILE COPY

Mr. A.D. Spottswood

- 3 -

March 23, 1951

LAXA (in m. Kr.)

	<u>1949/50</u>	<u>1950/51</u>	<u>1951/52</u>	<u>TOTAL</u>
Domestic	1.2	11.38	9.72	22.30
Dollars	5.42	9.80	0.58	15.80
European	_____	<u>4.57</u>	<u>1.33</u>	<u>5.90</u>
	6.62	25.75	11.63	44.00
	_____	_____	_____	_____

AIR MAIL

March 23, 1951

Dear Mr. Jonsson:-

✓
Your letter of March 8, giving me information regarding your attempts to purchase equipment for the Sog project in France, is appreciated. I think it will be a good idea for you to continue to send tenders to French concerns for the remaining items of equipment that you have not yet obtained, in order to receive quotations for comparison with prices elsewhere. Of course, we would not want you to consider purchasing from any source that would not be advantageous to you.

The information contained in your letter has been referred to our Treasurer's office. I am sure it will be very helpful to them in their negotiations for the release of various currencies, including French francs.

Sincerely yours,

A.D. Spottswood

Mr. Stingrimur Jonsson
Sogsvirkjunen
P.O.Box 537
2, Tjarnargotu
Reykjavik
Iceland

ASD/gkg

ADJ

March 15, 1951

Mr. Erikur Briem
Director
State Electric Power Works
118 Langaveg
Reykjavik, Iceland

Dear Mr. Briem:

Your letter of March 6 giving me more accurate information regarding the probable sources of the equipment and materials for the Laxa project, and a revision of the currencies which will be required is greatly appreciated. I shall change my records accordingly.

Sincerely yours,

A. D. Spottswood

ADSpottswood:lfb

cc: Files
Mr. Lejeune

C
Ø
P
Y

The State Electricity Authority
118 Laugaveg
Reykjavik
Iceland

14th March, 1951

Subject: The Laxa Project

Dear Mr. Spottswood,

Your letter dated 2nd March is at hand, and as Mr. Briem is abroad at present, I give you below the following explanation of the matter under reference:

The following is a list of the material now on order from Europe for the Laxa Project:

1. Wood poles for hightension line from Sweden	0.520 mill.
2. Damgates from Sweden	0.500 "
3. Woodstaves pipe from Norway, and Sweden	0.880 "
4. Crossarms for hightension line from Denmark	0.480 "
5. Steel pipe and Surgetowers from Germany	0.320 "
6. Building materials, Lumber from Sweden,	0.200 "
Reinforcing steel from Britain,	0.520 "
Cement, etc. from Denmark	0.380 "

all these prices being fob in Icelandic kronur.

Except for the reinforcing steel, no offers were received from France for the material specified above. The offer for reinforcing steel from France was less favorable than the one finally accepted, both as regards price and time of delivery.

As to the other material specified, offers were received from Holland, Belgium, Britain, Germany and the Scandinavian countries. You will observe that most of the above material is being purchased from the Scandinavian countries, the main reason for this being that their offers were, generally speaking, the most favourable ones, but I would point out that a short term loan was obtained in Denmark and Sweden to finance certain purchases, and naturally this has been a contributory factor to the Scandinavian offers being accepted.

It is only right to state here that, in view of the present trend of rising prices and expanding time of delivery, the Danish-Swedish short term loan has proved very helpful in securing the most favourable terms.

The foregoing of course only refers to the material specified above, but at the time tenders were sent out for the main equipment for the project, France was naturally included, but the French offer was not acceptable.

Of the equipment purchased abroad, the only major item which has not yet been secured is the power house crane. Tenders were sent to various European countries, and by far the most advantageous offer of the 8 received, came from Germany, the time of delivery being only about 4 months, against up to 2 years from Britain and other countries.

I trust this information will meet with your requirements, and remain,

Sincerely yours,

s/ Jon A. Bjarnason

SOGSVIRKJUNIN

THE HYDRO-ELECTRIC DEVELOPMENT OF SOG

P. O. BOX 537 TELEPHONE 1222
TELEGRAMS: RAFMAGNSVEITAN

REYKJAVÍK, March 8, 1951.
2 TJARNARGÖTU, ICELAND

HH/AS/NF-

Mr. A. D. Spottswood,
International Bank for Reconstruction and Development,
Washington 25, D.C.,
U. S. A.

Dear Mr. Spottswood:

We have to thank you for your letter of March 2nd, concerning French credits to be used through the E.P.U. in part payment for equipment bought in Sweden and Germany, and the possibility of purchase of this equipment in France.

As shown in our estimate the following purchases are being made from Sweden and Germany:

1. Hydraulic turbines from Sweden	4.115 mill.
2. Building materials from Sweden	
Reinforcing Steel etc.	0.130 "
Lumber	1.250 "
Sundry	0.500 "
3. Engineering Services from Sweden	0.300 "
4. Services of Swedish Contractors	5.590 "
5. Construction Machinery	1.600 "
6. Damgates and lift cranes from Germany	2.400 "

These amounts are determined under three separate groups, as regards purchase and contracts.

1. The turbines were bought from Sweden as the offer from there was by far the lowest. Only one offer was received from France, from NEYRPIC in Grenoble, of kr. 4.811.900.- FOB while the Swedish offer was kr. 2.117.400 FOB.

Item 3, Engineering Services, is an integral part of the turbines contract.

ack. 3/23/51

2. The construction job was given to a combine of Swedish and Danish firms that had submitted the lowest bid. Offers were solicited from all the Scandinavian countries and from local contractors, but the nature of the job did not, in our opinion, permit of going further afield. This ties up primarily item 4, contractors Services, and item 5, construction machinery, as the contractors have to be free to use machinery of their own choice.

As regards building materials, item 2, the lumber had to be bought immediate at the outset of building operations, and were at that time available in Sweden. We did solicit offers for reinforcing and other steel from France, but none were given, from which it was inferred that French exporters were not interested.

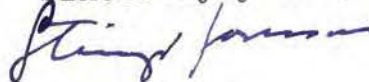
There remain then only smaller items which the contractors will supply and purchase as required, and most of these have already been placed on order.

3. The lowest offers for Damgates and lift cranes were received from Germany, and the damgates have already been contracted for in the amount of kr. 1.200.000.-, but we could investigate the possibility of obtaining lift cranes from France, if you think it advisable, but considering the offers received from there for other equipment, we fear their prices are too high.

Of our requirements generally, only minor items remain to be placed, but we are perfectly willing to consider the possibility of purchasing these from France in so far as it may be advantageous.

We trust this will answer your questions, and shall be glad to hear from you again.

Sincerely yours,



March 2, 1951

Dear Mr. Jonsson:

We have had discussions with the French Government regarding the release of French francs which could be used through E.P.U. in part payment for equipment which is being bought in Sweden and Germany for the Sog and Laxa plants. In the course of these discussions the French Government have suggested that it might be possible to buy this equipment in France instead.

While I am sure that you have already explored these possibilities and have good reasons for the present geographical distribution of your purchases, it would help us greatly if you could let me have a brief note on the steps you have taken to obtain comparative quotations from various European countries, particularly France, and the reasons which led you to decide to make the purchases in the manner which you indicated to me a few weeks back. I should also like you to indicate the extent to which contracts have actually been given.

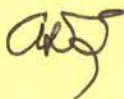
The Bank would, of course, not wish you to purchase other than in the most favourable markets but we are, in fact, faced with a situation whereby we might not be able to obtain the French francs we need unless we can justify your present proposals.

I am writing in similar terms to Mr. Erickur Brien.

Sincerely yours

A. D. Spottswood

Mr. Steingrímur Jonsson
Sogsvirkjun
P.O. Box 537
Reykjavík, Iceland
SRCope/pmk
c.c. Mr. Cope
Mr. Cavanaugh



March 2, 1951

Dear Mr. Briem:

We have had discussions with the French Government regarding the release of French francs which could be used through E.P.U. in part payment for equipment which is being bought in Sweden and Germany for the Sog and Laxa plants. In the course of these discussions the French Government have suggested that it might be possible to buy this equipment in France instead.

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The Bank would, of course, not wish you to purchase other than in the most favourable markets but we are, in fact, faced with a situation whereby we might not be able to obtain the French francs we need unless we can justify your present proposals.

I am writing in similar terms to Mr. Steingrímur Jonsson.

Sincerely yours,

A. D. Spottswood

Mr. Erickur Briem
The State Electricity Authority
118 Laugaveg
Reykjavik
Iceland

SRCoPe/pmk

c.c. Mr. Cope
Mr. Cavanaugh



OFFICE MEMORANDUM

TO: Files

DATE: March 2, 1951

FROM: S. R. Cope

SUBJECT: Iceland - Procurement of goods in Denmark for hydroelectric development

1. At Mr. Aldewereld's suggestion, I called Count Ahlefeldt who had raised with him yesterday the question of the availability in Denmark of the goods which were to be financed out of the Danish kroner 3.5 million which Denmark was making available out of her 18% subscription. Count Ahlefeldt explained that in making this amount available the Danish Government had not given any undertaking that export licenses for the goods to be financed would be issued. He pointed out that export controls in Denmark were at present very tight and might conceivably get tighter. He wished the Bank to understand that in approving the use of part of Denmark's 18% subscription, the Danish Government had not implied that when the time came, export licenses would be issued or that the goods would be treated differently from any other export.

2. I said that the existence of export controls created problems in nearly every country in which equipment was being procured and the Bank had, in fact, recently set up a special unit in the Loan Department to handle matters of this sort. Up till now, in similar situations, the Bank had usually not done more than obtain a general assurance from the government concerned regarding the probability of export licenses being issued. As time went on, however, the Bank would have to do more than this, and from time to time specific representations would have to be made to ensure that goods required for projects which the Bank finances could be procured and exported.

3. The Bank regarded the financing of hydroelectric development in Iceland as very important and, if the necessity arose, might wish to make representations to the Danish Government with a view to getting the equipment which was necessary for this purpose. I added that, as a practical matter, I did not see how anything much could be done now, as we had not yet had a definitive list of goods and any decision regarding export licenses could presumably be made only when this list was available.

4. Count Ahlefeldt agreed that there was little that could be done now, and added that the mere fact that the Danish government had agreed to release 3.5 million Danish kroner indicated that they were favourably disposed towards the purposes for which the loan was to be granted. He therefore suggested, and I agreed, that the matter should be left over until his return from vacation towards the end of March.



SR Cope;pmk
c.c. Messrs. Hoar
Spottswood
Aldewereld
Anderson

CROSS REFERENCE SHEET

COMMUNICATION: MEMORANDUM

DATED: FEBRUARY 28, 1951

TO: FILES

FROM: MR. ~~XXX~~ ROSEN

SUMMARY: RE MR. CLARK'S PROGRESS AND ~~XXXXXXXX~~ PLANS IN ICELAND.

FILED UNDER: ICELAND MISSION

CROSS REFERENCE: ICELAND NEGOTIATIONS

Iceland Nego

Mr. Roger M.O. Hoppenot

February 26, 1951

Henry W. Riley

As requested by you, I am setting forth below the goods and services Iceland expects to acquire in Sweden and Germany in connection with the proposed loan to be made by this Bank to Iceland:

Sweden

Hydraulic turbines
Dam gates
Reinforced steel
Timber and poles
Cement
Engineering and erectors' services
Contractors' services
Construction machinery

Total value - Equivalent of \$943,000

Germany

Dam gates
Traveling cranes
Steel pipe and tanks

Total value - Equivalent of \$196,800

RWCavanaugh:lk

CROSS REFERENCE SHEET

COMMUNICATION: Memorandum

DATED: February 23, 1951

TO: Mr. Eugene Black

FROM: Sir Ernest Rowe-Dutton

SUMMARY: Bank Loan to Iceland
Re: -Use of U.K. 18% capital subscription for following purposes:
(a) £ 110,000 for purchases of equipment in the U. K.
(b) £ 200,000 representing about one half of estimated purchases in Sweden and Western Germany.

FILED UNDER: UNITED KINGDOM-Capital (General Files)

CROSS REFERENCE: ICELAND NEGOTIATIONS (Operational Files)

DECLASSIFIED

JAN 16 2018

WBG ARCHIVES

CONFIDENTIAL

February 21, 1950

Dear Harry:

Everyone found your letter of February 8 extremely interesting and liked the approach you are taking in your report. I am writing at the request of Mr. Rist, mainly to bring you up to date on progress of the power projects application but also to give you one or two other facts of possible interest.

I had a talk with Mr. Ivar Roeth yesterday, the chief of the Bank's mission to Iraq, and he seemed to have formed an extremely high opinion of the competence of the staff of the Landsbanki Islands and their freedom from political bias. He did, however, indicate that there are political influences in the Board. He felt that in such a small country it was very important not to waste the services of available capable people by creating too many separate institutions and thought the logical place for the investment institution was the central bank. This seems to fit in with your ideas. In Roeth's opinion, the major problem in Iceland is not one of institutional organization but that of emancipating economic decisions from the strong, pervading political influences.

When you left the Bank you knew, of course, that we were approaching France, Britain, Denmark and Norway for 18% currency to be used for the purchase of equipment for the Sog and Laxa power projects. So far, the French and Danes have agreed. No reply has been received from the Norwegians or the British, but, in the latter case, the U.K. Executive Director is trying to speed up the decision. Presumably, if and when affirmative replies are received from all concerned, we can make very rapid progress with the Icelandic negotiations.

In the course of considering the problems raised by you regarding the fertilizer project, we discovered that the ECA Industry Division have approved this project, or rather have been persuaded not to raise any objections. We understand, furthermore, that ECA is probably going to assist Iceland to obtain an addition ~~in ECU~~ of \$4 million to her initial position with EPU on a grant basis. In view of your doubts about the project we felt it would be preferable for Iceland to draw on this new grant from EPU to finance the European expenditures. The project will then, in effect, be constructed on a grant basis and cannot be considered as diminishing Iceland's creditworthiness. We felt, therefore, that it was not necessary to revise our earlier decision on the power projects and the best policy was to leave things exactly as they are and to make no decisions on further investment in Iceland until we have your report on the investment program as a whole.

This incidentally strengthens your hand in dealing with the government since nothing can be done until your report is in our hands and our future policy rests very largely on the conclusions you present.

Mr.

That seems to be all the news of any importance at the moment. I will write again if there are any significant developments. We all send our best regards and hope you are not finding climatic conditions too rigorous; having had Icelandic weather in Washington just after you left we are regarding your mission with added respect.

(signed H.W.Robinson)

Mr. E. Harrison Clark
c/o National Bank of Iceland
Reykjavik, Iceland

HWR:js:#3020

CROSS REFERENCE SHEET

FURTHER REFERENCES:-

Cable - February 22, 1951

March 21, 1951-Letter to Norges Bank

COMMUNICATION:

Copy of Letter April 13, 1951 - Letter from Norges Bank

DATED:

February 20, 1951

TO:

Mr. J. W. Beyen, Executive Director
International Bank for Reconstruction
and Development

FROM:

Gunnar Jahn

SUMMARY:

Re: Willingness of Norwegian Government to make available
to I. B. R. D. out of its 18% subscription, an amount
of approximately N.kr. 1.4 million for purchase of
equipment for two hydroelectric plants by Iceland.

FILED UNDER:

NORWAY-Capital

CROSS REFERENCE:

ICELAND LOAN (Operational Files)

Iceland Nego.

OFFICE MEMORANDUM

TO: Files

DATE: February 19, 1951

FROM: Martin M. Rosen *MMR*

SUBJECT: Iceland

I called Mr. Clark in Iceland on Saturday morning, February 17, to pass along to him the substance of the discussion at the Staff Committee meeting on Thursday, February 15.

I told Mr. Clark that, since one of the main purposes of his mission to Iceland was to appraise the whole investment program of the country with a view to determining the order of priority of the various investment alternatives open to Iceland and the best way in which available external financing possibilities should be utilized, the Bank could not possibly consider assisting in the fertilizer project or in making a commitment for any other projects until Mr. Clark's report had been prepared and considered by the Bank. I added that, although it was quite appropriate for Mr. Clark to pass along personal observations on the fertilizer project to the Icelandic officials even before his study had been completed, the Bank itself could not take a view on the project until the study had been received.

In addition, I told Mr. Clark that, although the Bank was concerned about the trend of policy which the decision to proceed with the fertilizer project indicated the Icelandic Government was following, it did not feel that the matter was so serious that it should withdraw from its proposed financing of the hydro-electric projects.

Mr. Clark clarified his cable of February 16 which read that "Cabinet adhering original plan no further action required present." He said that this cable meant that the Cabinet had decided to continue with the fertilizer project and that he was continuing on his general study on investment priorities and the desirability of creating a development bank. He anticipated that his work in Iceland would require an additional two to three weeks and added that Mr. Bertrand, of the Monetary Fund, who is returning this week will bring back more details on the progress of Mr. Clark's studies.

cc - Messrs. Hoar
Cope
Demuth
Stevenson
Robinson

MMRosen:dbb

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INCOMING WIRE

DATE OF WIRE: **FEBRUARY 16, 1951**

TO: **ROSEN**
INTERNATIONAL BANK FOR
FROM: **RECONSTRUCTION AND DEVELOPMENT**
REYKJAVIK

TEXT:

ROUTING
ACTION COPY TO MR. ROSEN
INFORMATION COPY TO
Decoded By

CABINET ADHERING ORIGINAL PLAN NO FURTHER ACTION REQUIRED
PRESENT SENDING BACK REPORT BY BERTRAND.

CLARK

DUPLICATE

DD FORM 1

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

MA
FEB 16 3 36 PM 1951

STAMP

MINERAL READING BOOK NUMBER BY MINERAL

COPYING NUMBERING ORIGINAL BY NO MINERAL SECTION NUMBER

TEXT

RECEIVED

FROM

RECOMMENDATION AND RECOMMENDATION
INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

TO

DATE OF INFO

RECOMMENDATION 10 1951

RECEIVED BY

RECOMMENDATION COPY TO

RECOMMENDATION COPY TO MR. ROSEN

RECOMMENDATION

INCOMING MAIL

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

FILE COPY

ICELAND NEG.

Mr. L. Rist

February 15, 1951

A. S. G. Hoar

Iceland

1. I have read Mr. Harrison Clark's very interesting letter to you of February 8, 1951.
2. The letter underlines the feeling, which I think many of us had here, that the situation in Iceland ~~was~~ far from satisfactory and it is evident that the Bank's policy towards Iceland will have to be very carefully thought out and firmly handled.
3. Mr. Clark seems to be planning his report on very sound lines and when we have had an opportunity of studying it here I think we shall be able to see better our future line of action.
4. In this situation, I think it would be wrong for Mr. Clark, or for anyone else, to attempt to talk about projects. I do not like the suggestion of converting the present technical assistance mission into a regular Bank mission, and I think that we should indicate to the Government very firmly that the mission is not prepared to talk about lending operations. Mr. Clark is now in a good position to decline to do this since he can say that he was sent over purely on a technical assistance mission, but if we send a Loan Officer over it is a clear indication to the Icelandic Government that we are prepared to consider further lending. I hope that we can do this in due course but I would be reluctant to say now that we should do so.

CC: Mr. M. Rosen

Mr. S. R. Cope

Gr

SR Cope:pm;ASG Hoar:dh
2/16/51

CONFIDENTIAL

DECLASSIFIED

JAN 16 2018

WBG ARCHIVE

ICELAND

1. It is recommended that the Bank take the following position on the questions raised by Mr. Harrison Clark by telephone from Iceland today:

- (a) A main object of Mr. Clark's mission to Iceland was to appraise the whole investment program of the country with a view to determining the order of priority of the various investment alternatives open to Iceland and the best way in which available external financing possibilities should be utilized. In Mr. Clark's view the fertilizer project is of much lower priority than other investment opportunities such as agriculture and the cement project originally put up for Bank consideration and may even be uneconomic. The Bank clearly cannot be pressed into accepting a project it might otherwise reject merely because the U.S. defense program might interfere with procurement of equipment for that project. An additional factor militating against Bank financing is the availability of EPU resources (the Icelandic initial credit of \$4 million has been used but the quota is \$15 million) which, we understand, the government intends to use liberally this year. For these reasons Iceland should use available ECA and EPU resources and not Bank loans to finance the fertilizer project;

(b) as regards the hydroelectric projects, it is to be noted that practically the only sources of external financing presently available to Iceland are the ECA, EPU drawings and the IBRD. Even if, in constructing the two hydroelectric plants and the fertilizer plant, Iceland has to draw to the full on the first two sources it is unlikely that the resulting debt burden will, on account of the present low level of external indebtedness, exceed her capacity to repay. The Bank would therefore be safe in lending \$2 million for the hydroelectric projects. Since we are satisfied that these projects are in fact of the very highest priority, the Bank's decision to finance them from 18% European currencies should stand.

3. It is recommended that the Icelandic Government be informed:

- (a) that the Bank cannot decide on the priority of the fertilizer project until it has studied Mr. Clark's analysis of the whole Icelandic investment program and is accordingly not prepared to assist in the financing of the fertilizer project at this time. Meanwhile, however, it will continue to consider seriously how it can assist in the financing of the hydroelectric projects;
- (b) that the Bank wishes to point out that, in considering the possibilities of future lending to Iceland, it will obviously have to take into account the foreign debt being incurred by Iceland in its use of ECA and EPU resources and that misdirection of investment might adversely affect the Bank's appraisal of the total borrowing capacity of the country.

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INCOMING WIRE

DATE OF WIRE: **FEBRUARY 14, 1951**

TO: **RIST**
INTERNATIONAL BANK FOR
FROM: **RECONSTRUCTION AND DEVELOPMENT**
REYKJAVIK

TEXT:

ROUTING
ACTION COPY TO MR.RIST
INFORMATION COPY TO
Decoded By

WILL TELEPHONE YOU 3 P.M. THURSDAY WASHINGTON TIME
SUGGEST STENOGRAPHIC RECORDING.

CLARK

DUPLICATE

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INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

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INCOMING LINE

URGENT TELETYPE UNIT FEBRUARY 14 1951

February 12, 1951.

Mr. Ericur Briem
The State Electricity Authority
118 Laugaveg
Reykjavik
Iceland.

Dear Mr. Briem:

✓
Your letter of February 2 (reference EB:gs) is appreciated. As you request, we shall reduce the estimated amount of Danish currency required by the value of the reinforced steel which you now find is not available in that country, and add a similar amount to the sterling requirement.

I sincerely hope that you will be able to find the steel in England. In addition to exploring availabilities in England, it might be a good idea if you investigate the possibility of obtaining this steel and perhaps other items from France.

Sincerely yours,

A. D. Spottswood.

c.c. Mr. Cope

ADSpottswood:mlc

DECLASSIFIED
JAN 16 2018
WBG ARCHIVES

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT
WASHINGTON 25, D. C.

Confidential

Borg Hotel
Reykjavik, Iceland
February 8, 1950

Dear Leonard:

This is a very preliminary report drawn up to catch the very erratic winter mail out of here. The scheudle of flights, for your guidance, provides for once a week mail service out of here on Thursdays. It is frequently delayed. In any case it should not reach you before Monday. The return mail leaves New York Tuesdays, and should leave Washington by Monday evening. This is a very tight schedule, and I may therefore have to resort to the telephone if some of the major problems I foresee, arise.

The Government has had a minor crisis this past week--no mission is complete without one--over the wage stop introduced in January. The unions claimed they were entitled to the wage increases provided by their contracts after the original link to the cost of living index was broken. The Government, in spite of vigorous protests by the Socialists and many crocodile tears from the Communists, pushed the measure through the Althing vigorously and quickly. I mention this because it indicates a stronger Government than I have seen in Iceland for a long time.

The problems of Iceland at this stage are acute and awkward. The labor problem is far from settled, and major strikes may take place in the Spring. The country was badly hit by the disastrous trawler strike of last summer. However, if a reasonable degree of price stability can be assured, and this seems possible, and some additional imports of consumer goods can take place, such strikes may be averted. I am not however, very sure the proposed policy of the Government, to which I will refer later, is wise. To go on with the present problems: Iceland's exports last year reached the lowest level since 1942, the herring season failed for the sixth time in a row, she has drawn down practically all her EPU funds (although she has used them partly to pay her overdrafts in Britain and partly to build up her exchange reserves) and she has three costly development projects under way. She has also proposed two additional projects, while at the same time she proposes to have a balanced budget, and to restrict investment and credit to the resources available. It is too early for me to assess precisely what she will be able to do but it is apparent that there are plenty of mutual contradictions. The most hopeful feature lies in the willingness, and eagerness, of the Government to listen to outside advice.

The Government has a slightly embranching faith in my ability to solve their problems. The Government is placing great faith in the International Bank. In spite of the present situation, which I feel may have reached rock bottom, I think that a partial solution can be attained. In my letter of next week, I will outline somewhat more precisely what I will propose, after a good deal of information I have requested, reaches me. I have however arrived at the following general outlines: there is ample scope for Bank activity and technical advice to the Government over a long period in the future; the agricultural program now being drawn up by the Government is soundly conceived and offers the most promising outlet for future investment and diversification here (although its results will not be felt for a number of years)

-2-

a development institution should be set up, and be a department of the newly proposed Central Bank, on which Murphy is working and in which he has drawn ~~me~~ in pretty constantly for consultation; the chances are very good indeed for developing a bond market and for raising private capital for development through the sales of shares (more on this next week, together with a report on the present attempt, very badly handled, to sell bonds internally for the local costs of the Sog hydro-electric project); the banking system which is in pretty bad shape needs quite an overhaul. The Bank can play a very large role in all this and I would like to see Bank assistance tied in very closely with some of the proposals I will make.

The report which I am drawing up will consist of ^{four} ~~three~~ parts:

- a) an assessment of the present economic position of the country
- b) a review of the past development program
- c) an outline of the future general development, together with the resources which may be available to the country
- d) a survey of the existing financial institutions
- e) a recommendation for a development institution.

The Government does not intend to present central bank legislation until next fall and therefore there will be no urgent need for having a lawyer up here on the actual draft of the legislation. There is however a distinct possibility that it would be desirable to have a loan officer come up here, and convert this from a technical assistance mission (which it is only in part since the Government has already indicated its desire to have the Bank finance a part of the agricultural program, including local currency costs) into a regular Bank mission. I would probably talk to you by telephone in a week's time to give you my views on it. There is another problem which I wish you would think about. The Government, and this is most confidential, is proposing to draw down heavily on EPU in the next year in order to provide adequate supplies of goods and to stabilize the economy. The amounts to be drawn down may reach as much as \$6 m., which would be repaid over the following three years. They have asked what the Bank's views might be on such a procedure, particularly whether this would militate against Bank financing here. I have indicated that I would have to refer this back to the Bank. ECA which is against the proposal has informed Iceland that this ~~would~~ be the case, which of course exceeded the authority of ECA. I think there is no question of Iceland's ability to bear considerably more debt in European currencies (and in dollars if the British Govt. could be persuaded to assure future convertibility) but I am not very much persuaded by the ^{substantive} arguments for EPU financing.

There is another problem. I think the development institution would be the best channel for I.B. funds here but I do not know how much might be raised in Europe. Incidentally the Government is hanging rather breathlessly on word from the Bank on the power loan. The kind of institution that could be set up here would in part depend on the kinds of funds that could be procured. If it were a straight dollar loan, or rather line of credit, similar to that of the Ethiopian and Turkish Banks, the problem would be simple enough, but it would be much more complex to establish a line of credit in several European currencies.

A further problem: I had originally wanted to show my report to the Govt. In actual fact as it will turn out, a good part of it will contain recommendations for Bank action, and these parts should go to the Bank first. Yet the Government will very much want to know what I have concluded. It may be necessary therefore for me to write two reports, one for the Govt, and one for the Bank, or to give the Government an oral report.

As you can see in this letter I have raised problems but not provided many answers. The next letter I hope will have more of the latter. Regards Har

P.S. Bertrand will arrive here tomorrow,
in connection with some multiple
currency financing and E.P.V.
financing. The Fund is much
disturbed but that is no problem
(multiple currency) that I am
very much unmoved by; it's
certainly minor in comparison with
all others.

FILE COPY

February 2, 1951

Dear Mr. Briem: X ✓

This is to thank you for your two letters dated January 25, giving me the information I had requested regarding the estimated amounts of European currencies that might be required for the Laxa project, and also the information regarding the Laxa 1950 balance sheet.

I appreciate the fact that both sets of figures are estimates and they will be so considered. However, the information will be most helpful and your cooperation in supplying the data so promptly is greatly appreciated.

Yours sincerely,

A. D. Spottswood

Mr. Erikur Briem
Director
State Electric Power Works
118 Langaveg
Reykjavik, Iceland

ADSpottswood/al

★ We're holding one
letter mentioned
AL

February 2, 1951

Dear Mr. Jonsson:

This is to thank you for your letters of January 22 and 23, giving me the information I had requested regarding the estimated amounts of European currencies that might be required for the Sog project, and also the information regarding the Sog 1950 balance sheet.

I appreciate the fact that both sets of figures are estimates and they will be so considered. However, the information will be most helpful and your cooperation in supplying the data so promptly is greatly appreciated.

Yours sincerely,

A. D. Spottswood

Mr. Steingrímur Jonsson
Sogsvirkjunin
P. O. Box 537
Reykjavik, Iceland

ADSpottswood/al

*We're holding letters
mentioned. al*

RAFORKUMÁLAS ÖRNIN
THE STATE ELECTRICITY AUTHORITY

THE STATE ELECTRIC POWER WORKS
THE STATE ELECTRICAL INSPECTION
PROJECTS & SURVEYING DEPARTMENT
GEOTHERMAL RESEARCH & WELLDRIILLING DEPT.

TELEGRAMS & CABLES:
RARIK. REYKJAVÍK

118 LAUGAVEG
REYKJAVÍK
ICELAND

YOUR REF. Mr. Spottswood

OUR REF. EB:gs

DATE, 2.2.1951

Mr. A.D.Spottswood,
c/o International Bank for Reconstruction and Development,
Washington 25, D.C.,
U. S. A.

Re: Laxárvirkjun.

Dear Mr. Spottswood,

In my letter dated 25th ult., I advised under item h), that the reinforcing steel would be purchased in Denmark. Further that the amount needed for this material was danish crowns 150.000.-, and that we had already ordered steel for d.kr. 106.000.- from the temporary loan we got in Denmark. Now we learn, however, that the steel is unobtainable from Denmark and that we will have to purchase it from England. The estimated value and currency for this item should therefore be transferred from Denmark (d.kr.150.000.-) to England (£7.750:0:0).

Yours very truly,

S. Brúin

ack. Feb. 12

THE STATE ELECTRICITY AUTHORITY

RAFORKUMÁLAS ORNIN

THE STATE ELECTRIC POWER WORKS
THE STATE ELECTRICAL INSPECTION
PROJECTS & SURVEYING DEPARTMENT
GEOTHERMAL RESEARCH & WELLDRILLING DEPT.

TELEGRAMS & CABLES:
HAFNIN. REYKJAVIK

IS LAUGAVEG
REYKJAVIK
ICELAND

YOUR REF. Mr. Spottswood DATE 2.2.1951

U. S. A.
Washington 25, D.C.
c/o International Bank for Reconstruction and Development,
Mr. A.D. Spottswood,

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Yours very truly,



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GENERAL INVESTMENT
DEPARTMENT AND DEVEL.
FEB 2 9 1951

1961

for the purpose of (U.S. 20:0:0)*
 and the purpose of the transferred from Denmark (q.k. 120,000--)
 English. The estimated value and currency for this item
 are from Denmark and that we will have to purchase it from
 Denmark. Now we wish, however, that the steel is imported
 steel for q.k. 100,000-- from the centrally owned we for in
 the Danish crown 120,000-- and that we had already ordered
 Denmark. Further that the amount needed for this material
 item is, that the reinforcing steel would be purchased in
 in my letter dated 22nd July. I signed under

OFFICE MEMORANDUM

TO: Mr. S. R. Cope

DATE: January 30, 1951

FROM: A. D. Spottswood *ADS*SUBJECT: Iceland - Breakdown of European Currency
Requirements -

✓ ✓ Held by Mr. Spottswood

I have received replies to my letters of January 9 from Mr. Jonsson of the Sogsvirkjunin and from Mr. Briem of the Laxavirkjunin, giving me a more exact breakdown of European currencies required for the Icelandic projects. The attached table shows the total requirements for the two projects in thousands of U.S. dollars.

Both Mr. Jonsson and Mr. Briem stress that these figures are not final as a number of contracts still remain to be placed. The allocation of expenditures to the various countries represent their best estimates at this time.

Iceland has negotiated a temporary loan with which to initiate purchases in Sweden and Denmark and has made certain payments in these countries X from proceeds of this loan. Iceland hopes to pay off these loans from the loan negotiated with the International Bank.

Discussed the question of reimbursing the Gov. for payments made out of proceeds of the short-term accommodation with Messrs. Casanovaga & Street of Treasurer's Dept. They did not raise any objections, except that items on short term payments were made have to be acceptable to the Bank. Mr. Casanovaga will bring the revised currency breakdown to the attention of Mr. Crenna to Day.

Jf. i/g

P.S. -

There are additional copies of the table attached in case you desire to send them to the Treasurer's and the Economic Departments.

Cc: Mr. Hoar

done

ESTIMATED EUROPEAN CURRENCY REQUIREMENTS
ICELANDIC ELECTRIC POWER PROJECTS

(In 1,000 U.S.Dollars)

<u>Description</u>	<u>Swedish Kr.</u>	<u>Danish Kr.</u>	<u>Norwegian Kr.</u>	<u>Pounds Sterling</u>	<u>German D.M.</u>	<u>Total</u>
a) Hydraulic turbines	252.7	-	-	-	-	252.7
b) Dam Gates	46.3				147.4	193.7
c) Traveling Cranes					28.1	28.1
d) Reinforcing Steel	8.0	81.7		30.7		120.4
e) Steel Pipe and Tanks					21.3	21.3
f) Wooden Stave Pipe			67.2			67.2
g) Timber and Poles	130.7	1.2				131.9
h) Cement	43.2	146.7				189.9
i) Miscellaneous Bldg. Materials		54.2		18.4		72.6
j) Services of Engineers and Erectors	20.7		76.4			97.1
k) Services of Contractors	343.2	196.3				539.5
l) Construction Machinery	98.2	8.6				106.8
m) Contingencies		97.5		208.7		306.2
Totals	943.0	586.2	143.6	257.8	196.8	2,127.4

ICELAND Reg.

Mr. S. R. Cope

January 30, 1951

A. D. Spottswood

Iceland -- Breakdown of European Currency
Requirements --

✓✓
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Mr. Cope

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Should we advise ED's whose 18% requested?

Mr. Hoar

I think that a further communication at this stage might confuse matters. I would prefer to let them know.

P.S. -

There are additional copies of the table attached in case you desire later, to send them to the Treasurer's and the Economic Departments.

Cc: Mr. Hoar ✓

Feb 1 '51.

RCope

ESTIMATED EUROPEAN CURRENCY REQUIREMENTS
ICELANDIC ELECTRIC POWER PROJECTS

(In 1,000 U.S.Dollars)

<u>Description</u>	<u>Swedish Kr.</u>	<u>Danish Kr.</u>	<u>Norwegian Kr.</u>	<u>Pounds Sterling</u>	<u>German D.M.</u>	<u>Total</u>
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l) Construction Machinery	98.2	8.6				106.8
m) Contingencies		97.5		208.7		306.2
Totals	943.0	586.2	143.6	257.8	196.8	2,127.4

FILE COPY

Iceland Regs

Mr. E. Harrison Clark

January 26, 1951

A. D. Spottswood

Iceland Project -

Please ask Mr. Steingrímur Jonsson or Mr. Erikur Briem to check the following for me;

A. General

1. Total generating capacity installed in all of Iceland in 1950. (My estimate is 48,000 kw of which about 63% hydro, 21% diesel and 16% steam).
2. Total production of energy 1950. (My estimate 215 million kwh, of which 80% to 90% produced by hydro plants).
3. Who will own and operate the District Electricity systems when established. Are they cooperatives?

B. Sog Project

1. Does the State Electricity System at present own and operate all transmission lines in southwest Iceland except the 66 kv line from Ljosafoss to Ellidaar? Are there plans for the further extension of the 22 kv lines?
2. Are retail rates of the other communities in southwest Iceland about the same as those in Reykjavik.
3. The retail rates of the Reykjavik Power Works were raised about 50% in October 1950. Will these rates be raised still further in 1953 after wholesale rates of Sogsvirkjun are increased? If so, to what extent.
4. Has the Ljosafoss plant ever been shut down by ice or freezing weather? If so, for how long?

C. Laxa Project

1. Is the flow of the Laxa River seriously affected by freezing in winter? If so, to what extent and over what period of time?
2. What is the length of flow record on the Laxa River? What is the minimum daily flow at Bruar Falls?
3. What is the voltage of transmission line from Akureyri to Hjalteyri? How long is it and who owns it?
4. What is the population of Hjalteyri?
5. Will the retail rates in Akureyri and vicinity be raised further

FILE COPY

- 2 -

after the wholesale rate for Laxavirkjun power is increased in 1952 or 1953? If so, to what extent.

6. According to Mr. Briem's estimates of future income of the Laxavirkjun after new plant is in operation, there will be deficits from 1953 to 1957, if sales are made Kr. 420 per kilowatt year. If Laxavirkjun sells at cost plus 5%, how can there be deficits? Perhaps Kr 420 figure is just an average rate and in actual practice the selling rates will be adjusted annually. If this is not the case, please explain.

Recd 24 Jan 51

RAFORKUMÁLASTJÓRNIN
THE STATE ELECTRICITY AUTHORITY

THE STATE ELECTRIC POWER WORKS
THE STATE ELECTRICAL INSPECTION
PROJECTS & SURVEYING DEPARTMENT
GEOTHERMAL RESEARCH & WELLDRIILLING DEPT.

118 LAUGAVEG
REYKJAVÍK
ICELAND

TELEGRAMS & CABLES:
RARIK. REYKJAVÍK

YOUR REF.

OUR REF. EB:gs

DATE, January 25th, 1951.

Mr. A.D.Spottswood,
The International Bank for Reconstruction and Developments,
Washington D.C., U.S.A.

Dear Mr. Spottswood,

In answer to your letter of 12th inst., I have collected the following information.

A. The Municipal Light and Power Works of Akureyri.

As mentioned in my letter of October 13th, the figures for expenditure in 1949 were estimated. This estimate has turned out to be rather too low owing mainly to a rise in expenditure on maintainance. Referring to tables III and IV in the above letter I am now able to give you the final figures for 1949 together with estimated figures for 1950:

Amounts in 1000 Ikr.	1949	1950
Gross revenue	3114	3231
Gross expenditure	1645	1790
Surplus	1469	1441
Invested in network etc.	5736	5931
Written off	2321	2621
Booked network etc.	3415	3310
Cash and sundries	2259	3505
Total assets less written off	5674	6815
Liabilities	0	0
Net booked property	5674	6815

The estimated figures for 1950 are based on preliminary accounts and are believed to be quite close. It may be mentioned that the amount invested in extension of the network is extraordinary low in 1950 because of delayed deliveries of material from abroad, owing to the present currency difficulties.

B. The Laxarvirkjun.

The enclosed table shows assets and liabilities for the years 1940 to 1950. The figures are final up to 1949 but estimated for 1950.

As you may note the figures for the years 1945 and 1946 are not quite consistent with the previous figures on income and expenditure supplied in my letter of October 5th. This inconsistency needs a rather lengthy explanation, which I am not giving here as I think it would be of no practical interest. The figures in the present table, however, are the correct ones.

Concerning the balance estimate in my letter of October 5th, I think it is necessary only to remark that the estimate for 1949 has turned out to be much too favourable, while the estimate for 1950 seems to be close according to preliminary accounts. This does not, however, infect the estimate for the following years, and it is to be noted that the policy has been to allot to the Laxarvirkjun an income just necessary to meet its running expenditures, while the main financial surplus for the Laxarvirkjun and the municipal utility taken as a whole has been accounted to the latter.

I hope this letter gives the lacking information.

Yours very truly,

A handwritten signature in dark ink, appearing to read "E. Briem". The signature is fluid and cursive, with a long horizontal stroke extending to the left.

1000000 REC
203 27 Jan 51

RAFORKUMÁLAS ÖRNIN
THE STATE ELECTRICITY AUTHORITY

THE STATE ELECTRIC POWER WORKS
THE STATE ELECTRICAL INSPECTION
PROJECTS & SURVEYING DEPARTMENT
GEOTHERMAL RESEARCH & WELLDRIILLING DEPT.

118 LAUGAVEG
REYKJAVÍK
ICELAND

TELEGRAMS & CABLES:
RARÍK. REYKJAVÍK

YOUR REF.

OUR REF. EB:gs

DATE, 25th January, 1951.

Mr. A.D.Spottswood,
c/o International Bank for Reconstruction and Development,
Washington 25 D.C.,
U. S. A.

Re: Laxarvirkjun.

Dear Mr. Spottswood,

In answer to your letter dated 9th January, I am enclosing herewith our present estimate of the European currency requirements for Laxarvirkjun. I would like to add the following comments:

a) Wood Stave Pipe. It is intended to purchase the pipe from "Skandinavisk Trerör, Oslo". This firm is also able to deliver the pipe from Sweden for approx. same price and with the same time of delivery, but we selected delivery from Norway. However, prices and delivery time are constantly changing, and should it turn out at the end, that a shorter delivery can be obtained from Sweden, we might want to place the order there.

b) Steel Pipe & Steel Tower. It is intended to purchase this equipment from "Stahlunion, Düsseldorf, Germany".

c) Travelling Cranes. We are still waiting for final offers on the cranes but these are expected very soon. The lowest offers will probably be from Germany, but England, Denmark or Sweden may turn out to be more favourable.

d) Dam Gates. Will be purchased from "Mohög, Sundsvall, Sweden". (See below),

e) Wood Poles. Will be purchased from "Hyléen, Halmstad, Sweden". (See below).

f) Timber. Will be purchased in Sweden. (See below).

g) Cement. (See below), will be purchased from Denmark.

h) Reinforcing Steel. Will be purchased in Denmark. (See below).

ack Feb. 2

SOGSVIRKJUNIN

THE HYDRO-ELECTRIC DEVELOPMENT OF SOG

Rec'd - 29 Jan 51

P. O. BOX 537 TELEPHONE 1222
TELEGRAMS: RAFMAGNSVEITAN

REYKJAVÍK, Jan. 23rd 1951.
12 TJARNARGOTU, ICELAND
HH/AS/NF-16.

Mr. A. D. Spottswood,
International Bank for
Reconstruction and Development.

Dear Mr. Spottswood:

I have your letter of January 9th, requesting information on distribution of the European currency requirements.

The attached table has been compiled to give an idea of the probable distribution, but it is only a rough estimate, and as we are held up in placing orders until we know how funds will be supplied, we are unable at this time to allocate the various items to specific countries.

As you know we obtained provisory currency loans in Sweden and Denmark to cover the most immediate disbursements, and these loans are included in the estimate.

The dam gates are listed under German currency as the lowest offer was from there. Lift cranes are expected to be bought from Germany also, but no decision has been made on that. If a more favourable offer comes from the U.K. it will be bought from there.

The building materials are estimated as bought mainly from Sweden and Denmark although more of it than estimated may be taken from U.K. if the currency problem is solved soon. Under sundry building materials are estimated such items as heating and electrical installations for the dwelling houses and several small items required in connection with the buildings.

i) Miscellaneous constructional material. This material, (dynamit, insulating material, asphalt paper, glass, tiles, nails, sanitary appliances, radiators, etc. etc.) can be purchased in different countries, but I have divided it between Denmark and Sweden.

j) Services and erectors. Erectors are needed from the manufacturers of the Wood Stave Pipe and the Dam Gates.

k) Unforeseen. It is intended to use steel crossarms on the high tension line and our intention has been to purchase them in U.S.A., and this item is included in our application for ECA funds. The prices are however constantly changing and at present it seems to us, that a considerably lower prices can be obtained in Sweden or Denmark. I have therefore added as "unforesee" d.kr. 250.000.-, in case we want to purchase the crossarms from there.

I am leaving for Scandinavia shortly and will then among other things decide whether the Wood Stave Pipe should be purchased in Norway or Sweden and the steel crossarms in Denmark (or Sweden).

I believe that I have previously informed you that we obtained a temporary loan of approx. 1 milj. Ikr. in Sweden and Denmark to get things started. This loan has been disposed of as follows:

	Denamrk: D.kr.	Sweden: Sw.kr.
Dam Gates (first payment)	-	32.000
Wood Poles " "	-	38.000
Cement	130.000	-
Reinforcing steel	106.000	-
Timber	-	57.000
Misc.constr. material	-	31.000
	<u>236.000</u>	<u>158.000</u>

These amounts are ~~already~~ included in the "estimated European currency requirements" discussed above.

I am sorry that I can not give you definite information on all the items now, but I hope I can do so very soon.

Yours very truly,

E. Brier

L a x a r v i r k j u n

Estimated European Currency Requirement - Jan 20th - 1951.

Description	Swedish kronur	Danish kronur	Norwegian kronur	German D.marks
a) Wood Stove Pipe	-	-	67.2 480.000	-
b) Steel Pipe & Steel Tower	-	-	-	21.3 115.000
c) Travelling Cranes	-	-	-	28.1 150.000
d) Dam Gates	46.3 240.000	-	-	-
e) Wood Poles	32.8 170.000	-	-	-
f) Timber	21.2 110.000	-	-	-
g) Cement	-	43.4 300.000	-	-
h) Reinforcing Steel	-	21.6 150.000	-	-
i) Misc. constr. material	12.5 65.000	24.5 170.000	-	-
j) Services of erectors	2.3 12.000	-	2.8 20.000	-
k) Unforeseen	-	36.1 250.000	-	-

$\frac{597,000}{5.18}$ $\frac{870,000}{6.92}$ $\frac{500,000}{7.15}$ $\frac{265,000}{7.54}$ 2,232,000

= 115,100 125,600 70,000 49,400

300.0
 310.6
 29.4

Sundries and unforeseen are intended to cover price escalation and such material requirements which may have been left out of our estimates.

I trust the information will be useful to you, and if you have any suggestions to make in this connection or further advise, I shall be glad to hear from you.

Yours truly,

A handwritten signature in blue ink, appearing to read "Steingr. Jonsson". The signature is written in a cursive, flowing style with a large initial 'S'.

LAXARVIRKJUN

ASSETS AND LIABILITIES (Amounts in 1000 Ikr.)

End of year	Invested in exis- ting fa- cilities	Written off	Booked exis- ting fa- cilities	Cash and sund- ries	Total assets less wr.off	Liabili- ties	Net booked property
1940	2402		2402	110	2512	2497	15
41	2482		2482	148	2630	2605	25
42	2875	67	2808	49	2857	2809	48
43	4386	138	4248	650	4898	4814	84
44	4771	270	4501	552	5053	4870	183
45	5105	395	4710	51	4761	4668	93
46	5211	520	4691	131	4822	4691	131
47	5326	742	4584	39	4623	4474	149
48	5395	980	4415	70	4485	4231	254
49	5420	1226	4194	10	4204	3984	220
50	5420	1476	3944	75	4019	3734	285

SOGSVIRKJUNIN

THE HYDRO-ELECTRIC DEVELOPMENT OF SOG

P. O. BOX 537 TELEPHONE 1222
TELEGRAMS: RAFMAGNSVEITAN

REYKJAVÍK,
12 TJARNARGÖTU, ICELAND

Estimated
European Currency requirements.
1000 kr.

Description	Swedish kroner	Danish kroner	Norwegian kroner	Pounds Sterling	German Deutscher Mark
a) Hydraulic turbines	615 ^x) 3500 ± 7.52.7	4115. ✓			\$147.4
b) Damgates lift cranes					{ 1200 ✓ 1200 ✓
c) Reinforcing steel and other steel items	\$ 8.0	130 ^x) ✓	\$60.2 980 ^x) ✓	\$ 30.7 500 ✓	
d) Cement	\$103.3	{ 282 ^x) 1400 ✓			
e) Timber and Poles	\$ 76.7	{ 650 ^x) 600 ✓	\$1.2 20 ^x) ✓		
f) Services of Engi- neers and erectors	\$ 18.5	300 ✓	\$202.4 1200 ✓	\$ 73.7	
g) Services of contractors	\$ 343.2	{ 390 ^x) 5200 ✓	{ 297 ^x) 3000 ✓		
h) Construction Machinery	\$ 98.2	{ 700 ^x) 900	\$8.6 140 ^x)		
i) Sundry Building Materials	\$ 30.7	500 ✓	\$30.7 500 ✓	\$18.4 300 ✓	
k) Sundries and unforeseen			7519 6617 900 ←	208.8 3400	
	13485	7519	1200	4200	2400 = 28.804
x) Covered by provisory loan.	1000 45 \$ = 828.0	461.7	73.7	257.7	147.4 = 1,768
		406.4			

Iceland Rego

Sir Ernest Rowe-Dutton

January 23, 1951

D. Crena de Iongh

Use of pounds sterling for purchases of hydroelectric equipment for Iceland

1. In September 1950, the Icelandic Government asked the Bank for a loan of the equivalent of \$2.1 million to make possible the purchase in Europe of equipment for two hydroelectric plants under construction on the Sog and Laxa rivers in the southwestern and northeastern part of the island. Equipment to be bought in the U.S.A. is being financed by E.C.A.

2. The amounts of European currencies required are estimated as follows:

	<u>Equivalent in millions</u> <u>of dollars</u>
Sweden	1.0
Denmark	.5
U.K.	.3
Norway	.2
Western Germany	<u>.1</u>
	2.1

3. It is the opinion of the Staff Loan Committee that the need for a loan is technically and economically justified. It is felt, however, that it would be undesirable for Iceland to incur a dollar debt in connection with the import of the above equipment from Europe. On the other hand, we are satisfied as to the ability of the country to service a loan of the amount requested in European currencies.

4. Therefore, before proceeding further with the loan negotiations, the Management of the Bank wishes to know whether the member countries which would supply equipment under the proposed loan are willing to release funds from the 18% subscription to the capital of the Bank.

5. The availability of currencies of non-member countries presents an additional problem as about one-half of the proposed loan would be spent in Sweden and Western Germany. Since borrowing in either country seems out of the question, the best way would be to purchase Swedish kroner and German marks out of monies advanced out of 18% subscriptions of those European member countries who are currently running a creditor position in the European Payments Union, viz. the United Kingdom and France.

6. I would appreciate your inquiring whether the United Kingdom Government would release from its 18% capital subscription:

(a) £110,000 for purchases of equipment in the United Kingdom

(b) £200,000 representing about one-half of estimated purchases in Sweden and Western Germany.

7. I am asking the French Government to make available approximately F.Frs.200 million representing the other half of the purchases in Sweden and Western Germany.

RBrion/mvp

cc: Messrs. Hoar, Cope, Cavanaugh, Robinson and Miss Mersey

J

Iceland nego

Mr. J. W. Beyen

January 23, 1951

D. Crena de Iongh

Use of Norwegian kroner for purchases of hydroelectric equipment by Iceland.

1. In September 1950, the Icelandic Government asked the Bank for a loan of the equivalent of \$2.1 million to make possible the purchase in Europe of equipment for two hydroelectric plants under construction on the Sog and Laxa rivers in the southwestern and northeastern part of the island. Equipment to be bought in the U.S.A. is being financed by E.C.A.

2. The amounts of European currencies required are estimated as follows:

Equivalent in millions
of dollars

Sweden	1.0
Denmark	.5
U.K.	.3
Norway	.2
Western Germany	<u>.1</u>
	2.1

3. It is the opinion of the Staff Loan Committee that the need for a loan is technically and economically justified. It is felt, however, that it would be undesirable for Iceland to incur a dollar debt in connection with the import of the above equipment from Europe. On the other hand, we are satisfied as to the ability of the country to service a loan of the amount requested in European currencies.

4. Therefore, before proceeding further with the loan negotiations, the Management of the Bank would like to know whether the member countries which would supply equipment under the proposed loan are willing to release funds from the 18% subscription to the capital of the Bank.

5. In these circumstances, I would appreciate your inquiring whether the Norwegian Government would make available to the Bank out of its 18% subscription an amount of approximately N.kr.1.4 million.

RBrion/mvp

cc: Messrs. Hoar, Cope, Cavanaugh, Robinson and Miss Mersey

Iceland Regs

Mr. Thomas Basyn

January 23, 1951

D. Crenn de Iongh

Use of Danish kroner for purchases of hydroelectric equipment by Iceland

1. In September 1950, the Icelandic Government asked the Bank for a loan of the equivalent of \$2.1 million to make possible the purchase in Europe of equipment for two hydroelectric plants under construction on the Sog and Laxa rivers in the southwestern and northeastern part of the island. Equipment to be bought in the U.S.A. is being financed by E.C.A.

2. The amounts of European currencies required are estimated as follows:

	<u>Equivalent in millions</u> <u>of dollars</u>
Sweden	1.0
Denmark	.5
U.K.	.3
Norway	.2
Western Germany	<u>.1</u>
	2.1

3. It is the opinion of the Staff Loan Committee that the need for a loan is technically and economically justified. It is felt, however, that it would be undesirable for Iceland to incur a dollar debt in connection with the import of the above equipment from Europe. On the other hand, we are satisfied as to the ability of the country to service a loan of the amount requested in European currencies.

4. Therefore, before proceeding further with the loan negotiations, the Management of the Bank would like to know whether the member countries which would supply equipment under the proposed loan are willing to release funds from the 18% subscription to the capital of the Bank.

5. I would appreciate your inquiring whether the Danish Government would make available to the Bank out of its 18% subscription an amount of approximately D.Kr.3.5 million.

RBrion/mvp

cc: Messrs. Hoar, Cope, Cavanaugh, Robinson and Miss Morsey

Island Rego

Mr. R.M.G. Hoppenot

January 23, 1951

D. Crena de Iongh

Use of French francs for purchases of hydroelectric equipment by Iceland

1. In September 1950, the Icelandic Government asked the Bank for a loan of the equivalent of \$2.1 million to make possible the purchase in Europe of equipment for two hydroelectric plants under construction on the Sog and Laxa rivers in the southwestern and northeastern part of the island. Equipment to be bought in the U.S.A. is being financed by E.C.A.

2. The amounts of European currencies required are estimated as follows:

Equivalent in millions
of dollars

Sweden	1.0
Denmark	.5
U.K.	.3
Norway	.2
Western Germany	.1 2.1

3. It is the opinion of the Staff Loan Committee that the need for a loan is technically and economically justified. It is felt, however, that it would be undesirable for Iceland to incur a dollar debt in connection with the import of the above equipment from Europe. On the other hand, we are satisfied as to the ability of the country to service a loan of the amount requested in European currencies.

4. Therefore, before proceeding further with the loan negotiations, the Management of the Bank wishes to know whether the member countries which would supply equipment under the proposed loan are willing to release funds from the 18% subscription to the capital of the Bank.

5. The availability of currencies of non-member countries presents an additional problem as about one-half of the proposed loan would be spent in Sweden and Western Germany. Since borrowing in either country seems out of the question, the best way would be to purchase Swedish kroner and German marks out of monies advanced out of 18% subscriptions of those European member countries who are currently running a creditor position in the European Payments Union, viz. the United Kingdom and France.

6. I would appreciate your inquiring whether the French Government would make available to the Bank out of its 18% capital subscription an amount of approximately F.Frs.200 million, representing about one-half of estimated purchases in Sweden and Western Germany.

7. I am asking the United Kingdom Government to make available approximately £200,000, representing the other half of the purchases in Sweden and Western Germany.

RBrion/mvp

cc: Messrs. Hoar, Cope, Cavanaugh, Robinson and Miss Morsey

SOGSVIRKJUNIN

THE HYDRO-ELECTRIC DEVELOPMENT OF SOG

Rec'd 29 Jan 51

P. O. BOX 537 TELEPHONE 1222
TELEGRAMS: RAFMAGNSVEITAN

REYKJAVÍK, Jan. 22nd '51.
2 TJARNARGÖTU, ICELAND

HH/IA/NF-16

Mr. A. D. Spottswood,
International Bank for
reconstruction and Development.
Washington 25, D. C.

Dear Mr. Spottswood,

I have your letter of January 12th, and in accordance with your request have had the figures for 1950 in continuation of table VI in our report extracted from the accounts.

The figures are provisory, as the accounts have not yet been closed, but they are not expected to alter much in the final reckoning.

The details are as follows, all in 1000 kr.s.

Invested cost:	
Ljosafoss Plant	13633
H.T. Transmission line and Main Transf. Station	2584
Total	16217
Written off	4040
Booked plant and distribution	12177
Cash and Sundries	8436
Including preliminary cost of projected extension in 1950: Kr. 6.978.600.-	
Total assets less written off	20613
Liabilities	18116
Net booked property	2350
Gross receipts	2200

Expenses:	
Operation and Maintenance	1035
Interest	402
	Total 1437
Surplus	763

In some copies of the table a typing error has to be corrected, and in case it has not been done in your copy, will you kindly note that Operation and Maintenance in 1949 is 969, not 696.

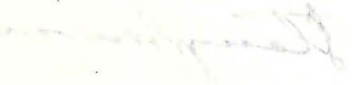
We trust these data will serve for the time being.

Your sincerely,



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INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

JAN 29 10 06 AM 1951

Very sincerely,


The first three data will serve for the purpose.
corrected, and in case it has not been done in your copy, [11]
new [11] note that Operation and Maintenance in 1940 is 600,
not 606.
In some copies of the table a typist error has been

Interest
Operation and Maintenance
Interest
Total
1947
1948

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

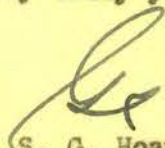
Iceland Negot.

January 19, 1951

Dear Mr. Arnason:

Further to my letter of October 24, 1950, I wish to advise you that, in connection with the consideration of your Government's request for a loan of approximately \$2.1 million for hydroelectric development, the Bank is now investigating the possibility of obtaining the release of necessary amounts of European currencies out of 18% subscriptions of certain member countries to the capital of the Bank.

Very truly yours,


A. S. G. Hoar
Assistant Loan Director

ack Jan 29

Mr. Jon Arnason
Managing Director
National Bank of Iceland
Reykjavik, Iceland

JFajans/m


FILE COPY

Iceland Negot.

Files

January 17, 1951

Herbert W. Robinson

Iceland

Mr. Harrison Clark, Economic Department, entertained Mr. Thorhallur Asgeirsson, Under Secretary of Commerce, Iceland, and Mr. Ben Eiriksson (Icelander), of the IMF at a luncheon today at which Mr. Haralz (Icelander) and myself attended. In the course of the conversation the following information was given by Mr. Asgeirsson:

- (a) Marshall Plan assistance in 1950/51 to date amounted to \$2.5 million. The total amount to be given is still unknown to the Icelanders, but on the Snoy-Marjolin formula ~~the total would~~ amount to \$3.2 million;
- (b) ECA had approved the fertilizer project and was prepared to finance the dollar component of the import requirements;
- (c) Iceland's utilization of the initial credit position of \$4 million in EPU amounted to \$3.3 million by the end of 1950;
- (d) Partly owing to the dispute between the U.K. and Argentina over the price of Argentine meat exports and the resulting cut in the British meat ration, sales of Icelandic fish in the U.K. have shown some revival and the price of fish ~~has~~ risen to such an extent that questions have been asked in the House of Commons;
- (e) The expanded sales of salted fish to Cuba were making it possible to increase imports of sugar, a commodity which ^{had} to be strictly rationed to consumers.

Mr. Ben Eiriksson said that wages have increased by 5% in January 1951 in accordance with the price-wage agreement, bringing wages to 123½% of the level prevailing in March 1950. However, the unions have agreed to the abolition of the link between wages and prices and there was some hope that the inflationary situation might be brought under control.

HWR;js:#3005



ICELAND NEG

lx

Reykjavík, January 29th 1951.

My

Dear Mr. Hoar,

I acknowledge receipt of and thank you for your letter dated 19th inst. regarding the Icelandic Government's request for a loan for hydroelectric development, the contents of which carefully noted.

Very truly yours,

Jon Thorvaldsson

Mr. A. S. G. Hoar,
Assistant Loan Director,
International Bank for
Reconstruction and Development,
Washington 25, D.C.

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RECONSTRUCTION AND DEVELOPMENT

FEB 2 10 56 AM 1951

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Notes on Meeting of Staff Loan Committee
Held 11:00 a.m., Monday, January 15, 1951.

ICELAND

HOAR opened by saying that the issue before the Committee was straightforward, the question being whether the Bank needed to send a mission to Iceland before negotiating a loan. Hoar said that it seems perfectly safe for the Bank to go ahead with discussions, subject to its being able to obtain the required European currencies without having to purchase them with dollars.

GARNER asked for information as to Iceland's creditworthiness.

ROSEN replied that Iceland had not handled its affairs too well. They had undertaken heavy investment and had rather carelessly used the substantial reserves earned when the U.S. troops were there. However, the Icelanders now recognized the shortcomings in their policies and wanted technical help in straightening out their affairs. Representatives from both the Bank and the Fund were scheduled to go to Iceland as technical advisers. He went on to say that housing had been a particularly large drain on Iceland's resources, for although it could not be described as "wasteful" it had not improved foreign exchange earnings. Furthermore, Iceland was in difficulty because her economy was based almost entirely on the fishing industry, which has declined for two reasons: (1) the market for fish had declined, especially in Britain where fish was not subsidized; and (2) the fish themselves had changed their habits and no longer could be found in large quantities in the Icelandic waters.

Normally Iceland's trade is directed towards Europe and the sterling area, which means that when they acquire a surplus it is usually in currencies of the sterling area. They do not necessarily always have a dollar deficit and a sterling surplus, but inasmuch as their trade is very largely directed towards Europe, it is preferable that any further debt should be incurred in European currencies.

HOAR inquired as to the chances of obtaining Swedish kronor.

GRENA DE IONGH replied that there would be difficulty and novelty in using sterling to purchase kronor. Considering the Bank's present relationship with Sweden, he doubted whether we would be able to borrow kronor direct.

ROSEN commented that it would be possible to obtain kronor through the European Payments Union against any European currency.

GARNER suggested that since it was the U.K. which was delaying Sweden's entrance into the Bank and Fund, it might be possible to put pressure on the United Kingdom to let the Bank use sterling for the purchase of kronor.

HOAR suggested that the Loan Department's recommendations should be amended so as to indicate that discussions would be undertaken only after it had been ascertained that the European currencies required would actually be available.

There was general agreement to this.

HOAR inquired as to whether \$40 million could be considered a minimum value for Iceland's exports this year.

ROBINSON replied in the negative. He said that \$40 million would be an optimistic estimate because of the serious strike among the trawler men. It was possible that exports would amount to only \$30 million this year.

GARNER suggested that the first step would be to discuss the currency question with the U.K.

HOAR asked whether there were any advantages in using French francs rather than sterling.

It was generally agreed that there were no particular advantages.

GARNER inquired as to the physical status of the projects under consideration.

SPOTTSWOOD replied that work had begun last July and that the majority of the equipment required was already on order.

GARNER replied that from a practical standpoint it would be satisfactory to go ahead with discussions without sending a mission.

CRENA DE IONGH, referring to the lakes which were to be the source of water for the hydroelectric plants, asked whether there was any likelihood that these lakes would freeze in the wintertime.

SPOTTSWOOD replied that the water in these lakes came from hot-water springs and consequently the lakes did not freeze. He went on to say that there was some prospect of being able to harness the natural steam from these hot water springs for the production of power, but that this was only in the experimental stage.

COLONIAL DEVELOPMENT

HOAR said that the British and French had given signs of interest in borrowing from the Bank for colonial development, but that nothing specific had been brought forward.

ROSEN stated that the Bank would want to know about the current creditworthiness of the United Kingdom and France before entering into any discussions. He agreed to the proposals put forward by the Working Party.

GARNER said that in Paris, Guindey had said that they did not wish to undertake any further dollar debt for metropolitan France nor any further dollar debt for the colonies unless the colonial projects were to be dollar earners.

ROSEN said that before going ahead with any discussions with the British or the French, the Bank should crystalize its views on (1) the creditworthiness of Britain and France; (2) the program of N.A.T.O. with respect to financing in the colonies; (3) the likely impact of investment on the colonies themselves, together with an assessment of their investment programs.

There was then some discussion as to whether the Bank should send a representative to the meetings of the OEEC Working Party on Colonial Development, which were to extend over two or three weeks, commencing about the 29th of January. It was agreed that it would be advantageous to the Bank to send someone.

GARNER felt that it was important that the person going should be especially knowledgeable about the Bank so as to be able to present its views over a

broad range of matters and to tell the delegates to the meeting about the Bank's operations.

ROSEN added that one of the things the delegates would like to know from the Bank was whether the Bank would be prepared to make local currency loans. On the other side, the Bank would like to have from them a good deal of technical information. The Bank representative should arrange for the submission of such information.

HOAR agreed that the Bank should send a representative, but stressed the need of making his terms of reference quite definite. He said that it would be a mistake for the Bank to get too deeply involved in discussions.

ROSEN said it was desirable to send someone who was familiar with the Bank's approach to the development of Southern Italy as well as with colonial problems.

GARNER commented that possibly the question of Bank financing in the Belgian Congo would arise in the near future and it might be advisable for the same person going to the OEEC meeting to make subsequently a visit to Belgium.

It was agreed that the Working Party should discuss and come up with recommendations on the terms of reference of the person or persons going to Paris.

Loan Department
MLLejeune:eed:mo.
February 2, 1951.

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

STAFF LOAN COMMITTEE

Copy M/213

SLC/

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(This document is for the use of the President, Vice President and members of the Staff Loan Committee only. Its contents should not be communicated to other persons except in the course of duty.)

Minutes of Meeting of Staff Loan Committee held 11:00 a.m., Monday, January 15, 1951.

1. There were present:

Mr. R. L. Garner
Mr. A. S. G. Hoar
Mr. D. Crena de Iongh

Mr. A. F. Luxford
Mr. M. M. Rosen
Mr. M. L. Lejeune, Secretary

In attendance:

Gen. R. A. Wheeler
Mr. S. R. Cope
Mr. J. Fajans
Mr. A. D. Spottswood

Miss V. Morsey
Mr. H. W. Robinson
Mr. E. H. Clark

2. Iceland

The Committee considered SLC/O/296, Loan Director's Memorandum on Iceland, and

CONCURRED:

In the Loan Director's recommendations, except that it was agreed that an approach should be made to the Icelandic Government only after the Bank had ascertained that the requisite European currencies would be available.

3. British and French Colonial Development

The Committee considered SLC/O/294, Loan Director's Memorandum on British and French Colonial Development, and

CONCURRED:

In the Loan Director's recommendations.

Distribution

1. Mr. Eugene Black
2. Mr. R. L. Garner
3. Mr. W.A.B. Iliff
4. Mr. D. Sommers
5. Mr. D. Crena de Iongh
6. Mr. L. B. Rist
7. Mr. L. B. Rist
8. Mr. R. H. Demuth

9. Mr. A.S.G. Hoar
10. Mr. O. A. Schmidt
11. Gen. R. A. Wheeler
12. Mr. E. G. Burland
13. Mr. M. L. Lejeune
14. Files
15. Mr. S. R. Cope
16. Mr. H. Graves

FILE COPY

Iceland Rego.

January 12, 1951

Mr. Erikur Briem
Director
State Electric Power Works
118 Langaveg
Reykjavik, Iceland

Dear Mr. Briem:

*Retained by
Mr.
Spottswood*

As enclosures to your letter of October 13, 1950, reference EB/ks, you supplied me with Tables III and IV, showing respectively the financial balance and assets and liabilities of the Municipal Light and Power Works of Akureyri. The table of assets and liabilities gave data for the years 1940-48, and the table of revenue and expenditures gave data from 1940 through 1949.

I would appreciate very much if you could supply the figures showing the situation of the Power Works as of the end of 1950 even if some of the figures are only estimates.

While the figures relating to the Municipal Light and Power Works are helpful, I have a greater need for similar figures for the Laxavirkjun alone, particularly a balance sheet showing assets and liabilities as at the end of 1950.

As I understand it, the Laxavirkjun owns the hydro station at Bruar Falls, the 33 kv transmission line and the transformer station at Akureyri, and the Municipal Power Works owns the Glera Power Plant, the distribution network, meters, etc., in Akureyri. I do not have the original investment or the net book value of the Laxavirkjun facilities, but I have this information for the Municipal Power Works.

I hope this request will not cause you too much difficulty. It is practically the only bit of information lacking in the very excellent reports which you have given me thus far.

Best wishes,

Yours very truly,

A. D. Spottswood

al/

FILE COPY

Iceland Memo.

January 12, 1951

Mr. Steingrímur Jonsson
Sogsvirkjunin
P. O. Box 537
Reykjavik, Iceland

Dear Mr. Jonsson:

In Table VI of the report entitled "Sogsvirkjun Preliminaries for a New Development" the general balance sheet of the Sogsvirkjun is shown. At my request you added figures to this table to bring it up-to-date as of the end of the year 1949. I will very much appreciate it if you could supply the figures showing the situation at the end of 1950, even if it should be necessary to estimate some of the figures.

Best wishes,

Yours very truly,

A. D. Spottswood

al/

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

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STAFF LOAN COMMITTEE

Iceland Neg.
Copy No. 2
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Date: ~~January~~ January 12, 1951

TO: Mr. Garner

A meeting of the Staff Loan Committee will be held at 11:00 a.m.
on Monday, January 15, 1951, in Room No. 1005

[Signature]
Michael L. Lejeune
~~Harold Kalk~~

Secretary, Staff Loan Committee

AGENDA

Iceland

The Committee will consider SLC/O/296, Loan Director's
Memorandum on Iceland - Electric Power Development, dated
January 11, 1951.

Distribution

- | | |
|---------------------------------------|--|
| 1. Mr. Eugene Black | 9. Mr. A.S.G. Hoar |
| 2. Mr. R. L. Garner | 10. Mr. O. A. Schmidt |
| 3. Mr. W.A.B. Iliff | 11. Gen. R. A. Wheeler |
| 4. Mr. Franklin D. Sommers | 12. Mr. E. G. Burland |
| 5. Mr. D. Crena de Iongh | 13. Mr. Harold M.L. Lejeune |
| 6. Mr. L. B. Rist | 14. Files |
| 7. Mr. L. B. Rist | 15. Mr. S.R. Cope |
| 8. Mr. R. H. Demuth | 16. Mr. H.N. Graves |

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JAN 16 2018

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STAFF LOAN COMMITTEE

LOAN DIRECTOR'S MEMORANDUM

Iceland - Electric Power Development

1. I attach a paper prepared by the Working Party on the request of the Icelandic Government for a loan of the equivalent of about \$2 million in European currencies for hydroelectric power development.
2. I recommend that:
 - (a) The Icelandic Government be informed that the Bank is prepared to enter into negotiations for a loan of about \$2 million for expansion of electric power facilities, subject to its being able to obtain the required amounts of European currencies;
 - (b) The Bank raise with the European Governments concerned the question of their making available the currencies required.

W. A. B. Iliff
Loan Director

January 11, 1951

ICELAND - ELECTRIC POWER DEVELOPMENT

PART I - INTRODUCTION

The Loan Request

1. On September 11, 1950, the Icelandic Government asked the Bank for a loan of the equivalent of \$2.1 million in European currencies. This loan is required to finance the purchase of equipment to be obtained in Europe for two hydroelectric power plants, 65 miles of transmission lines, two sub-stations and two distribution systems. Other equipment, to be purchased in the U.S.A., is being paid for out of ECA loans and grants totalling \$4.8 million. The local expenditures, equivalent to \$5.5 million, are being financed in Iceland. The Government of Iceland would be the borrower.

2. The Icelandic Government also indicated its intention to approach the Bank at a future date with respect to two industrial projects:

- (a) a fertilizer factory necessitating foreign exchange expenditures equivalent to \$3.2 million (\$2.6 million in U.S. dollars and \$0.6 million in European currencies. This project is at present being considered by ECA and the approach to the Bank will depend upon ECA's decision;
- (b) a cement plant, foreign exchange expenditures on which are estimated at \$2 million, mostly in European currencies.

These two industrial projects are not covered in the present memorandum.

Technical Assistance

3. On January 4, 1951, the Icelandic Government formally approached the Fund and the Bank, through the Executive Director for Iceland, with a request for a technical expert from the Fund to study proposed legislation creating a central bank and one from the Bank to study the development program and the advisability of setting up a new investment agency. Both the Fund and the Bank have indicated their willingness to send someone to advise the Icelandic Government and it is proposed that the persons selected should leave for Iceland on January 30.

PART II - ICELAND'S ECONOMIC POSITION

4. Iceland's natural resources are limited. Her population of 140,000 is mainly engaged in agriculture, where sheep and cattle-raising predominate, and in fishing and fish processing. A decline in agricultural population and production, accelerated during the war, has enhanced Iceland's dependence upon fish and fish products, which provide the major part of her foreign earnings.

5. By the end of the war, thanks to military expenditures by the Allies and exceptionally favorable fish markets, Iceland had been able to pay off nearly all her foreign debt (equivalent to \$18 million in 1940) and to build up gold and foreign exchange reserves from the equivalent of \$1.2 million in 1938 to \$89 million in November 1944. Her national income per capita, which before the war was approximately equal to that of France, became one of the highest in Europe.
6. Investment in the immediate postwar period, stimulated by high prices for fish, was heavy and was financed first by using up gold and foreign exchange reserves, which are now down to the equivalent of only \$8 million, and later by ERP assistance and loans from the U.K. It included expansion of the fishing fleet, new quick-freezing plants and herring oil and meal factories, and extensive residential construction and public works. Gross investment accounted for about 40% of the gross national product in 1946, but since then has been around 30%.
7. A high rate of investment, the drive to maintain the high war-time standard of living, and the linking of wages to a cost of living index, have led to continuously rising prices. Price controls limited the rise to 23% between 1945 and 1949, but in the twelve months following the devaluation of September 1949, prices rose by 24%. Adverse developments in world fish markets and the rising level of internal prices forced a second devaluation of the krona in March 1950, of 42.5%, which brought the total depreciation of the krona in terms of dollars to 60% in a period of six months. Since the war, substantial budget deficits have been the main financial source of inflation but, simultaneously with the second devaluation, the government initiated a stabilization program which included replacement of export subsidies by taxes on exports, imposition of a capital levy and a reduction in the investment program, measures which should improve the budgetary position and reduce inflationary pressures. The basis of the wage-price link was also revised so as to reduce the pressure for higher wages, but the cumulative effects of two devaluations has been too strong and wages are still increasing rapidly. As long as investment continues at its present heavy rate and wages remain linked to the cost of living and farm prices to industrial wages, inflation will remain a serious problem.
8. The deterioration in Iceland's external position came about as a result of the improved food position in Europe and general overexpansion of European fishing fleets. At the same time unexpected movements of the herring shoals around Iceland have resulted in a progressive decline in Icelandic herring catches with adverse repercussions on exports of herrings, fish oil and fish meal. Despite a revival of the market for salted fish, Iceland's total exports declined from the equivalent of \$61 million in 1948 to less than \$40 million in 1950. Although very stringent import controls have been in force, there have been balance of payments deficits which have been covered by ECA allocations; the deficit in 1950/51 will probably be over \$6 million. The situation is such that as the ERP program draws to a close it may be impossible to avoid a substantial reduction in the rate of investment and, perhaps, in living standards.
9. Iceland is fortunate in having a relatively small foreign debt. Equivalent to only \$6.4 million, of which \$2.6 million is in dollars, it should be well within Iceland's capacity to pay. Peak requirements for interest and amortization, including those for the \$4 million loans contemplated for hydroelectric projects are

only \$710,000 per annum, compared with present annual exports of around \$40 million and invisible earnings of \$14 million.

10. Iceland can justifiably borrow abroad for economic development provided that her total investment program is smaller than at present and is directed towards improving her balance of payments. Since her capacity to service additional dollar debt is limited, she should if possible reserve it for essential equipment which can be obtained only in dollars.

11. In the past, much investment in Iceland has proved to be of little economic benefit, due partly to weaknesses in the overall planning of investment, and in the financial structure. If, therefore, the Bank were contemplating substantial loans to Iceland, it would have to be satisfied both as to the scale and character of the investment program and as to the organization for carrying it out. In the present case, however, since the hydroelectric program already under way is clearly of very high priority and the addition of \$2 million in European currencies to the foreign debt would present no debt service problem, the Bank can legitimately dispense with this investigation.

PART III - THE PROJECTS

12. Following receipt of the loan request in September 1950, Mr. Spottswood, of the Engineering Staff of the Bank, visited Iceland and discussed the hydroelectric development with officials concerned. His investigations are summarized below:

Iceland's Electricity Supply System

13. Electricity supply in Iceland is regulated by an Act of 1946, which set up a State Electric Power Authority with the exclusive right to generate and sell electric power, but permitted the municipalities, which were the principal suppliers, to continue to generate and distribute electricity under license. State distribution systems were to be set up to operate in rural areas.

14. Iceland's population is mainly concentrated in two areas. One includes Reykjavik and southwest Iceland: the other area includes Akureyri - the second largest city in Iceland. These two areas are not interconnected and constitute two separate supply systems.

The Reykjavik Supply System

Existing Generating Facilities

15. The generating facilities supplying the Reykjavik area consist of:

- (a) a small hydroelectric plant and a small steam generating plant, owned by the Reykjavik municipality, with a combined capacity of 10,800 kw; and
- (b) a generating station, owned by the Sogsvirkjun, on the Sog River at Ljossa Falls, with an installed capacity of 14,500 kw.

The Sogsvirkjun (hereafter called the Sog Undertaking) is a development undertaking owned as to 15% by the Icelandic Government and as to 85% by the Municipality of Reykjavik. The municipally owned plants, which supply about 20% of the electricity used in Reykjavik, are now used daily, but when the new Sog project comes into operation they will be used as standby, or for carrying seasonal peak loads.

The Sog Project

16. The Sog project will consist of:

- (a) a small dam across the River Sog, 31 miles east of Reykjavik and an underground power house. The power house is designed to house three units of 15,500 kw. each, although the initial installation will be only two units or 31,000 kw.;
- (b) a single circuit overhead transmission line carrying energy 31 miles to a new substation on the outskirts of Reykjavik;
- (c) new transformers, underground cables and other equipment for the Reykjavik municipal power works.

17. Work started in the summer of 1950 and is expected to be completed by the end of 1952. Contracts have been let for the main items of equipment.

Demand for Electricity

18. The Reykjavik area has a population of about 66,300, some 40% of Iceland's total population. It contains over 80% of the industries and nearly all the commercial activities of the country are centered in it. Further industrial expansion is planned in the area.

19. Electricity generated increased from 17.1 million kwh. in 1938 to 122.1 million kwh. in 1949, representing an increase in per capita production from 414 kwh. to 1840 kwh. Consumption in 1949 would have been even more if additional generating capacity had been available; the Reykjavik municipality has had to refuse to supply more current to industrial consumers and to discourage domestic consumption at peak periods. Assuming a growth in population to 85,000 and a rise in per capita production to 3800 kwh., energy required in 1960 will be 325 million kwh. compared with 133 million kwh. in 1950. The new facilities will be adequate to meet the demands of the area until 1956 or 1957.

Operating Costs and Selling Prices

20. The Sog Undertaking sells all its energy wholesale on a kilowatt year basis at cost plus 5%, some three quarters being supplied to the Reykjavik municipality and the rest to other local authorities and state distribution systems. Electricity is now being produced very cheaply. Because the new 31,000 kw. installation will be considerably more expensive than the existing plant, the Undertaking's wholesale selling price will have to be more than doubled to cover increased operating and financial charges. Even with the cost doubled, energy will be sold to the consumer relatively cheaply.

The Akureyri Supply System

Existing Generating Facilities

21. The generating facilities of the Akureyri area consist of:
- (a) a 4,400 kw. hydroelectric station at Bruar Falls on the Laxa River and now owned by The Laxavirkjun (hereafter called the Laxa Undertaking) a development undertaking owned jointly by the Icelandic Government and the Municipality of Akureyri;
 - (b) a 300 kw. plant owned by the Akureyri Municipal Power Works.

The Laxa Project

22. The Laxa Project will consist of:
- (a) a small dam across the Laxa river and a power house in which a turbine generating unit of 8,000 kw. will be installed;
 - (b) a single circuit transmission line 34 miles long from the power house to Akureyri;
 - (c) equipment for substations and the municipal distribution system in Akureyri.

23. Construction began in August 1950, and the project is scheduled to be completed in July 1952. Contracts have been let for main items of equipment.

Demand for Electricity

24. The population of the area is about 15,000, some 10% of Iceland's total population.

25. Electricity generated increased from 4.8 million kwh. in 1940 to 28 million kwh. in 1949 representing an increase in per capita production from 353 kwh. to 1900 kwh. Assuming that the population rises to 17,000 over the next decade and that per capita production increases to 4200 kwh., energy required in 1960 will be 71 million kwh.

26. The 8,000 kw. which will be added to the capacity of the Laxa Undertaking will bring the total installed capacity of the area to 12,700 kw. The load is expected to increase rather rapidly at first because of the pent up demand, but the augmented system is expected to meet all demands and to have some reserve capacity until 1960, when it is anticipated that the equipment will again become fully loaded.

Operating Costs and Selling Prices

27. The Laxa Undertaking sells all its energy wholesale on a kilowatt year basis at cost plus 5%. Of the 25 million kwh. sold in 1949, 23.6 million kwh. was

bought by the Akureyri municipality and 1.4 million kwh. by the state distribution systems.

28. Electricity is now being produced cheaply, although when the new 8,000 kw. installation is in production the wholesale selling price will also be doubled, reflecting the increased cost of the new installation.

The Financing of the Projects

29. The total cost of the two projects is estimated as follows:

	<u>Sog</u>	<u>Laxa</u>	<u>Total</u>
	(dollar equivalents in millions)		
Dam and power plant	6.4	2.0	8.4
Transmission line	0.8	0.4	1.2
Transformer station	1.1	0.3	1.4
Distribution system	<u>1.4</u>	<u>-</u>	<u>1.4</u>
Total	<u>9.7</u>	<u>2.7</u>	<u>12.4</u>

30. The projects will be carried out by the Sog and Laxa Undertakings and by the Municipality of Reykjavik. They will obtain the necessary funds in the following ways:

<u>Lender</u>	<u>Source of Funds Lent</u>	<u>Dollar Equivalents in Millions</u>
<u>Dollars</u>		
Icelandic Government	Loans from ECA	2.0
	Grant from ECA	<u>2.8</u>
		<u>4.8</u>
<u>European Currencies</u>		
Icelandic Government	Loans from the Bank for purchases in:	
	Sweden	1.0
	Denmark	0.5
	Norway	0.2
	United Kingdom	0.3
	Germany	<u>0.1</u>
		<u>2.1</u>
<u>Local Currency (Icelandic kronur)</u>		
Icelandic Government	ECA counterpart	3.4
Reykjavik Municipality	own funds	0.7
Akureyri Municipality	own funds	0.2
Commercial banks	own funds	<u>1.2</u>
		<u>5.5</u>
	Total	<u>12.4</u>

31. In view of Iceland's limited capacity for servicing further dollar debt, the Bank should at this stage contemplate a loan only if the currencies required could be obtained by the Bank without imposing on Iceland a dollar liability.

32. According to present estimates about 50 per cent of Bank financed purchases would be made in Sweden. Since Iceland uses sterling regularly for the settlement of accounts with Scandinavian nations, the best method of obtaining Swedish kronor might be to apply to the U.K. Government for the release of sterling for procurement in Sweden. The same course might be followed in the case of other countries, such as Denmark and Norway, if releases from their respective 18 per cent subscriptions cannot be obtained.

33. The strategic position of Iceland is such that she might well again become an important military base and transit centre. If past experience is any guide, this would probably enhance the importance of the hydroelectric projects and substantially improve Iceland's external financial position. In these circumstances it does not seem unrealistic to suppose that the countries producing the equipment required would not place any obstacles in the way of its manufacture and export.

S. R. Cope
Loan Officer

January 11, 1951

FILE COPY

Iceland Aug.

January 9, 1951

Mr. Steingrímur Jonsson
Sogsvirkjunen
P. O. Box 537
Reykjavik
Iceland

Dear Mr. Jonsson:

Included in the information you have given me about the Sog Project was an estimate of the currencies probably required for purchases in Europe. At the time you made the estimate only a portion of the total orders had been placed for the European equipment and services and, therefore, a detailed breakdown of each currency was not possible.

I realize that you may not yet be able to give me an entirely accurate estimate of the European currencies required, but your best estimates, even though they may contain some arbitrary allocations of certain items to a specific country, would be most helpful. To assist you in supplying the information desired, I have prepared the enclosed table as an example. As it is only an example, please change it to include all principal items and currencies.

I am writing a similar letter to Mr. E. Briem to obtain his estimates for the Laxa Project.

With best wishes for the New Year,

Yours sincerely,

A. D. Spottswood

Encl.

Cc: Mr. Cope
al/

FILE COPY

Log Project

Amount of European Currencies Probably Required

<u>Description</u>	<u>Swedish Kroner</u>	<u>Danish Kroner</u>	<u>Norwegian Kroner</u>	<u>Pounds Sterling</u>	<u>German Deutscher Marks</u>
a) Hydraulic turbines					
b) Dam gates, lift cranes					
c) Reinforcing steel and other steel items					
d) Cement					
e) Timber and poles					
f) Services of Engineers and erectors					
g) Services of Contractors					

FILE COPY

Iceland Reg.

January 9, 1951

Mr. Erikur Briem
Director
State Electric Power Works
118 Langaveg
Reykjavik
Iceland

Dear Mr. Briem:

Included in the information you have given me about the Laxa Project was an estimate of the currencies probably required for purchases in Europe. At the time you made the estimate only a portion of the total orders had been placed for the European equipment and services and, therefore, a detailed breakdown of each currency was not possible.

I realize that you may not yet be able to give me an entirely accurate estimate of the European currencies required, but your best estimates, even though they may contain some arbitrary allocations of certain items to a specific country, would be most helpful. To assist you in supplying the information desired, I have prepared the enclosed table as an example. As it is only an example, please change it to include all principal items and currencies.

I am writing a similar letter to Mr. Steingrimur Jonsson to obtain his estimates for the Sog Project.

With best wishes for the New Year,

Yours sincerely,

A. D. Spottswood

Encl.

Cc: Mr. Cope
al/

ack Jan 25

FILE COPY

Lapa Project

Amount of European Currencies Probably Required

<u>Description</u>	<u>Swedish Kroner</u>	<u>Danish Kroner</u>	<u>Norwegian Kroner</u>	<u>Pounds Sterling</u>	<u>German Deutscher Marks</u>
a) Hydraulic turbines					
b) Dam gates, lift cranes					
c) Reinforcing steel and other steel items					
d) Cement					
e) Timber and poles					
f) Services of Engineers and erectors					
g) Services of Contractors					

Iceland Reg

OFFICE MEMORANDUM

TO: Files

DATE: January 9, 1951

FROM: Joseph Fajans *JF*

SUBJECT: Iceland -- Meeting of the Working Party on January 8, 1951.

Present: Mr. S. R. Cope, Loan Department
Mr. A. D. Spottswood, Loan Department
Mr. Joseph Fajans, Loan Department
Mr. R. W. Cavanaugh, Treasurer's Department
Miss V. Morsey, Legal Department
Mr. H. W. Robinson, Economic Department

The Working Party met to consider the draft of the Loan Director's memorandum to the Staff Loan Committee. Several alterations, relative to the section on the economic position of Iceland, were suggested by Mr. Robinson. A revision of some paragraphs in the description of the projects was agreed upon mainly in accordance with the comments offered by Mr. Cavanaugh. Mr. Cope declared himself ready to take care of the redrafts and clear them with Messrs. Robinson and Spottswood respectively.

It was further agreed that the question of the availability of 18 per cent currencies should be clarified before the Bank issues a formal invitation to the Icelandic Government to send negotiators to Washington.

FILE COPY

Iceland Neg.

Mr. H. G. A. Woolley

January 5, 1951

Richard H. Demuth

Item for Information Bulletin.

The following is an item for inclusion in the Information Bulletin:

"In response to a request from the Icelandic Government, Mr. E. Harrison Clark of the Economic Department is going to Iceland to study the development program in Iceland and the advisability of setting up a new investment agency. Mr. Clark will leave on January 30th, together with Mr. Henry Murphy of the International Monetary Fund, who is being sent to Iceland to study the desirability of new bank legislation in Iceland."

R. H. D.

RHD:bd

Iceland Neg.

December 29, 1950

Mr. Steingrímur Jonsson
Sogsvirkjunin
P. O. Box 537
Reykjavik, Iceland

Dear Mr. Jonsson:

returned by Mr. Spottswood

Your good letter of December 15, 1950 (your file SJ/AS/NF) arrived the day after Christmas. The explanations and the further information it contained are most helpful. From the data in your cable of December 8, I had already computed that Reykjavik was consuming 75 per cent of the energy production, but I am grateful for the amplification of your cable showing how the losses were distributed. I have substituted in place of pages 25 through 28 in your report of October 31, 1950, the revised pages enclosed in your letter.

Your cooperation in providing me with this supplemental information is greatly appreciated.

With every good wish for the New Year, I remain

Yours very truly,

A. D. Spottswood

A.D.Spottswood:lfb

cc: Files ✓
Mr. Lejeune

SOGSVIRKJUNIN

THE HYDRO-ELECTRIC DEVELOPMENT OF SOG

P. O. BOX 537 TELEPHONE 1222
TELEGRAMS: RAFMAGNSVEITAN

REYKJAVÍK, Dec. 15, 1950.

2 TJARNARGOTU, ICELAND

SJ/AS/NF-

Mr. D. Spottswood,
c/o International Bank for
Reconstruction and Development,
Washington 25, D. C.,
U. S. A.

Dear Sir:

✓ Dec. 8/50
We wish to thank you for your telegram asking for explanation of the difference between the sale and production of electrical power in Reykjavík, thus giving us an opportunity to correct and supplement our information. We must also apologize for the incorrectness in our earlier information given to you. Our first report was originally made early in 1948 and the production of electrical energy was then divided between the Reykjavík Power Works and the electrical works outside of Reykjavík in the same proportions as the population, i.e. 85% inside Reykjavík and 15% outside. It was correct at that time and this proportion has been maintained in later revisions of the report without adaption to the changes that had been taking place in the last 3 years, in that the outer districts were using relatively more electricity so that the percentage for Reykjavík was gradually decreasing from 85% to round 75%, owing to increased sale of electricity for heating purposes during off peak periods in the districts outside of Reykjavík.

Our report sent to you as a kind of manuscript has been under revision here, but your telegram gave us an opportunity to amend the chapter of the report, which deals with the detail sale of electricity. You will find enclosed here a copy of this chapter in the revised form, which we beg you to change out with the former one.

We have also enclosed a table showing the productions and delivery of electricity in year 1949 and that will further explain the telegram we sent to you the 8th of December, copy of which also is enclosed.

If you find anything else incorrect or insufficiently explained, we will be very grateful to you, if you would let us know.

Our very best seasons greetings,

Very truly yours,

Steingr. Jonsson

Table 10. Power production cost for all plants in cooperation.

Year	Sog Development		Mun. Power Works		Total operation cost	Generating capacity	Production cost
	Ljósafooss mill. kr.	Írafoss mill. kr.	Ellidaár hydro- plant mill.kr.	Reserve Station mill. kr.	mill. kr.	MW	kr/kw.
1950	2.2		0.85	5.24	8.29	27.3	303
1951	-		0.85	6.80	9.85	-	360
1952	-		0.85	7.80	10.95	-	400
1953	-	13.4	0.40	2.40	18.40	44	417
1954	-	-	0.5	2.92	19.02	48.4	394
1955	-	-	0.65	2.99	19.14	53.2	358
1956	-	-	0.6	3.43	19.63	56.3	348
1957	-	-	0.65	3.68	19.93	-	353
1958	-	-	0.70	3.98	20.23	-	358
1959	-	-	0.75	4.38	20.73	-	368
1960	-	-	0.775	4.75	21.725	-	384

Table 10 shows the estimated mean production cost each year from 1950 to 1960. To this may be added a permissible advance of 5%. The mean cost price from 1953 to 1960 is

$$\frac{19.80 \text{ mill.kr.}}{53.8 \text{ MW}} = 370 \text{ kr/kw} + 5\%$$

or about kr. 390 annual kw, when the new development has come into operation.

3. The financial status of the distribution systems.

a) Division of energy between the distribution systems.

In Table 5 is shown power production and peak load in 1950 - 1960, based on the increase shown in Table 4. This production is divided between the different distribution systems.

The distribution systems are the Municipal Power Works on the one hand and on the other the State Distribution systems and the Hafnarfjörður Distribution system. In the following the latter two will be dealt with jointly.

The division estimate will be based on the known figures for 1949. The total production was then 122.123.000 kWh, which is delivered as follows:

To Reykjavík on 6 kV system	78.264.000	
- - on 20 kV -	4.034.000	82.300.000 kWh.
To others on 20 kV system		26.640.000 "
Transmission losses in transformers and HT line from Sog 9.2%		8.800.000 "

Used in power plants	4.170.000	
Meter deviation - difference	230.000	4.400.000 kWh.
Total: 122.140.000 kWh.		

When transmission losses and own use are divided proportionately between the systems the gross sales are as follows:

	Reykjavík	Others
Delivered from Elliðaár kWh	82.300.000	26.640.000
Transmission losses	6.600.000	2.200.000
Own use	3.400.000	1.000.000
Grand Total	92.300.000	29.840.000

Based on these figures an estimate of the division estimated production in the next decade is shown in Table 11.

Table 11. Division of energy between the systems.

Year	Reykjavík			Others			Total			Reykjavík Proportion	
	10 ⁶ kWh	MW	Utilization hours	10 ⁶ kWh	MW	Utilization hours	10 ⁶ kWh	MW	Utilization hours	kWh %	MW %
1949	92	22	4200	30	5,7	5260	122	27,7	4400	75,5	79,5
1950	101	-	4600	32	-	5600	133	-	4800	76,0	-
1951	112	-	5100	34	-	6000	146	-	5300	76,1	-
1952	124	-	5600	36	-	6100	160	-	5800	77,4	-
1953	136	35,5	3830	40	8,5	4700	176	44,0	4000	77,2	80,6
1954	150	39,0	3830	44	9,4	4700	194	48,4	-	-	-
1955	165	43,0	3830	48	10,2	4700	213	53,2	-	-	-
1956	180	45,3	3970	53	11,0	4820	233	56,3	4120	-	-
1957	197	-	4340	59	-	5360	256	-	4540	-	-
1958	217	-	4770	63	-	5720	280	-	4970	-	-
1959	236	-	5200	69	-	6280	305	-	5400	-	-
1960	256	-	5620	74	-	6720	330	-	5860	-	-

Table 11 shows that the utilization figure is a good deal higher for the distribution systems outside Reykjavík. This is due to their having a proportionately much higher heating load outside the peak load period. Reykjavík has a natural hot water system which supplies heat to about 60% of the inhabitants, and for the present power consumption for heating outside the heating system area has not been encouraged. For the division in Table 11 it is assumed that Reykjavík will take about 80% of the power and 77% of the energy production.

b) The Municipal Power Works.

In Table 12 an economical survey is made for the Municipal Power Works based on the division in Table 10 and the accounts for 1949. The fertilizer plant is not included here.

In column 2 of this Table is shown the gross invested capital for the distribution system with service lines. In 1949 the net booked property is 74% of the gross investment. Annual extensions of the distribution system are estimated at about 4 mill. kr. up to 1953, when the extensions are estimated at 26 mill. kr., including the main distribution system for which a loan of 23 mill. kr. will be obtained from the Sogsvirkjun, other extensions being 3 mill. kr. that year and the following 2 years, and from then onwards 4 millions annually.

In columns 3 and 4 the energy purchases are shown in MW and mill.kWh as under Table 11.

In col. 5 is shown the annual capital cost for the distribution system, that is depreciation and/or repayment of loans, interest and official dues. Also maintenance and alterations of the system, totalling about 13% of the total cost in the preceding year, and of this maintenance and alterations amount to 5%. For the first year in the Table, 1949, the account figures are entered.

In col. 6 is shown separately capital cost, i.e. depreciation and interest, on 23 mill. kr. loan from Sogsvirkjun to the distribution system, and this item not included in the assessment of col. 5. Col. 7 shows the operation cost of the distribution system, administration and revenue collection, estimated at 66% of the capital cost as in col. 5 and 6.

In col. 8 the energy purchases are calculated in accordance with Table 10, by adding 5% to the cost price pr. annual kW in the last column, and multiply by energy purchases in col. 3 of Table 12.

Col. 9 shows total operation expenses.

Col. 10 shows total receipts less receipts for heating power delivered to the Heating System.

In October 1950 the tariff rates were raised 48%, partly in consequence of the devaluation of March 1950. It is estimated that this rise will increase the receipts of 1951 by 35%. The annual consumption growth is estimated at 9.45%, as under Table 4, with an increase in receipts of 7% annually.

Col. 11 shows surplus income. It shows that the surplus in 1949 and 1950 is not sufficient to bear the extensions of the distribution system, but this is remedied by the tariff rise of Oct. 1950, so that in 1951 and 1952

Table 12. Municipal Power Works - financial data.

Year	Gross capital invested mill. kr.	Energy purchased		Operation costs mill. kr.			Energy purchased mill. kr.	Total expenses mill. kr.	Receipts mill. kr.	Income surplus mill. kr.
		MW	10 ⁶ kWh	Depreciation interest & maintenance	Depreciation & interest Sog loan	Operation administration & revenue collection				
1	2	3	4	5	6	7	8	9	10	11
1949	36,5	22	92	4,45		2,9	5,34	12,69	15,24	2,55
1950	41,0	-	101	4,75		3,15	7,0	14,9	17,00	2,1
1951	45	-	112	5,30		3,5	8,3	17,1	24,6	7,5
1952	49	-	124	5,9		3,9	9,2	19,0	26,4	7,4
1953	25	35,5	136	6,4	1,84	5,2	15,5	28,94	28,3	+0,64
1954	78	39,0	150	6,8	1,84	5,4	16,1	30,14	30,4	+0,26
1955	81	43,0	165	7,3	1,84	5,8	16,2	31,14	32,5	1,36
1956	85	45,3	180	7,8	1,84	6,1	16,6	32,34	34,8	2,46
1957	89	-	197	8,3	1,84	6,4	16,9	33,44	37,3	3,86
1958	93	-	217	8,8	1,84	6,8	17,1	34,54	40	5,46
1959	97	-	236	9,3	1,84	7,1	17,5	35,74	43	7,26
1960	101	-	256	9,9	1,84	7,5	18,3	37,54	46	8,46

the surplus should cover all extensions.

When the new development comes into operation there will be no surplus for extensions of the system in the first two years, but from then on the surplus is growing.

In Table 13 are figures extracted from previous tables to show population in the Municipal Power Works distribution area, and its power and energy purchases with total receipts from consumers of electricity. In cols. 5 and 6 the energy purchases are shown per capita in the district (not per consumer) and in cols. 8 and 9 the receipts are calculated per annual kW and purchased kWh. In order to obtain the price per unit sold, the figures in col. 9 have to be raised 20%.

In col. 10 the per capita receipts are shown.

Table 13. Energy distribution and population.

Year	Number of inhabitants in the dist. area 1000	Power purchase		Power per capita		Total receipts from sale of energy mill.kr.	Receipts per unit		Receipts per capita kr.
		Load MW	Energy mill. kWh.	Load watt	Energy kWh		Kr.pr. annual kw.	Aurar pr. kWh	
1949	2	3	4	5	6	7	8	9	10
1949	56	22	92	393	1640	15,24	690	16,6	272
1950	57	-	101	385	1660	17	770	16,8	298
1951	58	-	112	380	1920	24,6	1110	22,0	423
1952	59	-	124	373	2100	26,4	1200	21,3	447
1953	60	35,5	136	592	2270	28,3	800	20,8	472
1954	61	39,0	150	640	2460	30,4	780	20,3	500
1955	62	43,0	165	694	2660	32,5	7555	19,7	524
1956	63	45,3	180	720	2860	34,8	766	19,3	552
1957	64	-	197	710	3080	39,3	820	19,0	582
1958	65	-	217	700	3330	40	880	18,5	618
1959	66	-	236	688	3570	43	950	18,2	650
1960	67	-	256	662	3820	46	1010	18,0	685

These figures give a picture of the energy consumption, and may be used with advantage for comparison with other places. But it must be borne in mind that in some of the years tabulated the power demand cannot be met, even though the energy requirements may be expected to be filled. Also it should be kept in mind that the Table does not show the power sales, nor the distribution of consumption between industrial and other trade requirements and household use.

c. Other distribution systems.

Table 11 shows the division of power produced in the plants between Reykjavík on the one hand and on the other the distribution systems outside Reykjavík. The Table shows that utilization outside of Reykjavík is somewhat higher than in Reykjavík, in consequence of considerable heating consumption outside the peak load periods from systems outside of Reykjavík.

No estimates are on hand for the receipts of distribution systems outside of Reykjavík, in the decade, but in Table 14, which is compiled as Table 13 for Reykjavík, some figures are given for comparison.

The year 1949 is entered with figures from the accounts and 1950 with figures from the pertaining budgets, as is for 1951 from the proposed budgets. The main difference is that receipts per capita are higher, but on account of the higher utilization the unit price in aurar/kWh is lower than in Reykjavík.

Table 14. Energy distribution outside Reykjavík and population.

Year	Population in the distribution area 1000	Power purchase		Power per capita		Total receipts from sale of energy mill.kr.	Receipts per unit		Receipts per capita kr.
		Load MW	Energy mill. kWh	Load watt	Energy kWh		Kr.pr. annual kr.	Aurar pr. kWh	
1	2	3	4	5	6	7	8	9	10
1949	10,3	5,7	30	554	2820	4,34	760	14,3	420
1950	11	-	32	520	2900	5,4	950	16,8	490
1951	12	-	34	475	2830	6,6	1160	19,4	550
1952	13	-	36	440	2770				
1953	14	8,5	40	608	2850				
1954	15	9,4	44	630	2930				
1955	16	10,2	48	640	3000				
1956	17	11,0	53	648	3120				
1957	18	-	59	610	3280				
1958	19	-	63	578	3300				
1959	20	-	69	550	3450				
1960	21	-	74	522	3530				

Reykjavík, December 1950.

Steingr. Jónsson

Production and delivery of electricity
1949, kWh.

	Reykjavík	Outside of Reykjavík	Total
Delivered from Ellidaár on 6 kV	78.270.000		78.270.000
- - - - 20 kV	4.030.000	26.640.000	30.670.000
Sum	82.300.000	26.640.000	108.940.000
Transmission losses	6.600.000	2.200.000	8.800.000
Power stations own use	3.400.000	1.000.000	4.400.000
Brutto delivery = total production	92.300.000	29.840.000	122.140.000
Sale through kWh-meters	68.300.000		
Bulk sale, max.demand to:x)			
Municipal heating system	3.500.000		
Street & harbour lighting	1.500.000		
Special household	3.000.000		
- lighting	100.000		
Total sale	76.400.000		
Distribution losses	5.900.000		
Received from Ellidaá	82.300.000		

- x) The estimation of kWh delivered for bulk sale is fairly accurate for the heating system and street lighting but for the special use according to the tariff ratings A₂ and B₃, the estimates are somewhat uncertain. If the kWh consumption is estimated here too high, then it will mean that the distribution losses are estimated the same amount too low.

Iceland Regs.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INCOMING WIRE

DATE OF WIRE: **DECEMBER 8, 1950**

TO: **SPOTTSWOOD
INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT**

FROM: **REYKJAVIK**

ROUTING
ACTION COPY TO MR. SPOTTSWOOD
INFORMATION COPY TO
Decoded By

TEXT:

SALES THROUGH KWH METERS 1949 WERE 68.3 MILLION UNITS
EXCLUDING BULK SALES ESTIMATED IN KWH TO MUNICIPAL HEATING
SYSTEM 3.5 MILLION STREET LIGHTING 1.5 MILLION SPECIAL
HOUSEHOLD 3 MILLION LIGHTING 0.1 MILLION SUM 8.1 MILLION
TOTAL SALES 76.4 MILLION UNITS DISTRIBUTION LOSSES 5.9
MILLION MAIN TRANSMISSION LOSSES 6.6 MILLION POWER PLANTS
OWN USE 3.4 MILLION GROSS PURCHASES REYKJAVIK 92.3 MILLION
NOT 103. OTHER DISTRIBUTION SYSTEMS PURCHASE GROSS 29.8
MILLION NOT 19 TOTAL PRODUCTION 122.1 MILLION LETTER FOLLOWS.

STEINGRIMUR JONSSON

DUPLICATE

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INCOMING WIRE

ROUTING
ACTION COPY TO MR. SPOTSWOOD
INFORMATION COPY TO
Revised 8-

DATE OF WIRE: DECEMBER 8, 1950

RECEIVED

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

RECEIVED

TO:

FROM:

TEXT:

SALES THROUGH TWO MONTHS 1950 WERE 55.3 MILLION UNITS
EXCLUDING BOOK SALES ESTIMATED IN NEW TO MUNICIPAL READING
SYSTEM 3.2 MILLION STREET LIGHTING 1.2 MILLION BRICKS
HOUSEHOLD 3 MILLION LIGHTING 0.1 MILLION RUB 2.1 MILLION
TOTAL SALES 55.3 MILLION UNITS DISTRIBUTION LOSSES 2.9
MILLION RATE TRANSMISSION LOSSES 0.6 MILLION POWER PLANTS
OWN USE 3.4 MILLION GROSS PURCHASES RECEIVED 52.3 MILLION
NOT 100% - OTHER DISTRIBUTION SYSTEMS PURCHASES GROSS 52.3
MILLION NOT 100% TOTAL PRODUCTION 122.1 MILLION LITERS FOLLOWS

STIRLINGHIM JONSON

DEC 8 5 13 PM 1950

INTERNATIONAL BANK FOR
RECONSTR. AND DEVEL.

DUPLICATE

Skammstafanir:

D = hraðskeyti.
RPx = svar borgað
(í stað x kemur orðafjöldinn).
RPDx = hraðsvar borgað.
Post = póstgjald borgað.
TC = samanborið (til tryggingar).
RO = afhendist opið.
MP = afhendist viðtakanda sjálfum.
FS = eftirsendist.
PC = viðtökuskirteini óskast.
XP = útsending borguð.

LANDSSÍMI ÍSLANÐS



Símskeyti

Gjöld:

Eyðublað nr. 2

Sent til

af

kl.

Athugasemdir símaþjóna

Fyrir hraðskeyti er tvöfalt gjald.

Nr. , orð; þann 8/12 19 50 kl.

SPOTTSWOOD
INTBAFRAD
WASHINGTON

SALES THROUGH KWH METERS 1949 WERE 68,3 MILLION UNITS
EXCLUDING BULK SALES ESTIMATED IN KWH TO MUNICIPAL HEATING
SYSTEM 3,5 MILLION STREET LIGHTING 1,5 MILLION SPECIAL
HOUSEHOLD 3 MILLION LIGHTING 0,1 MILLION SUM 8,1 MILLION
TOTAL SALES 76,4 MILLION UNITS DISTRIBUTION LOSSES 5,9
MILLION MAIN TRANSMISSION LOSSES 6,6 MILLION POWER PLANTS
OWN USE 3,4 MILLION GROSS PURCHASES REYKJAVIK 92,3 MILLION
NOT 103 STOP OTHER DISTRIBUTION SYSTEMS PURCHASE GROSS
29,8 MILLION NOT 19 TOTAL PRODUCTION 122,1 MILLION LETTER
FOLLOWS.

STEINGRIMUR JONSSON

Nafn og heimili sendanda og síma-
nr. skal ætíð skrifa hér greinilega.

RAFM.V. RVK.

SIMI 81222.

HJÁLPIÐ HINUM SJÓKU!
Sendið vinum yðar samúðarskeyti
Min...ngargjafasjóðs Landsspítala Íslands!

INTERNAT BANK FOR RECONSTRUCTION DEVELOPMENT

Iceland Negot.

OUTGOING WIRE

DATE: DECEMBER 6, 1950
TO: STEINGR JONSSON
RAFMAGSVEITAN
REYKJAVIK, ICELAND
TEXT:

CLASS OF SERVICE DESIRED	
NIGHT LETTER ☒	CODE ☐
DEFERRED ☐	FULL RATE ☐
TELETYPE ☐	

TABLE 12 YOUR REPORT OCTOBER 31 ON SOG AND MUNICIPAL POWER SYSTEMS SHOWS
TOTAL POWER PURCHASES IN 1949 OF 103 MILLION KWH STOP REPLY TO MY QUESTION
13 CONCERNING SALES BY CLASSES OF CONSUMERS GIVES TOTAL SALES 1949 BY
MUNICIPAL DISTRIBUTION SYSTEM 68.3 MILLION KWH STOP EVEN ALLOWING FOR
REASONABLE DISTRIBUTION LOSSES DIFFERENCE BETWEEN PURCHASES AND SALES
NOT UNDERSTOOD STOP PLEASE CABLE CLARIFICATION

A. D. SPOTTSWOOD
INTBAFRAD

AUTHORIZED BY:

NAME E. WAYNE REMBERT
DEPT. LOAN

For Use by Archives Division

Checked for Dispatch
elt

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FILE COPY

RECEIVED
INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

DATE: NOV 20

BY: R. M. M. M. M. M.

DEC 6 11 54 AM 1950

ADMITTED BY:

Checked for Disbursement

For use by Disbursement Division

DEC 6 12 08 PM 1950

DISPATCHED
INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

INTERVIEW

A. B. GORDON

WAS UNDERSTOOD THAT THE ABOVE STATEMENT
REPRESENTS THE DISTRIBUTION TO THE DIFFERENCE BETWEEN THE
MUNICIPALITY'S DISTRIBUTION SYSTEM OF 3.3 MILLION KWH. EACH YEAR
IT CONCERNING THE BY THE WAY OF THE COMPANY'S SHARE OF THE
LOCAL POWER PURCHASES IN THE OF THE MILLION KWH. EACH YEAR
THEY ARE LONG REPORT OCTOBER 31 ON 200 AND MUNICIPAL POWER SYSTEMS

1571

REMARKS: THE
INTERVIEW
SHELD ON

10

11

DECEMBER 9, 1950

DETAILS ☐

DELETED ☐

LEFT FILE ☐

WICH FILED ☒

CODE ☐

CLASS OF SERVICE DESIGNED

OLDSOING MINE

INTERVIEW BANK FOR RECONSTRUCTION AND DEVELOPMENT

Iceland 7/9

OFFICE MEMORANDUM

TO: Mr. W. A. B. Iliff

DATE: December 4, 1950

FROM: A. S. G. Hoar

SUBJECT: Iceland - Working Party Meeting on November 29, 1950

Dec 4
1. I attach a note by Mr. Cope, from which you will observe that the balance of opinion in the Working Party meeting on November 29, was in favor of negotiating a loan for the hydro-electric projects without sending a mission to Iceland.

2. I have since discussed the matter thoroughly with Mr. Cope and there seems to have been a genuine shift in opinion in the Economic Department and elsewhere with regard to the undisputed priority of these projects. The Economic Department now feels that they will come in the front rank of any investment program for Iceland, and Mr. Spottswood is confident that he has all the necessary material to judge the soundness of the projects both from a technical and financial point of view.

3. I therefore recommend that we should decide in favor of informing the Icelanders that we shall be prepared to receive their representatives to negotiate a loan for the two hydro-electric plants in question.

CC: Mr. S. R. Cope

Mr. Cope
Mr. Hoar

Mr. Cope spoke to me yesterday about Iceland. I think we have an idea to give some help to Parkman. I think we should let the whole situation stand at an early S.L. letter (including your recommendation at 3 above). Would you please arrange for this?

157

87 x 11

OFFICE MEMORANDUM

TO: Files

DATE: December 4, 1950

FROM: S. R. Cope

SUBJECT: Iceland - Working Party Meeting on November 29, 1950.

Present: Mr. S. R. Cope, Loan Department
Mr. A. D. Spottswood, Loan Department
Mr. Joseph Fajans, Loan Department
Mr. M. M. Rosen, Economic Department
Dr. H. W. Robinson, Economic Department
Miss V. Morsey, Legal Department
Mr. R. W. Cavanaugh, Treasurer's Department
Mr. B. P. Spiro, Treasurer's Department

1. The Working Party met to review the status of the application for the \$2.08 million loan for the two hydro-electric plants.
2. Mr. Spottswood described the projects as well conceived and sound, mentioned the prospect of their saving foreign exchange on imports of fuel and the basic importance of availability of electric power for any development program. He expressed the opinion that the Bank would be justified in assisting in the financing of the plants.
3. The Economic Department considered that the creditworthiness of Iceland was good, provided that the country would be willing to reduce and redirect investment and thus eliminate the current foreign payments deficit. Even after taking into account external borrowing, required in connection with the projects, the annual debt service would still be only some \$700,000 as compared with exports and invisible earnings equivalent to some \$50,000,000. It was, of course, important to distinguish between repayment possibilities in dollars and in other currencies: there was a distinct limit to "dollar creditworthiness", and lending of dollars for purchases outside the dollar area would not be advisable.
4. The Treasurer's Department stressed the necessity for discussing the possibility of securing release of 18 per cent sterling for purchases in Sweden and the United Kingdom, which purchases may exceed in amount 50 per cent of the total loan.
5. It was the consensus of those present that the Bank would at some stage want to review the Icelandic investment program and arrive at a kind of working relationship with the Icelandic Government by which excessive rate and misdirection of investment could be avoided in future. In view of the proposed dispatch in January 1951 of a technical Fund-Bank mission to advise Iceland on the reorganization of the banking system and the establishment of an institution to examine investment projects and channel funds into investment, the appropriate timing of the on-the-spot survey of the Icelandic investment program has become important. Agreement prevailed on the advisability of defer-

ring the survey until the technical mission will have presented its report.

6. After summarizing the arguments, which had been submitted in favour of proceeding immediately to negotiate a loan without sending a mission, Mr. Cope made the case for having a small operational mission to make a quick survey and get the 'feel' of the situation.

7. It was the general view that a mission was not needed at the present stage and Mr. Cope undertook to obtain a decision from the Loan Director.



JF/SRC/m

cc: Messrs. A.S.G. Hoar
Spottswood
Rosen
Robinson
Cavanaugh
Miss Morsey

Iceland Nego.

C O P Y

C O P Y

Mr. S. R. Cope

November 30, 1950

A. D. Spottswood

Iceland

On October 13 I sent you for distribution to the Working Party a preliminary report on Icelandic development projects. Unfortunately copy of the memorandum I wrote transmitting the original of this report to Gen. Wheeler was not attached to the reports sent to you and I hear that my preliminary report has been considered in some quarters as being the final technical report on the Icelandic projects. In order to correct this impression, I would appreciate your sending copy of my memorandum to Gen. Wheeler to members of the Working Party and advise them that draft of a thorough technical report is now in the course of preparation and will be circulated for comment as soon as it is completed.

NOTE: Mr. Spottswood's memorandum to General Wheeler referred to above read as follows:

" Attached is my preliminary report on the Icelandic Development Program. This report is designed merely to give a brief information about the projects presented to the Bank by the Icelandic Government. If a decision is made in principle by the Bank to proceed with negotiations with Iceland, I shall of course prepare more detailed reports. Copies of this report will be distributed to the Working Party."

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Iceland Nego.

Gen. R. A. Wheeler

November 29, 1950

A. D. Spottswood

Working Party Meeting on Iceland

The Working Party on Iceland held a meeting this morning primarily to discuss the overall question of a loan and the question of sending a mission to Iceland. This was the first Working Party meeting held on Iceland that I have attended. (I understand there was one held prior to the time I returned from Iceland).

On the question of a loan to Iceland, it was the consensus of the Working Party that a loan of approximately the equivalent of \$2,000,000 in European currencies was well within Iceland's ability to service and her creditworthiness would permit of loans considerably above this figure.

Iceland has requested the Bank and the Fund to send a special mission to the country as soon as possible to examine its financial and budgetary establishments and to suggest revisions of its laws in order to provide for an institution to handle long term commercial credits. There was considerable discussion as to whether or not consideration of the loan requested should be postponed until the special mission had made its report. The decision to this question was not to make such a postponement.

Mr. Cope stated that it was the Loan Department's feeling that the loan to Iceland should be treated in a routine manner and that the usual mission should proceed to the country for an overall investigation prior to any negotiations. It was the consensus of the Working Party, however, that a mission to Iceland for the sole purpose of obtaining further information regarding the \$2,000,000 loan for hydroelectric projects would not be necessary as the Working Party was convinced of Iceland's creditworthiness and that satisfactory economic and technical information was available for decision on a loan of this magnitude.

Mr. Cope stated that it was the Loan Director's thought that a small mission should be sent, but that he would report back the views of the Working Party.

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Iceland Neg

Second Draft

STAFF LOAN COMMITTEE

LOAN DIRECTOR'S MEMORANDUM

ICELAND

1. In September 1950 the Icelandic Government asked whether they could borrow from the Bank the equivalent of about \$2 million in European currencies for two hydroelectric plants on the Sog and Laxa Rivers. They also indicated that they might want to borrow for two further projects, a fertilizer factory and a cement plant.
2. In the following month Mr. Spottswood of the Loan Department visited Iceland, discussed the hydroelectric projects and obtained further data on them. The hydroelectric projects, which appear to be technically sound, would exploit one of Iceland's few natural resources and would meet the need for additional electricity for household and industrial use. E.C.A. has already agreed to make available about \$5 million to cover the cost of equipment to be purchased in the U.S.A.
3. The fertilizer and cement plants, which have not been submitted formally to the Bank, have merit but require further investigation.
4. The Icelandic Government have subsequently requested technical assistance. In November they asked the IMF to send a mission to draw up new legislation governing central bank and commercial bank operations, and the IBRD to send a mission to draw up the statutes of a development bank or board. These missions, which are being planned for January 1951, should eventually result in considerable changes in the structure and scope of Icelandic financial institutions.

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- 2 -

5. A preliminary survey of Iceland's economy shows that:

- (a) Iceland is presently running substantial deficits in her balance of payments, the deficit on current account in 1950/51 being estimated at the equivalent of over \$6 million;
- (b) The cause of these deficits, and of a seriously inflationary internal situation, is two-fold: (i) there has been a deterioration in Iceland's export trade due to poor herring catches and unfavorable world fish markets, (ii) there has been both a very heavy rate of investment and an effort to maintain the high standard of living generated by exceptional war and immediate post-war factors;
- (c) Provided that total investment is reduced and that consumption is not allowed to rise materially above present restricted levels, Iceland should have no difficulty in balancing her payments. Exports are the equivalent of over \$40 million per annum while total debt service requires a maximum of only \$440,000 per annum. Iceland seems creditworthy, therefore, for a sizeable addition to her present foreign debt, which is the equivalent of \$6.4 million. Her capacity to incur additional dollar debt is, however, strictly limited;
- (d) Much post-war investment has proved uneconomic. There is no evidence that a well thought out overall program of investment based on Iceland's economic capacity and long range prospects exists or that the government is pursuing financial policies which would assure execution of such a program.

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- 3 -

6. In view of the above it seems clear that, if the Bank is to consider lending for a series of projects it must first be satisfied on the scale and character of the overall investment program of which the projects form a part and on the appropriateness of internal financial policies. Investigation of these questions should, however, preferably be postponed until the results of the technical missions are available and the framework within which the Bank would be operating is made clear.

7. Since the Bank cannot, therefore, decide on the question of participating on a program basis until well into 1951, the question arises whether the Bank should make a loan to Iceland for the two hydroelectric projects on a purely project basis without awaiting the results of more detailed study.

8. The arguments for making such a loan immediately are that Iceland could easily bear the additional debt burden (some \$270,000 per annum if we include the remaining E.C.A. and the proposed IBRD loans), that the projects have been adjudged technically sound by the Bank's engineering staff, that they are clearly appropriate for Iceland's present economic position since they bring into operation natural resources presently unutilized, and that they are urgently needed to meet a serious power shortage. The argument against proceeding immediately is that the two projects need not be delayed if the Bank postpones action since Iceland already has the dollar financing from ECA and can draw up to the equivalent of \$4 million in grant form and \$3 million in loan form in European currencies under E.P.U. (though \$1½ million of E.P.U. resources have already been drawn down). On the other hand, since her foreign exchange reserves are currently only the equivalent of about \$8 million and

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- 4 -

her exports are so dependent upon the vagaries of the fish catches and world fish markets, it would seem preferable to use E.P.U. facilities to build up reserves to more prudent levels. There is, however, no guarantee that E.P.U. facilities might not be used to increase imports of consumer goods before the Bank had time to finish its examination of Iceland's economic position and overall investment program.

9. On balance, I believe the Bank would be justified in taking the risks involved in making a loan on a project basis immediately. I accordingly recommend:

- (a) that negotiations with the Icelandic Government regarding a loan of \$2 million in European currencies for the two hydro-electric projects be entered into forthwith;
- (b) that the sending of a Bank mission to examine the general economic position of Iceland and the extent and nature of possible IBRD participation in Iceland's investment program await the results of the IMF and IBRD technical missions in 1951.

file *ICELAND*
SOG-LAXA

Certain Information Required in Connection With
Icelandic Counterpart Program for 1951

copy in Iceland
Herbylungr

In view of the fact that the counterpart program of the Icelandic Government for 1951 is expected to propose some release of counterpart for the purpose of making part of the counterpart deposits against ECA-financed imports for the Sog, Laxá and fertilizer projects, the following points should be noted and additional information furnished by the Government:

1. A full description of the legal status of the corporations which will operate these three projects should be furnished. Among other points, it should be brought out whether they are separate and distinct legal entities, whether their budget and financial operations are completely separate from those of the central Government and whether there will be non-central government equity interests in those corporations.
2. Attached are the four methods approved by ECA for making loans available from counterpart to persons or corporations for the purpose of making local currency payments on ECA-financed imports. Release for that purpose must fit one of those four methods in order to be considered for approval by ECA.
3. It is to be noted that these methods are not approved in cases of proposed loans to central government agencies or corporations. Loans from counterpart to such agencies or corporations for the purpose of making counterpart deposits cannot legally be approved by ECA.

Where the purpose of the counterpart release is to enable a private recipient to purchase ECA-financed imports, and thus in effect to deposit counterpart, we have always taken the position that, because this type of release might otherwise be viewed as a wash transaction, our statutory obligations might not be fulfilled unless one of the following additional factors is also present:

1. The funds released could be used to constitute a permanent addition to the capital of some lending institution. Under these circumstances, although the first use of the counterpart may be for the purpose of enabling an importer to deposit counterpart, the long-run purpose of the release will be for lending purposes. Under this type of agreement, ECA's interest in the amounts repaid would be to see that they were in fact returned to the lending institution and were used pursuant to the authority of that lending institution.
2. The release agreement could provide that the repayments are to be returned to the counterpart account. Under such an agreement, we would have the same responsibilities with relation to repayments as we have with relation to original counterpart deposits. This type of arrangement, however, would only be feasible for repayments made during the remaining life of ECA.
3. The release agreement could provide that the repayments not be returned to the counterpart account, but dedicated as received to certain purposes consistent with Section 115 (b) (6) of the ECA statute specified in the agreement. The obligation of ECA, or its successor, under this type of agreement would be to assure that the repayments are used pursuant to the release agreement.
4. The release agreement could provide that the repayments be placed in a separate account other than the counterpart account the use of which would be subject to future agreement between the country and ECA. This kind of an arrangement would be feasible if it were not possible to plan now for the best use of the repayments. I think that our obligation to Congress would be satisfied under this type of arrangement if we at some time before termination of ECA, agreed with the country as to broad categories of uses for these funds within the general purposes set forth in Section 115(b)(6) of our statute. I should not think that as to this separate account, we would have the same responsibilities for detailed audit and control that we have with respect to counterpart.

ECA Counterpart Release Procedure

There are three recognized steps in counterpart release procedure.

Step 1 - Overall determination (normally annually) of appropriate level of counterpart release in terms of its impact on internal financial stability (i.e., determination of proportion of counterpart to be allocated for investment purposes and proportion

to be withheld or used for debt retirement as anti-inflationary measure).

Step 2 - Decision (normally annually or semi-annually) on the allocation of counterpart to particular investment programs. Normally rests on a review of the internal composition of the entire investment program (not counterpart investment alone) to determine whether the breakdown of total investment among the various sectors of the economy is the one which will contribute most rapidly and effectively to the achievement of the objectives of ERP. These objectives are: (a) to raise European productivity in order to achieve equilibrium in the balance of payments, especially with the dollar area, at a high level of international trade and with a high and rising standard of living; (b) to complement efforts on other fronts to develop a European economic structure which takes advantage of the possibilities of international specialization and which operates in conditions of liberalized trade; and (c) to provide the freedom and mobility of labor necessary for the full and effective utilization of European resources and the achievement of the social stability essential for sustained expansion in the political and economic fields.

Step 3 - Periodic review (normally quarterly) of level of release required for ensuing period to finance expenditures on total approved projects. Review takes into account current financial and monetary situation.

For each step, the Mission makes its recommendations simultaneously to ECA/W and to OSR: OSR to ECA/W: approval is transmitted by Washington to OSR, and by OSR to the Mission. For step 1 approval, ECA/W consults formally with NAC before

approving. ECA/W may also consult informally on some Step 3 approvals.

OSR's transmission to the Mission is the Mission's authorization to agree with the Government on the given step under consideration.

After this agreement on Step 3 release, the counterpart, which up to this time has rested in a Special Account of the Government, is transferred to a regular Government account. From there it will be transferred to the Ministry which is to spend the money, the bank or other institution which is to use the money for loans to private borrowers, etc.

ECA/R segir að venjan sé að fá heimild þjóðþinga fyrir notkun mótvirðissjóðs á eftir "Step 2" en á undan "Step 3".

Appendix C

Financing Program
for the Sag- and Land Projects
(All figures in Mill. of kroner)
(1 krona = 6.1404 U.S. cents)

I Capital Expenditure

1) Sag Development	49/50	50/51	51/52	52/53	Total
a) Domestic Expenditure	3	23.40	29.05	12.1	67.55
b) Dollar Expenditure	27.19	30.80	3.70		61.69
c) European Expenditure		13.76	10.50	4.5	28.76
Total	30.19	67.96	43.25	16.6	158.00

2) Land Development

a) Domestic Expenditure	1.2	11.38	9.72		22.30
b) Dollar Expenditure	5.42	9.80	0.58		15.80
c) European Expenditure		4.97	1.33		5.90
Total	6.62	25.75	11.63		44.00

3) Total for both Developments

a) Domestic Expenditure	4.2	34.78	38.77	12.1	89.85
b) Dollar Expenditure	32.61	40.60	4.28		77.49
c) European Expenditure		18.73	11.83	4.5	35.06
Total	36.81	93.71	54.88	16.6	222.00

67.96
30.19
27.19
67.96
40776
417274

30.19
614
12076
3019
18114
18156266

138
614
634
138
948
97012

28a

44

121
614
484
121
726
74294

75
35
170

II Financing Program

a) European Expenditure

As far as can be seen at this stage of the development, the distribution of the European expenditure on countries will be as follows:

<u>Sea Development</u>	50/51	51/52	52/53	Total
Sweden	6.9	5.0	1.86	13.76
Denmark	4.3	3.0	1.50	8.80
Sundry OEEC countries 1)	2.56	2.4	1.34	6.30
<u>Total</u>	<u>13.76</u>	<u>10.4</u>	<u>4.5</u>	<u>28.76</u>

1) U.K., Sweden, Denmark, Norway, Belgium and Western Germany

Land Development

Sweden	1.95	0.20		2.15
Denmark	0.9	0.2		1.10
Norway	0.65	0.54		1.19
Sundry OEEC countries 2)	1.92	0.39		2.31
<u>Total</u>	<u>4.57</u>	<u>1.33</u>		<u>5.90</u>

2) Sweden, Norway, Western Germany, Denmark and U.K.

Total for both Developments

Sweden	8.85	5.20	1.86	15.91
Denmark	5.2	3.2	1.50	9.90
Norway	0.65	0.54		1.19
Sundry OEEC countries	2.63	2.89	1.34	6.86
<u>Total</u>	<u>16.33</u>	<u>11.83</u>	<u>4.5</u>	<u>32.66</u>

Purchases of materials and services will be effected in the European countries, where they are most favourable with regard to prices, quality and time of delivery.

It is proposed to approach the International Bank (IBRD) with a view of obtaining a long term loan in the currencies of some of the above countries to cover the European expenditure.

b) Dollar Expenditure

ECA approved on May 10, 1950, the projects for ECA financing on the basis of estimated expenditure for purchases from the United States, amounting to \$3,955,000.- for the Seg project and \$ 1,110,000.- for the Laxá project. The above figure for total dollar expenditure, 77.49 mill. krónur, is slightly lower according to present estimate, which, however, is not final. ECA funds already authorized to the projects amount to 2 mill. dollars, 32.61 mill. krónur against 1949/50 allotment. The allotment was in the form of ECA loan. In this program it is assumed that the additional ECA funds required, 44.88 mill. krónur, will be allotted on a grant basis.

c) Domestic Expenditure

The counterpart requirements for the assumed ECA grant are estimated to be 44.88 mill. krónur and the total krónur requirements for both developments are as follows:

<u>Kronur Expenditure</u>	49/50	50/51	51/52	52/53	Total
Domestic Expenditure	4.2	34.78	38.77	12.1	89.85
Counterpart Requirements		22.88	22.00		44.88
Total:	4.2	57.66	60.77	12.1	134.73

It is proposed to raise the required kronur funds as follows:

1. Seg Development

Year	Municipal contri- bution	Bond Proceeds	Total
49/50	3	0	3.0
50/51	3	37.78	40.78
51/52	3	43.17	46.17
52/53	3	9.10	12.10
Total	12	90.05	102.05

2. Land Development

Year	Municipal contri- bution	Bond Proceeds	Total
49/50	1.2	0	1.20
50/51	1.0	15.88	16.88
51/52	1.0	13.60	14.60
Total	3.2	29.48	32.68

3. Total for both Developments

Year	Reykjavik contri- bution	Akureyri contri- bution	Bonds Proceeds	Total
49/50	3.0	1.2	0	4.20
50/51	3.0	1.0	53.66	57.66
51/52	3.0	1.0	56.77	60.77
52/53	3.0	0	9.10	12.10
Total	12.0	3.2	119.53	134.73

It is assumed that the contributions from the Municipalities of Reykjavik and Akureyri will be in the form of long term loans. It is further assumed that the developments will sell bonds in order to cover the kronur expenditure in excess municipal contributions.

Every effort will be made to sell as much as possible of the bonds on the open market, and it is proposed that the remainder be purchased by the Government with funds withdrawn from counterpart funds.

November 23rd 1950.



AIR MAIL

Icelandic Bank of the Capital

Operational file

Reykjavik, November 22nd, 1950.

Mr. Hoar

Mr. A.S.G. Hoar,
Assistant Loan Director,
International Bank for Reconstruction
and Development,
WASHINGTON, D.C.

Dear Mr. Hoar,

I thank you for your letter of 24th ultimo, concerning our application for a loan of approximately \$. 2,08 mill. from the Bank, to cover expenditure in European currencies on two hydroelectric projects in Iceland. It was a most welcome news that Mr. A.D. Spottswood had already, much sooner than could be reasonably expected, submitted his preliminary report, and that he had referred to the Bank's Economic Department the data he collected during his stay here.

This for us so important matter is thus in course of active preparation for the decision to be taken by the President and the Executive Directors, and I earnestly hope that a positive solution will be the result before long.

Sincerely yours

Jón Arnason

Jón Arnason

Iceland's Governor for the Bank.

REC'D
NATIONAL ANTI-FUR
RECORDS AND DEVEL.

NOV 28 10 53 AM 1959

Mr. Orvis A. Schmidt

November 20, 1950

Joseph Fajans

Iceland

1. In September 1950 the Icelandic Government asked the Bank whether they could obtain a loan in European (mostly Scandinavian) currencies equivalent to \$2,080,000. The loan would be used to purchase equipment for two hydroelectric power plants on the Sog and Laxa rivers.
2. The total cost of the two power plants is estimated at the equivalent of \$11.3 million, of which over \$4 million represents domestic expenditures. ECA has already agreed to make available about \$5 million to cover the cost of equipment to be purchased in the United States, and the Icelandic Government look to the Bank for the necessary amounts of OREC currencies.
3. A member of the Engineering Staff of the Bank visited Iceland early in October. His observations on-the-spot, the analysis of the material submitted to the Bank by the Icelandic Government and subsequent talks with members of engineering firms who have been in Iceland in connection with the construction of the plants, lead him to the conclusion that the projects are technically sound and could form a basis for a loan operation. The power plants, which are to be operated by corporations owned jointly by the municipalities and the state, would exploit one of Iceland's few natural resources and would meet the need for additional electricity for household and industrial use in the distribution areas of Reykjavik and Akureyri.
4. Apart from the inquiry concerning the power projects, the Icelandic Government indicated their intention to approach the Bank at a future date with respect to the erection of a fertilizer and a cement plant. The fertilizer plant would involve foreign exchange expenditure amounting to \$3.2 million of which \$2.6 million in U.S. dollars and \$0.6 million in European currencies. Equipment imports for the cement project are estimated at \$2 million mostly in European currencies. Both projects appear to have merit but would require further investigation.
5. A preliminary economic survey prepared by the Bank shows that:
 - (a) Iceland's export position has deteriorated since the war, owing to a fall in fish prices in world markets and poor herring catches.
 - (b) The attempt to maintain consumption and investment at too high a level has been internally reflected in inflation and externally has led to substantial balance of payments deficits, the deficit for 1949/50 being about \$9 million in all currencies.

- (c) Much post war investment has been misdirected. There has been no overall program of investment based on Iceland's economic capacity and long range prospects, nor has there been effective control of investment.
- (d) If consumption and investment were reduced sufficiently Iceland should be able to balance her external accounts, even with a foreign debt somewhat greater than her present foreign debt, which is the equivalent of \$7 million.

6. On the basis of this survey the Bank reached the conclusion that, provided the adoption of appropriate investment and financial policies, Iceland seems creditworthy for a strictly limited amount of additional foreign debt.

Iceland Nego.

Mr. W.A.B. Iliff

November 17, 1950

A. S. G. Hoar

Iceland

1. The Economic Department produced on November 2, 1950, a report on Iceland's Economic Position and Creditworthiness and a memorandum on proposed procedure for further economic investigation of Iceland.

2. The report drew attention to various unfavourable factors in the economy, the deterioration in the external balance of payments position, misdirection of investment and growing inflation.

3. The report says in part:

" 10. Since the end of 1948, and especially in 1950, Iceland's position has grown steadily worse. An improvement in the food position has led to a drastic falling off in the demand for fish in Western European countries.....

" 15. In the light of events it is unfortunate that much of the productive investment of the past six years has been concentrated on the fishing and fish processing industries.....
Furthermore the wide disparity between internal and external prices and the complex structure of taxes and subsidies has interfered with economic selection of investment projects.....

" 16. The extensive investment program and the urge to maintain the standard of living in spite of adverse external developments have resulted in continued inflation.....the suppressed inflation has turned into open inflation...

" 18...Continued heavy investment and simultaneous linking of wages to the cost of living and of farm prices to industrial wages can only result in prolonged inflation....."

4. After admitting:

" 23 (c)Because Iceland has so few natural resources, increased utilization of electric power potential.....seems obviously desirable....."

the report continues:

" 24....Because of the vital importance of developing an overall investment program on sound lines, it is imperative that, before the Bank seriously considers the financing of ^{any} one particular investment, it should appraise the whole development policy and program of the Icelandic Government."

FILE COPY

-2-

5. The report concludes:

" 26. Iceland's existing foreign debt is small and seems well within her capacity to repay. There is a prima facie case for using foreign borrowing, preferably in non-dollar currencies, for productive investment designed to improve her economic position. Provided, therefore, that the Bank is satisfied regarding the government's economic policy, it would seem reasonable to regard Iceland as possible field for IBRD financing on a small scale. However, information available to the Bank at present is inadequate to judge the appropriateness of the existing investment program for ameliorating Iceland's economic problems. Financing by the IBRD, therefore, could only be made after a study of the opportunities for development in the various sectors of the Icelandic economy, the size and composition of an optimum investment program, and how such a program should be financed and carried out with available internal and external capital resources."

6. The factors indicated above, especially the conclusions from Paragraphs 24 and 26 of the report, were reflected in the recommendations to the Staff Loan Committee which were drafted in this Department.

7. The Economic Department has now come back with a redraft of the memorandum for the Staff Loan Committee which, after briefly drawing attention to the same weaknesses which are shown in the report, comes to the conclusion that the investment program need not be investigated before the Bank could make a loan for the two hydro-electric projects. Despite the very forthright statements in Paragraphs 24 and 26 of the report, it blandly advocates immediate negotiation of a loan for the hydro-electric project "on a purely project basis without awaiting the result of a more detailed study". This all seems to me rather odd.

Memo Loan to Staff

Iceland Regot.

Mr. S. R. Cope

November 16, 1950

M. M. Rosen

Iceland

Attached is a draft of a paper which might be submitted to the Staff Loan Committee outlining the procedure for handling the Iceland matter. I think it would be useful if you, Mr. Robinson, and I could meet on this as soon as possible to discuss, in particular, the conclusions contained in paragraph 9. The real issue seems to me to be whether or not we already have enough information both on the creditworthiness of Iceland and on the hydroelectric projects so that it is not necessary to send a loan mission to Iceland for this matter. Mr. Robinson feels strongly that we do have enough information on the creditworthiness and I believe Spottswood feels that we have all that is needed on the projects. However, before sending a recommendation even to the Working Party that we dispense with the mission, I think it would be useful for the three of us to talk together about it.

Attachment

cc: Mr. Rist (2)

MMRosen:ang

Iceland Negs.

November 15, 1950

AIR MAIL

Mr. Steingr Jonsson
Sogsvirkjunin
P.O. Box 537
Reykjavik
2 Tjarnargotu
ICELAND

Dear Mr. Jonsson:

Many thanks for sending me the general survey report on the production, distribution and consumption of energy in the area served by the Sogsvirkjunin and the Municipality of Reykjavik.

While I have not studied the report in detail, a quick examination of it indicates that it will be very valuable in our appraisal of the Sog Project. With this report on hand, I doubt if I shall require any further data from you about the project.

Yours very sincerely,

A. D. Spottswood

ADSpottswood:lfb

cc: Files ✓
Mr. Foster

Iceland
Nov. 7

ICELAND

FACTS REQUIRED TO JUDGE APPROPRIATE SIZE OF INVESTMENT PROGRAM

1. What are the following magnitudes?

	<u>Investment</u>	<u>Consumption</u>	<u>Total</u>
Domestic Resources available			
" " exported			
Imported "			
Net resources utilised			

2. What amount of investment is required merely to maintain present capital?
3. What is relation between net investment and the growth of national income?
4. What is the proportion of imported investment goods in any reduction of gross investment?
5. What proportion of domestic resources presently devoted to investment goods production can be utilised for domestic consumer goods production (given full availability of complementary imports)?
6. What is the relation between the domestic resources diverted from investment to consumption purposes and the imports which would be required to match such resources in producing consumer goods?

2121a

SOGSVIRKJUNIN

THE HYDRO-ELECTRIC DEVELOPMENT OF SOG

P. O. BOX 537 TELEPHONE 1222
TELEGRAMS: RAFMAGNSVEITAN

REYKJAVÍK, Nov. 9th 1950.
2 TJARNARGOTU, ICELAND

HH/AS/NF-16.

Mr. D. Spottswood,
c/o International Bank for Reconstr. and Development,
Washington 25, D.C.,
U. S. A.

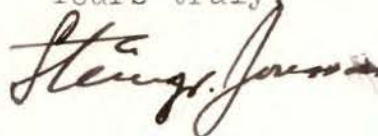
Dear Mr. Spottswood:

In completion of our reports on the Sog Development we are sending you herewith a general survey of the power production and distribution as regards the Sog Plants and the Municipality of Reykjavík.

This is somewhat in the nature of a manuscript and as we are trying to catch to-morrow's airmail to the States we have not had time to rewrite it with corrections and amendments. It may suffer in appearance, but we trust you will find all the necessary information.

Should you require anything further from us, we shall be glad to hear from you, and do our best to answer all questions.

Yours truly,



RECEIVED 11-10-50

I. The development of power consumption in the Sog Power Plant distribution area.

1. Preface.

The Sog Power Plant distribution area is at present defined as the south-western part of Iceland with the cities Reykjavík, Hafnarfjörður and Keflavík and the counties Gullbringu-
og Kjósarsýsla, Árnessýsla and Rangárvallasýsla. The population of this area was at the end of 1949 upwards of 76,000, or 54% of the total population of Iceland. Power distribution in the area rapidly increasing, and it is to be expected that the area will before long be extended. The power distribution has grown around the Reykjavík Municipal Power Works, and its development history would not be complete without a chapter on the cooperation with the Reykjavík Power Works.

In the following a description will be given of the undertakings that produce power in the area, with the major points of history, to show the trend of development.

2. The undertakings.

a) Reykjavík Municipal Power Works 1921-1944.

The Reykjavík Power Works is owned by the Municipality of Reykjavík and is operated as a financially separate concern, in accordance with regulations of Jan. 10th 1939.

The Power Works began operation in 1921. In the years 1920 and 1921 a hydro-electric power plant was erected on the Ellida river, which was owned by the Municipality and is situated 6 km. from the centre of the city. The initial capacity of this hydro-power plant was 1032 kw from two machine aggregates. Simultaneously the first distribution system was built in the city proper, and a transmission line of 5 km. for 6 kV tension from the power plant to the distribution system.

In 1923 a third aggregate of 688 kw was installed in the hydro-power plant, bringing the total generating capacity up to 1720 kw.

In 1924-1927 a storage dam was built in the Ellida river and in 1927 the plants intake dam was raised and extended. These measures were taken in order to secure the water flow against frost and water shortage, and were, on the whole successful.

In 1933-1934 an additional^{al} aggregate of 1440 kw was installed in the hydro-plant, bringing the total generating capacity up to 3160 kw.

Along with these extensions of the hydro-power plant, the city distribution system was annually extended, first to the suburbs and then throughout the city's distribution

area as it became increasingly populated, covering the area of the jurisdiction of Reykjavík and its environs. Investment cost was at first paid by loans obtained from danish and icelandic banks, but in later years the extensions were borne by operation surplus.

b) The Sog Development 1933-1944.

By Act of Parliament of 1933 the Municipality of Reykjavík was granted a franchise to build a hydro-power plant on the river Sog, situated abt. 50 km. from Reykjavík, measured along the transmission line. The Sog Development comprises, in accordance with the Act of Parliament, the hydro-power plant, transmission line to Reykjavík and the main transformer station there, and is, also in accordance with the Act, owned by the Municipality of Reykjavík and operated as an independent concern with separate accounts.

Before the Municipality obtained this franchise, certain preparations had been made, at the investigation of the Mun. Power Works, for a development on the Sog, and these preparations were so far advanced that construction specifications were submitted for tendering in the winter 1929-1930, for a development on the Upper Sog between Pingvalla-lake and Úlfljóts-lake.

The project had to be abandoned as a State guarantee for the proposed development loans was not available.

Development facilities.

The Sog River flows from the Pingvalla-lake, the largest lake in Iceland, with an area of 87 sq.km. and situated 103 metres above sea level. The highest part of the river, called the Upper Sog, runs a short semicircular course into another lake, Úlfljóts-lake, which has an area of 2,7 sq.km. and is situated 81 metres above sea level, a little way south of Pingvalla-lake.

On account of the large size of Pingvalla-lake, and the fact that water flow into the lake is mostly underground, through the surrounding lava, the water flow in the river is uncommonly even. The average flow is assessed at 116 cub.metr./sec., and utilizable minimum flow 93 cub.metr. per second. By flow regulation, which can be established by a dam in Pingvalla-lake, it is assumed that the Upper Sog may be developed with a head of 22 metres for 28 MW.

From the Úlfljóts-lake the Sog flows down 3 falls, the Sog falls: Ljósafoss, Irafoss and Kistufoss, intersected by rapids, until it reaches a level of less than 26 metres above sea level, and thence it flows smoothly south, through Álfta-lake into Hvítá (White River).

Estimates have shown that the most advantageous procedure is to develop the falls in two stages, first Ljósafoss with

a dam on top of the fall, raising Úlfjótts-lake 0,8 m. up to the above mentioned level of 81 m. above sea level. The Net head of this development is 17.6 m. and the capacity fully developed 21 MW, utilizing flow regulation in both lakes above.

The third development is then a joint utilization of the two lower Sog falls in one plant with a Net head of 37.6 m. and a capacity of 46,5 MW full development.

The total capacity of the Sog river is then 95,5 MW, fully developed in three plants.

Ljósafoss development.

By the above mentioned Act of law on the development of the Sog, provision is made for state guarantee of development loans. In the year of passing the Act, two norwegian engineers were engaged as consultants to the Municipality of Reykjavík on the question of choice of development procedure. They submitted a finding early in 1934 and recommended the development of the uppermost fall in Sog, Ljósafoss. In the autumn tenders were solicited in Scandinavia and Denmark for the construction of buildings and dam and machinery and equipment, and, also in the autumn, a development loan was obtained from a swedish-danish bank combine, a contract was concluded with a danish firm of contractors for the building construction, based on lowest bid received, and with swedish manufacturers for turbines, generators, switchgear and other equipment. The construction took place in 1935 to 1937, and the power plant was taken into operation in Oct. 1937. Two machine aggregates were installed, of a total generating capacity of 8.800 kw. From the power plant the energy is transmitted through a 60 kV hightension transmission line to a main transformerstation on the outskirts of Reykjavík, and there transformed to 20 and 6 kV. From there it is delivered through a hightension distribution system to Reykjavík and the environs.

Machine extensions.

In 1939 preparations were made for increasing the generating power by a new machine aggregate, but contracts were not concluded until 1942, with american manufacturers, and the aggregate was put into operation in August 1944, with a rated generating capacity of 5.500 kw. The total generating capacity of the installed machinery is thus 14.300 kw, but with a raised water level and a high power factor, the plant has been able to take a load of 16.500 kw. during winter. A loan for this extension was obtained from the Landsbanki Islands, and in 1945 the swedish loan from 1935 was converted into a domestic loan.

Further extensions.

The demand increase continued and it became necessary

to provide additional generating machinery.

The Reykjavík City Council instructed the Municipal Power Works to submit proposals on means of meeting the increased demand. The Municipal Power Works submitted a finding in the spring 1944 on the extension of generating facilities for this purpose. It was recommended that a reserve station be built on the Elliða-river for a steam turbine for cooperation with the hydro-power stations, and further that a new development be undertaken on the Sog-river as soon as possible.

c) The Reserve Station.

In the winter 1944-45 tenders for machinery and equipment for the reserve station were solicited, based on specifications compiled by Icelandic engineers, and in the summer 1945 contracts were concluded with American manufacturers for a boiler and a steam turbine for the station. Detail drawings and specifications were made with the assistance of American engineers, as consultants, and the complete machinery and auxiliary equipment purchased in the autumn 1945 and the beginning of 1946.

The plant was constructed in 1946 and 1947 and was put into operation in April 1948. It is situated on the Elliða-river, close to the hydro-power plant and the main feed water pipe to the Reykjavík Heating System. It is owned and operated by the Municipal Power Works.

The plant is furnished with one main boiler from Combustion Engineering Co. in New York, for 40.4 tons steam per hour, with a pressure of 35 kg/cm², and superheated up to 430°C. Steam turbine with generator is from Int. General Electric Co., New York, and the capacity is 7500 kw at a power factor of 0,8 (9375 kVA). The capacity is relative to the boiler size.

The boiler may, in addition to producing steam for the turbine, for the purpose of generating power, also be employed as a peak load plant to heat water for the Reykjavík Heating System. The water from the main feed pipes is conducted into the station, and in a separate heater its heat can be raised up to 160° from 80° to 96°C, for 1000 tons an hour. It is also possible to take cold water from the Elliða-river abt. 200 tons an hour, heat it and add to the hot water in the city system.

Further, the reserve station is equipped with an electrode boiler of 9000 kw, with heating equipment, intended to raise the temperature in the Heating System, by utilizing surplus power from the hydro-power plants along with the boiler.

For the time being the plant is operated as a peak load station for the power system, as well as a peak load station

for the Heating System during cold spells. Later on it is supposed to be kept as a stand-by station for the power system. It is also expected to operate in aid to the hydro-power plants in case of uncommon water shortage, and would then operate as a base load plant.

d) The Municipal Power Works after 1944.

The Power Works cooperated with the Sog Development by continued coordinated operation of the power plants in the manner adopted when the Ljósafoss plant was put into operation, the Ljósafoss plant being used as a base generating plant, and the Ellida-river plant being coupled in during the peak load periods. This method of operation was continued after the reserve station was taken into operation in the autumn 1948, the reserve station being coupled in last, whenever the load surpassed the capacity of the other plants, and disconnected first, when the load declined. As regards the power production the year 1944 does not signify a turning point. It is in the distribution system that a change becomes apparent. The population in the power works distribution area grows increasingly fast, and employment is increased by the activities of military forces of occupation, which also used some electric energy for a time. At this time the expansion of the distribution system was considerable, and coincided with a marked rise of costs, with the result that investment cost was multiplied. It was not possible to increase tariff rates to keep pace with the cost increase, and it became necessary to take loans to meet the extension costs. This was done in 1944, and again in 1946, but to date the financial stability of prewar years has not been regained. It has been impossible to keep the rates on level with the increasing costs. It is, however, hoped that upon completion of the extensions of the main distribution system, in connection with the new development project, a greater stability will be attained. It will also be necessary to coordinate the tariff rates for electric energy with rising cost index better than hitherto.

e) The Sog Development after 1944.

A new board of directors.

The Municipal Council passed the proposal submitted by the Power Works in 1944, on the commencement of a new development on the Sog, and applied to the Government for licence to extend the Sog Development in accordance with Act of 1933. The Government ruled that provision for such a licence was not given by the Act, and therefore there were no authority for the granting of the licence. The Act was then taken up for revision and a new Act passed in 1946 by which the Municipality of Reykjavík was granted a franchise for the further development on Sog. (The Act is attached).

By the Act it was decided that the Government could become joint owner of the Sog Development and in 1947 the

Government decided to avail itself of this provision. An agreement was negotiated between the Municipality of Reykjavik and the Government about joint ownership of the Sog Development under the Act. The agreement was signed in July 1949, and in accordance with that, a board of directors was appointed and assumed office on the 1st Aug. 1949. (Copy of the agreement is attached).

With the establishment of a new board of directors for the Sog Development two separate concerns are producing electric power, which have to be in close cooperation. On the one hand is the Municipal Power Works owned by the Municipality of Reykjavik with two power plants, the hydro-power plant and the reserve plant on the Ellida-river, and on the other hand the Sog Development, jointly owned by the Government and the Municipality of Reykjavik, with a separate board of directors, with a hydro-power plant on the Sog and a project for a new development there.

The Mayor of Reykjavik is chairman of the governing bodies of both concerns, and both have the same Managing Director.

The power plants produce the energy for interconnected distribution systems. The production is arranged with a view to the most economical and safe operation of the systems.

The electric energy is sold, wholesale from the power plants to the distribution systems at cost price with a permissible advance of 5%. The Municipal Power Works purchases its energy wholesale at the same price relatively to the same point of delivery as other municipalities or distribution systems in the distribution area. The Sog Development sells electric energy wholesale only.

Preparation of development projects.

Investigation of the possibilities of development extensions on the Sog showed that it would be most advantageous to begin with a development of the two Lower Sog falls, together in one plant, as mentioned before. In 1944 and 1945 the necessary surveying was done, and preliminary estimates made, providing for a dam on the top of Irafoss, and intake canal on the western bank of the river down to a intake dam and a pressure pipe from there to the station, which was to be placed below the Kistufoss, and an open tailrace canal from the station to the river.

This estimate was submitted for investigation to the firm of swedish experts, the Vattenbyggnadsbyrån in Stockholm, in the autumn 1945, and the firm advised against widening on this method of development until investigation had been made into the conditions for an underground plant by Irafoss with a subterranean tailrace.

A geological survey by icelandic geologists and test drilling in the rock conducted by the State electricity authority

took place in 1946, and the results submitted for advise to A. B. Berdal, consulting engineer of Oslo, who had been consultant engineer on the Ljósafoss development. He found it necessary to have test excavations made on the tailrace tunnel before deciding on the underground plant. These excavations took place in the latter part of 1947, and at that time Mr. Berdal was engaged as consultant to the Sog Development on the new project, as he had been on the Ljósafoss development.

the drillings The result of the test excavations was satisfactory and ~~they~~ were continued in 1948. Simultaneously work on the final development project was continued, with cost estimates followed by specifications. Mr. Berdal conducted work on the building construction plans, but work on planning machinery and switchgear was conducted by Sogsvirkjun, with the assistance of the engineers Jakob Guðjohnsen and Eiríkur Briem.

It was decided to construct an underground plant. A dam was planned on the top of Írafoss, similar to that which was planned before, but now the intake was placed on the eastern bank of the river and from there a fairway for the pressure pipes is to be blasted in the rock down to the plant. From the plant a concrete-lined tunnel with a free water level is to be built under the river down below Kistufoss, a length of abt. 700 metres and 50 sq. metres diameter.

Specifications and financing 1949-50.

In the summer 1949 specifications were completed and were released for general tendering of machinery and switchgear and a limited tendering for construction work.

Tenders were solicited from local contractors for the construction work and from 3 firms in each of the Scandinavian countries, Denmark, Norway and Sweden. These firms had previously been in contact with the Sog Development, and declared themselves willing to tender.

The result was that a combine of swedish and danish firms, which later adopted the name of Fosskraft Ltd., submitted the lowest offer for the construction work, but 3 other tenders received were either much higher or did not give a firm contract price.

A number of tenders for generators and switchgear were received, both from Europe and America. The American tenders were most favourable, as delivery time given in the European tenders was too long to be considered for this project, and also the American firms offered a firm price, which the European did not.

The lowest price offer for the turbines came from Sweden, and as the delivery could be coordinated with the construction schedule this offer was accepted.

Meanwhile work on the financing of the project was in progress and the aid of the Government obtained with this. When tenders were received late in 1949, the cost estimates were revised and upon devaluation of the currency recalculated with the new rates.

In March 1950 the Government obtained a loan of 2 mill. Dollars (32.6 mill. kr.) from the Economic Cooperation Administration in Washington (ECA) of which 27.18 mill. kr. relented to the Sog Development, to cover purchase of machinery and equipment in the United States. Then funds were used for initial payments under contracts concluded in July 1950 for purchases from the firms Westinghouse Int. Electric Co., and Int. General Electric Co., in New York.

In May the Alping authorized the Government to contract for a limited loan on account of the development, and to guarantee loans for it.

In July 1950 a contract was signed for the construction work with the swedish-danish firm Fosskraft Ltd., under which the stationhouse is to be ready for machine installation on May 1st 1952 and the job completed Dec. 1st 1952.

The Government obtained, through the mediation of Landsbanki Islands, a temporary loan of 1 mill. swedish kr. and 1 mill. danish kr. to cover purchase of construction materials from Denmark and Sweden. Parts of these loans, abt. 1/4, were to be used for the Laxá project in Northern Iceland.

When the swedish funds were made available, contract was concluded with the swedish turbine manufacturer KMW for delivery of the turbines.

The Government also secured from the Landsbanki Islands a temporary loan of 2.5 mill. kr. to cover domestic expenditure on the project.

In the spring 1950 specifications were also released for construction of dwelling houses at Írafoss, and in July contract was concluded with the firm of Iri Ltd., Reykjavík. The houses are to be completed by spring 1951, and are intended for apartments for plant operators and a canteen.

The Government department for roads and highways undertook the construction of roads and bridges for the development. The job was to be done in July - Nov. 1950.

With the contracts made and the temporary loans obtained the project progress is ensured for the year 1950. In the meantime the work towards a permanent solution of the financing problem continues, and with the ground work already done, it is hoped that negotiations will be completed before the end of this year, and continued progress on the project ensured. These negotiations are carried on by the Government and will not be dealt with here.

3. Number of consumers and energy consumption.

a) Population in the distribution area.

In the following table 1, is shown how the population has grown in the Municipal Power Works distribution area, which is also the distribution area of the Sog Development, in the years 1938 to 1949.

Year	Reykjavík and environs 1000 inhabit.	Hafnarfjörður Reykjanes and the Southern country 1000 inhabit.	Total in the Sog Development distribution area 1000 inhabit.
1938	37.6	3.8	41.4
1939	38.5	3.8	42.3
1940	39.0	3.9	42.9
1941	40.2	3.9	44.1
1942	41.2	3.9	45.1
1943	43.6	4.0	47.6
1944	45.0	4.0	49.0
1945	47.5	4.2	51.7
1946	50.0	6.5	56.5
1947	52.8	9.0	61.8
1948	54.6	9.6	64.2
1949	56.0	10.3	66.3

The population of Reykjavík has grown steadily for a long time, but particularly since 1918, when the number of inhabitants was 15.000.

The construction of the first harbour in Reykjavík was completed that year, and for that and other reasons the increase rose to upwards of 1000 inhabitants annually and continues at that figure until the end of 1942, when the number of inhabitants is 41.000. During this 24 years period the increase is 26.000 inhabitants or a mean of 1080 per annum. This is equal to a steady increase of 4.275% during that period, but not proportionally from year to year. The constant figure of 1080 annually is more accurate.

After 1942 the growth becomes faster, so that the population of Reykjavík is 55.000 at the close of 1949, and the increase in the last 7 years has been 2000 inhabitants annually, which equals an increase of 4.265% per annum.

Proportionately, therefore, the growth in the last 7 years is practically the same as in the preceding 24 years. The growth in 1942 to 1947 is due to special circumstances in connection with the World War, and it is therefore not considered appropriate to estimate the growth in the next years on a higher figure than that of the pre-1942 years, viz. 1080 inhabitants annually in Reykjavík.

Apart from Reykjavík the Sog distribution area covers a large part of south-western Iceland. Hafnarfjörður was connected in the summer 1938 with nearly 4000 inhabitants. In 1946 and 1947 Keflavík and Suðurnes are connected with abt. 3000 inhabitants and 1947 and 1948, Árnessýsla and Rangárvallasýsla with upwards of 2000 inhabitants, and the total population outside Reykjavík and its environs reaches 10.300 at the end of the year. The total population in the Sog distribution area is 66.3 thousand at the close of 1949. The increase has been considerable in Keflavík, Selfoss and also some increase in Hafnarfjörður, but elsewhere in the rural districts it has been small. However, these places have about 70% of the population outside Reykjavík.

distribution

In addition to this there may be connected within the next 10 years part of Western Skaftafellssýsla and Vestman Islands with about 5000 inhabitants, and possibly the distribution area of the Andakils river development may be connected. As district system is already in operation there, and this connection would therefore probably not mean a proportionate increase in population within the next 10 years.

Assuming that the growth in the Sog distribution area outside of Reykjavík will continue as it has been since 1918, or an annual increase of 4,3%, the population will number 15.6 thousand in the area in 1960.

Based on these figures the proportion of population in and outside of Reykjavík is 85% in Reykjavík and 15% outside. According to the estimated increase the proportion in 1960 will be 82% in Reykjavík and 18% outside.

b) The Power Production.

Considering the production of electric energy for this population it will be noted that it has not grown less, as is shown on Table 2, tabulating the annual power production in 1938 to 1949 for each power plant.

Table 2. Power Plants: Cooperation and power production.

Year	<i>Sogsvirkjun Plant</i> Ljósafoss		<i>Reykjavík</i> Ellidaár hydro station		<i>Power Works Plants</i> Reserve Station		Total		In-crease over pre-ceeding year	Peak Load	Load factor
	Installed generat-ing capa-city 1000 MW K.W	Power pro-duct-ion MWh	Installed generat-ing capa-city 1000 MW Kw	<i>Energy</i> Power pro-duct-ion MWh	Installed generat-ing capa-city 1000 MW Kw	<i>Energy</i> Power pro-duct-ion MWh	Installed generat-ing capa-city 1000 MW Kw	<i>Energy</i> Power pro-duct-ion MWh	%	1000 Kw MW	% hours
1938	8.8	16.205	3.2	884			12	17.088	66	5.9	2900 33.1
1939	-	23.874	-	527			-	24.401	42.7 ✓	8.4	2900 33.1
1940	-	33.633	-	937			-	34.570	41.6	11.0	3150 36.0
1941	-	41.117	-	2.607			-	43.724	26.4	12.0	3650 41.6
1942	-	51.975	-	3.442			-	55.417	25.7	"	4620 52.7
1943	-	60.657	-	7.298			-	67.906	22.6	"	5650 64.5
1944	16.5 ¹⁾	63.110	-	5.758			19.7	68.878	1.4	18.8	3650 41.6
1945	-	70.922	-	2.113			-	73.035	6.0	19.7	3700 42.2
1946	-	81.311	-	3.116			-	84.427	15.5	"	4300 49.0
1947	-	96.089	-	5.765			-	97.853	16.0	-	4970 56.7
1948	-	98.246	2.5 ²⁾	7.270	8.3	5.426	27.3	110.922	13.4	27.3	4050 46.2
1949	-	98.990	-	10.009	-	13.124	-	122.123	10.1 ✓	27.3	4470 51.0

- 1) The generators rated capacity is 14.5 MW but they can take an overload of 2 MW.
- 2) 0.7 MW are deducted from capacity of the Ellidaár hydro-plant for use as motive power the Reserve Station auxiliary equipment.

From 1938 to 1949 the production has grown from 17.1 mill. kwh. to 122.1 mill. kwh. The increase in 11 years is more than sevenfold, and equals an annual mean rise of 19.55%. The figure includes the effect of the growth of population which was shown before to be upwards of 4% annual increase. It is apparent therefore that the per capita consumption has increased considerably, as also is shown in table 3, which is based on tables 1 and 2 above.

Table 3. Demand per capita.

Year	Energy production Mill. KWh.	Number of inhabitants 1000	Energy production per capita KWh.	Increase above preceding year
1938	17.1	41.4	414	48.0
1939	24.4	42.3	576	39.0
1940	34.6	42.9	806	40.0
1941	43.1	44.1	990	23.0
1942	55.4	45.1	1230	24.0
1943	67.9	47.6	1420	15.5
1944	68.9	49.0	1400	* 1.4
1945	73.0	51.7	1410	* 0.7
1946	84.4	56.6	1500	6.4
1947	92.9	61.8	1590	6.0
1948	110.9	64.2	1730	8.8
1949	122.1	66.3	1840	6.4

When the Sog Development began operation in 1937, the demand per capita was 280 kwh. in that year. The following year, 1938, it was 414 kwh. per capita and in 1949, 1840 kwh., or 4.5 times that of 1938. The 11 years increase 1938 to 1949 equals therefore 14.5% per annum.

This increase is, however, not constant. It is fast in the first years, until 1944, when it was very little, so that as compared to the population it was less than in the preceding year. This was due to the fact that the Reykjavik Heating System was that year connected to 2/3 of the buildings in Reykjavik, and released a considerable amount of heating power in homes that previously had been supplied by the Power Works, enough to counterbalance the increase from elsewhere, and this was partly extended into next year as the Heating System connections were not completed until then. After 1945, the rise in energy consumption continues but proportionately a little slower than before. The average mean increase after 1945 is 6.74% per annum.

c) Power Requirements.

In order to produce this energy a stated generating capacity has to be on hand in the power plants. Experience in the last 11 years has shown that the power requirements

should have grown evenly from 8400 kw in 1939 to 34000 kw in 1949, if sufficient generating capacity had always been available. This equals an annual increase of 15%, as against 19.5% annual production increase. This again indicates that annual load factor should have grown 30% from 2900 hours in 1939 to 3770 hours in 1949.

Now, generating capacity has not always been available. At times it has been necessary to reduce the peak load considerably. This has been done by ^{ohmic} voltage reduction, as the majority of the consumption is on resistance appliances, with hardly more than one third for motors during the peak load periods. This voltage reduction only constitutes a small decrease of the total production as the reduction is only effective for a short period daily in winter.

Because of this lack of generating capacity the actual load factor has been very variable, as will be seen from Table 2. A load factor of 4000 hours may be taken to indicate power shortage.

d) Projected extensions.

According to the foregoing the increases in 1938 to 1949 have been:

- ✓ In population 4.3%. 4.47%
- ✓ In load 15%. 13.67%
- ✓ In total power production 19.5%. 19.67%
- In per capita demand 10%. 8.7%
- ✓ In production per capita 14.5%. 14.57%

These figures must, however, be considered too high for the next years, as the production increase after 1945, is only 6.74% and it is to be expected that increase of population in Reykjavík will be proportionately less than in 1942 to 1949. In the foregoing it was estimated to be near that of before 1942 or numbering 1080 inhabitants per annum. That equals 1.7% annual increase until 1960. If the figure 4.3% annual increase in population in the distribution area outside of Reykjavík, is used as an estimate, the total increase is 2.34% per annum.

The increase would then be as shown in the following Table 4.

Table 4. Increase until 1960.

Year	Number of inhabitants in the distribution area increase 2.34% 1000	Energy demand per capita kwh-6.74%	Total power production 9.45% mill. kwh.	Peak load 8.4% 1000 KW MW	Load factor % hours	(2)
1949	66.5	1840	122.1	34 ¹⁾	3600	41.0
1950	68.0	1960	133	36	3700	42.2
1951	70 69.6	2100	146 ✓	38.4	3800	43.3
1952	72 71.2	2230	160 159	41 40.7	3900	44.5
1953	74 72.9	2380	176 174	44 44.0	4000	45.6
1954	76 74.6	2550	194 190	49.5 47.5	-	"
1955	78 76.3	2730	213 208	53 52.0	-	"
1956	80 78.0	2920	233 228	58.5 57.0	-	"
1957	82 79.8	3120	256 249	64 62.0	-	"
1958	84 81.7	3330	280 272	70 67.0	-	"
1959	86 83.6	3550	305 297	76.4 74.0	-	"
1960	88 85.6	3800	330 325	82.5 81.5	-	"

- 1) The actual load was only 27.3 MW (see Table 2) but is here amended to full voltage load.

- 2) The ^{load factor} (utilization) is ^{shown} estimated to grow from ^{41.0%} (3600 hours) 1949 to ^{45.6%} (4000 hours) and remain fixed for a time at this figure. These load factors represent the desirable rather than the actual conditions which will prevail.

With this increase in population and demand, shown in Table 4, the actual load and load factor, assessed from the generating capacity which is expected to be available, will be as shown in Table 5, in which is tabulated the cooperation of the plants based on constant increase.

Table 5. Power Plants: Cooperation 1950-1960.

Year	Sogsvirkjun				Municipal Power Works				Total		Peak	Utili-
	Ljósafoss		Írafoss		Ellidaár hydro plant		Reserve Station		Installed generat- ing capa- city	Power pro- duct- ion mill.	Load	zation
	Installed generat- ing capa- city MW	Power pro- duct- ion mill. KWh	Installed generat- ing capa- city MW	Power pro- duct- ion mill. KWh	Installed generat- ing capa- city MW	Power pro- duct- ion mill. KWh	Installed generat- ing capa- city MW	Power pro- duct- ion mill. KWh	MW	KWh	MW	hours
1950	16.5	103			2.5	9	8.3	23	27.3	133	27.3	4870
1951	-	104			-	10	-	27	-	146	-	5350
1952	-	118			-	10	-	32	-	160	-	5880
1953	14.5	56	31	120	-	0	-	0	56.3	176	44	4000
1954	-	60	-	130	-	1.6	-	2.4	-	194	48.4	-
1955	-	67	-	141	-	1.8	-	3.2	-	213	53.2	-
1956	-	72	-	152	-	3.3	-	5.7	-	233	56.3 ¹⁾	4120
1957	-	78	-	167	-	4.0	-	7	-	256	-	4520
1958	-	86	-	182	-	4.0	-	8	-	280	-	4950
1959	-	93	-	196	-	5.0	-	11	-	305	-	5400
1960	-	100	-	210	-	7.0	-	13	-	330	-	5820

- 1) In 1956 extended generating power will be required. If a third aggregate is installed in Írafoss-plant, of 15.5 MW, only 10 MW of its generating capacity could be utilized until the Upper Sog is developed, and until then the available generating power would be 66.3 MW, which would suffice for the following two years, with the same demand increase. At that time it would therefore be necessary to provide for the third development on the Upper Sog. There is also a possibility of extending the generating power of the Reserve Station, sufficiently to meet the demand.

e) Fertilizer Plant.

In the foregoing the general public energy demand is estimated to increase by 9.45% annually in the coming years. This is a considerable increase, even though it has been faster in many of the previous years. With an annual increase of 9.45% the demand is doubled in about 8 years, and it is evident that the projected extension must be followed by another extension before long (see diagram).

In addition to this the possibility of the Sog Development supplying further demand has been discussed, and in particular the supply required for the projected fertilizer plant, which is estimated at 135 mill. kwh. annually. Of this only 49 mill. kwh. are required as primary power, with a load of 6.8 MW (7200 hours annually), and the remainder, 84 mill. kwh, as surplus power, outside the peak load period and mainly night supply.

The possibility of supplying the fertilizer plant may be judged from the following data.

The minimum water flow in the Sog is assessed at $93 \text{ m}^3/\text{sec.}$, and estimated as utilizable 100% annually, or that available water annually will be $93 \cdot 31,5 \cdot 10^6 = 2930 \cdot 10^6$. For comparison it may be mentioned that a nine years average water flow is $116 \text{ m}^3/\text{sec.}$ The assessed minimum flow is 80% of that. This high figure is due to the fact that the flow in the Sog is exceptionally constant.

With this minimum flow power may be produced from the Sog as follows:

In Ljósafoss with 17.6 m net head	$\frac{2930 \cdot 10^6}{27}$	= 108 . 10^6 kwh annually.
In Írafoss with 37.6 m net head	$\frac{2930 \cdot 10^6}{12.6}$	= 233 . 10^6 kwh annually.
In Upper Sog with 22 m net head	$\frac{2930 \cdot 10^6}{21.6}$	= 134 . 10^6 kwh annually.
Total from Sog 77.2 m net head	$\frac{2930 \cdot 10^6}{6.16}$	= 475 . 10^6 kwh annually.

In the foregoing Table 5. the general public demand in 1954 is estimated at 194 mill. kwh. Should the fertilizer plant have come into operation then, the total demand would be divided as follows:

Public demand	194. 10^6	kwh with 48.4 MW for 4000 hrs.
Fertilizer primary power	49. 10^6	" " 6.8 " " 7200 "
surplus power	86. 10^6	"

Total 329. 10^6 kwh with 55.2 MW for 5900 hrs.

The production would be divided between the power plants in the following manner:

	Power		Energy		Load factor Hours
	MW	%	%	Mill. kwh.	
Ljósafoos	14.5	82.5	95	312.5	6870
Írafoss	31.0				
Ellidáár-hydro	2.5	4.5	1	3.3	1320
Reserve Station	7.2	13.5	4	13.2	1830
Total	55.2	100	100	329.0	5980

312.5 million kwh from Ljósafoos and Írafoss equal a utilized water flow of 85.2 m³/sec. or utilization of 88% of the minimum flow.

A similar break-down for 1960 would be as follows:

Public demand	330.10 ⁶	kwh with 82.5 MW for 4000 hrs.
Fertilizer primary power	49.10 ⁶	" " 6.8 " " 7200 "
-"- surplus power	86.10 ⁶	"

Total 465.10⁶ kwh with 89.3 MW for 5200 hrs.

To meet the load demand additional generating capacity of 33 MW is required for the existing plants, and this additional machinery has to produce about 100 mill. kwh. annually to meet the energy requirements.

The safest method of extension is to develop the Upper Sog for 28 MW, which would do more than meet the energy requirements, but would be 5 MW short of the load. There are several possibilities for the procurement of these 5 MW.

A 3rd aggregate in Írafoss plant (15.5 MW), a new aggregate in the Reserve Station (12.5 MW), a thermal plant in Krýsuvík (5 MW) or a 4th aggregate in Ljósafoos plant (7 MW).

All these developments have to be undertaken successively anyway, in order to meet the increase of public consumption. The only difference caused by including the fertilizer plant is that these extensions have to be undertaken earlier. The consumption of the fertilizer plant is in 1954 41% of the total consumption and in 1960 29.2%, and its proportionate load will decreasing onward.

This shows that the fertilizer plant load can be taken on the system, if the projected extension in the next decade are expedited sufficiently.

II. Cost estimate and financial data.

1. Cost estimate.

When tenders were on hand for the main machinery and switchgear for the development, and for the construction work, late~~d~~ in 1949, the first cost estimates were revised and again upon the devaluation of the Icelandic króna in March 1950.

Since then cost prices on various items have increased and a new revision has therefore been made in October 1950, and this revised cost estimate is shown in the following Tables 6, and 7, and the totals here below.

	<u>1000 kr.</u>
The totals show the Írafoss development itself estimated at kr.	103.440
High Tension Transmission line, 132 kV, 50 km.	13.407
Main transformer station Ellidaár	<u>18.264</u>
Total for the Sog development	135.111
Main distribution system of Municipal Power Works	<u>22.889</u>
<u>Grand Total</u>	<u>158.000</u>

Of this total domestic cost is 62.550.000.- or 43%,
and foreign currency expenditure 90.450.000.- or 57%.

Sogsvirkjun.

Table 6. Revised Cost Estimate - Oct. 30th 1950.

	Total 1000 I.kr.		Local Cost 1000 I.kr.		Foreign Curr. expenditure 1000 I.kr	
1) <u>Power Plant Kistufoss- Írafoss & extension Ljósafoss.</u>						
a) Construction (Fosskraft)	37.000		17.130		19.870	
b) Apartment houses, roads, etc.	3.237		2.437		800	
c) Machinery & Equipment	30.112		-		30.112	
Freight, duty, etc.	10.318		10.318		-	
Labour, transport, etc.	3.000		3.000		-	
d) Preparatory work	2.000		2.000		-	
e) Consulting engineers, erectors	2.500		-		2.500	
f) Supervision & control	1.900		1.900		-	
g) Unforeseen	9.483		5.213		4.270	
h) Interest	3.890	103.440	2.660	44.658	1.230	58.782
2) <u>H.T. Line.</u>						
Materials & Equipment	5.454		-		5.454	
Freight, duty, etc.	2.723		2.723		-	
Labour, transport, etc.	3.200		3.200		-	
Consulting engineers, erectors	350		-		350	
Supervision & control	340		340		-	
Unforeseen	855		475		380	
Interest	485	13.407	485	7.223	-	6.184
3) <u>Main Transf.stat. Ellidaár.</u>						
Materials & Equipment	10.773		-		10.773	
Freight, duty, etc.	3.446		3.446		-	
Labour, transport, etc.	1.200		1.200		-	
Consulting engineers, erectors	380		-		380	
Supervision & control	360		360		-	
Unforeseen	1.475		735		740	
Interest	630	18.264	630	6.371		11.893
<u>Sog Total</u>		135.111		58.257		76.859

30,112
5,454
10,773
12,251
58,520

4) 30 kV system Reykjavík.

Materials & Equipment	12.281	-	12.281
Freight, duty, etc.	4.950	4.950	-
Labour, transport, etc.	2.400	2.400	-
Consulting engineers, erectors	430	-	430
Supervision, control	400	400	-
Unforeseen	1.613	733	880
Interest	815	815	-
	22.889	9.298	13.591
Grand Total	158.000	67.550	90.450

Table 7. Revised Cost Estimate - Oct. 30th 1950.
Based on prices for materials and labour ruling Oct. 1950.

	Foreign currency expenditure		Domestic expenditure 1000 I.kr.
	U.S.A. 1000 I.kr.	Europe 1000 I.kr.	
F.O.B. price materials and equipment	54.930	12.936	
Fosskraft (excluding constr. machinery)	3,373	10.970	
Consulting engineers, erectors	2.290	1.370	
Unforeseen purchases (FOB) price increase	4.080	2.190	
Insurance	390	64	84
Ocean freight, shipping expenses			7.970
Duties, sales tax (incl. 1.5 mill. kr. for Fosskraft)			19.853
Labour, transport, etc.			28.053
Preparatory work (paid)			2.000
Supervision & Control			3.000
Interest, during construct. period			4.590
Unforeseen (extra)			2.000
	61.690	28.760	67.550
			61.690
			28.760
		Total	158.000

In U.S. Dollars -

\$ 3,788.013

1,765,979

4,147,840

3,788,013

1,765,979

\$ 9,701,832

Revised Costestimate of foreign currency requirements.

October 30th 1950.

A) Purchases and service in U.S.A.

1) Machinery, electr.-equipment, cables.			
a) Kistufoss-Írafoss, alteration in Ljósafoß	\$1.440.000		
b) Transformerstation Ellidaár	" 652.000		
c) 30 kV distribution in Reykjavík	" 736.000	\$2.828.000	
2) Transmissionline.			
a) Steeltowers	\$ 225.000		
b) A.C.S.R. conductors	" 62.000		
c) Groundwires & misc.	" 9.000		
d) Insulators & hardware	" 28.000	" 324.000	
3) Construction machinery (Fosskraft)		" 214.000	
4) Consulting engineers & erectors		" 140.000	
5) Insurance		" 24.000	
6) Unforeseen for incr. purchase		" 150.000	
7) Unforeseen for price increase		" 100.000	
			\$3.780.000
			<u>I.kr. 61.689.600</u>

Fosskraft is, according to contract, entitled to get \$267 thousand, but their purchase is only estimated to \$214 thousand. The difference is included in the tabulation below over the european currency requirements in accordance with the contract.

B) Purchase and service in Europe.

1) Reinbursements to Fosskraft.			
a) According to the contract	210.000		
b) For increased work	" 30.000	240.000	
2) Building materials.			
a) Írafoss-Kistufoss according to contract with Fosskraft	105.000		
Increased work	" 13.000		
Houses, bridge, installations	" 17.500		
b) Transmissionline	" 2.500		
c) Transformerstation Ellidaár	" 1.000		
d) 30 kV distribution Reykjavík	" 4.000	" 143.000	
3) Hydraulic Turbines		" 90.000	
4) Gates, Cranes, Lifts		" 50.000	
			523.000

	523.000
5) Consulting engineers, erectors	" 30.000
6) Insurance on items 3) and 4)	" 1.400
7) Interest during construct. period	" 27.000
8) Unforeseen for incr. purchase	" 16.000
9) Unforeseen for price increase	" 32.000
	629.400
	<u>I.kr. 28.763.580</u>

It is estimated that the costs will be divided as follows on the years of construction:

	1949/50	1950/51	1951/52	1952/53	Total
Domestic cost	3.0	23.9	30.85	9.8	67.55
U.S. Dollar cost	27.1	34.59	0	0	61.69
European currency cost	0	13.51	10.75	4.5	28.76
Total	30.1	72.00	41.60	14.3	158.00

2. Financial data and production estimates.

It is proposed to obtain the investment capital for the Sog development in the following manner:

	<u>mill.kr.</u>
1. The domestic cost, a loan from counterpart fund, at 6% for 25 years	67.55
2. ECA-grants, provided the icel. counterpart is paid into counterpart fund and obtained through a domestic bonds loan and Municipal contribution, 6% loan for 18 years	34.50
3. ECA-loan 2 1/2 % for 28 years	27.19
4. The European currency expenditure covered by a foreign loan, 4 1/4 % for 18 years	28.76
Total	<u>158.00</u>

The average interest is 5% and the overall repayment schedule equals about a term of 20 years, or the annual total is about 8%, interest and depreciation.

The grand total investment cost is to be divided with 135 mill. krónur on the Sog development, and 23 mill. kronur on the main distribution system of the Municipal Power Works. The annuity on investment cost is therefore to be divided so that 10.8 mill. kr. will be borne by the Sog development and 1.84 mill. kr. by the Municipal Power Works.

10.8
1.84
12.64

Irafoss-plant.

The operation cost of the new development is estimated as follows:

Investment cost annuity	8% on 135 mill.kr.	10.8 mill.kr.
Maintenance and operation	2% on 135 mill.kr.	2.6 " "
Total	10%	13.4 mill.kr.

The full capacity of the development, delivered from main transformerstation, less transmission loss, is 29.5 MW.

The unit price of power from the new development separately will then be 453 kronur annual kw, on an average, delivered from power plant and the main transformerstation at Reykjavík.

The development is scheduled to begin operation in 1953, when the demand, according to table 4 above, will be 44 MW of the total installed generating power of 56.3 MW in all plants. The demand that year is then 78% of the generating capacity.

In order to get a true picture of the general production cost and cooperation of the plants, the operation of each plant must be considered individually.

Ljósafoss-plant.

The annual operation cost of the Ljósafoss plant with the existing hightension transmission line and main transformer station, is at present 2.2 mill. kr. and is expected to remain unaltered for the next years.

Ellidaár hydro power plant.

The annual operation cost of this plant is at present 0.85 mill. kr., and will remain at that figure for the next years. When the new development on the Sog has come into operation, this plant will be operated as a reserve plant for the first year, and night shifts will not be maintained, and day shifts only partly. The operation cost will then be reduced to 0.4 mill. kr. Later when the plant has to be used as a peak-load plant, the cost will grow with the increase of operation. This is shown in the following Table 10.

Ellidaár Reserve Station.

The operation cost of the Reserve Station is comprised of fixed cost, which is divided proportionately between the Heating system and the Municipal Power Works. This fixed cost covers part of the maintenance, but other cost items are maintenance and operation, and full cost which is borne by the Heating system and the Municipal Power Works in the proportion of steam production for each concern.

In Table 8 is shown how the cost was divided in 1949. The investment cost of this plant is 22 mill. kr.

Table 8. Reserve Station operation cost.

	Total		Heating System portion			Power Works portion		
	%	kr.	%	Tons oil	kr.	%	Tons oil	kr.
Interest and depreciation of loans	9	1.980.000	33.5		664.000	66.5		1.316.000
Maintenance	2.5	550.000	-		185.000	-		365.000
Overhead cost	2.5	550.000	-		185.000	-		365.000
Total	14.0	3.080.000	33.5		1.034.000	66.5		2.046.000
Operation & Plant expenses	4.5	990.000	41.2		407.000	58.8		583.000
Fuel: 11800 tons	13	2.867.400	62.8	7400	1.798.200	37.2	4400	1.069.000
Grand Total	31.5	6.937.400	46.7		3.239.200	53.3		3.698.200

Based on the proportions shown in Table 8, the power production cost is estimated in Table 9, for production as in Table 5. The Heating System portion is excluded, as also receipts for heat production in the following.

Table 9. Estimated energy production in Reserve Station and production cost.

Year	Production mill. kwh	Oil consumpt. Tons	Oil price kr/ts	Fuel cost mill. kr.	Operation cost mill. kr.	Other cost items 10 % of 22 mill. kr.	Total operation cost mill. kr.
1950	23	8800	300	2.64	0.6	2.20	5.44
1951	27	10400	375	3.90	0.7	-	6.80
1952	32	12300	400	4.90	0.8	-	7.90
1953	0	0	-	0	0.2	-	2.40
1954	2.4	930	-	0.37	0.25	-	2.82
1955	3.2	1230	-	0.49	0.30	-	2.99
1956	5.7	2200	-	0.88	0.35	-	3.43
1957	7	2700	-	1.08	0.40	-	3.68
1958	8	3300	-	1.33	0.45	-	3.98
1959	11	4200	-	1.68	0.50	-	4.38
1960	13	5000	-	2.00	0.55	-	4.75

All plants.

For cooperation of the plants the total production cost is estimated in Table 10.

Table 10. Power production cost for all plants in cooperation.

Year	Sog Development		Mun. Power Works		Total operation cost mill. kr.	Generating capacity MW	Production cost kr/kw.
	Ljósafooss mill. kr.	Írafoss mill. kr.	Ellidaár hydro-plant mill.kr.	Reserve Station mill. kr.			
1950	2.2		0.85	5.44	8.49	27.3	303
1951	-		0.85	6.80	9.85	-	360
1952	-		0.85	7.80	10.95	-	400
1953	-	13.4	0.40	2.40	18.40	44	417
1954	-	-	0.5	2.92	19.02	48.4	394
1955	-	-	0.65	2.99	19.14	53.2	358
1956	-	-	0.6	3.43	19.63	56.3	348
1957	-	-	0.65	3.68	19.93	-	353
1958	-	-	0.70	3.98	20.23	-	358
1959	-	-	0.75	4.38	20.73	-	368
1960	-	-	0.775	4.75	21.725	-	384

Table 10 shows the estimated mean production cost each year from 1950 to 1960. To this may be added a permissible advance of 5%. The mean cost price from 1953 to 1960 is

$$\frac{19.80 \text{ mill.kr.}}{53.8 \text{ MW}} = 370 \text{ kr/kw} + 5\%$$

or about kr. 390 annual/kw, when the new development has come into operation.

3. The financial status of the distribution systems.

a) The Municipal Power Works.

In the foregoing an economic survey has been made for the power production, with wholesale delivery from power plant or main transformerstation.

In the following a similar survey will be made for the Reykjavík
Municipal Power Works, which purchases 85% of production from the plants, for retail distribution to ultimate consumers. The fact that this proportion of 85% declines little by little to 82% in the years up to 1960 is taken into consideration, but the fertilizer plant is not included here.

In Table 11, the accounts for 1949 are included. In column 2 is shown the gross invested capital in the distribution system with service lines. In 1949 the net booked property is 74% of the gross investment. Annual extensions of the distribution system are estimated at about 4 mill. kr. up to 1953, when the extensions are estimated at 26 mill. kr. including the main distribution system for which a loan of 23 mill. kr., is obtained from the Sogsvirkjun, other extensions being 3 mill. kr. that year and the following 2 years, and from then onwards 4 millions annually.

In column 3 of Table 11 the energy purchased is shown in MW amounting to 85% - 82% of the total production of plants, as in Table 5.

In column 4, are shown the annual capital costs for the distribution system, that is depreciation and/or repayment of loans, interest and official dues.

Also maintenance and alterations of the system, totalling about 13% of the total cost of the preceding year, and of this maintenance and alterations amount to 5%.

In column 5 are shown separately capital costs, i.e. depreciation and interest, on 18 mill. kr. loan from Sog development to the distribution system, and this item not included in the assessment of column 4.

In column 6 is shown operation cost of the distribution system, administration and revenue collection, estimated at 66% of the capital costs in columns 4 and 5.

In column 7 the energy purchase is shown in accordance with Table 10, and total expenses in column 8. Column 9 shows the gross receipts, less sale of heating power to the Municipal Heating System.

In Oct. 1950 the tariff rates were raised 48%, partly due to the devaluation of March 1950.

It is estimated that this rise will increase the receipts of 1951 with 35%. The annual consumption growth is estimated at 9.45%, as under Table 4, with an increase in receipts of 7% annually.

Column 10 shows surplus income.

Table 11. Municipal Power Works - financial data.

Year	Gross capital invested mill. kr.	Energy purchased MW	Operation costs. mill. kr.			Energy purchased mill. kr.	Total expenses mill. kr.	Receipts mill. kr.	Income surplus mill. kr.
			Depreciation interest and mainten.	Depreciation interest Sog loan.	Operation administration and rev. collect.				
1	2	3	4	5	6	7	8	9	10
1949	36.5	23	4.45		2.9	5.34	12.69	15.24	2.55
1950	41	-	4.75		3.15	7.0	14.9	17.0	2.1
1951	45	-	5.30		3.5	8.3	17.1	24.6	7.5
1952	49	-	5.9		3.9	9.3	18.5	26.4	7.9
1953	75	37	6.4	1.84	5.2	15.4	28.88	28.3	-0.58
1954	78	40	6.8	1.84	5.4	15.8	29.84	30.4	+0.20
1955	81	44	7.3	1.84	5.8	15.3	30.24	32.5	+2.26
1956	85	46	7.8	1.84	6.1	16.0	31.74	34.8	3.06
1957	89	-	8.3	1.84	6.4	16.3	32.84	37.3	4.46
1958	93	-	8.8	1.84	6.8	16.5	33.94	40	5.96
1959	97	-	9.3	1.84	7.1	16.9	35.14	43	7.86
1960	101	-	9.9	1.84	7.5	17.6	36.84	46	9.16

From Table 11 may be seen that the income surplus in 1949 and 1950 is not sufficient to cover system extensions, but with the increased rates this is put right in 1951 and 1952. When the new development comes into operation there will be no surplus for extensions of the system for the first two years, but from then on the surplus is growing. That it reaches the high figures shown for the last years in the Table, is due to the fact that the plants' generating capacity has then become more than fully utilized, but no expenditure is assessed for increased energy purchase from a new plant.

In Table 12 figures are extracted from foregoing Tables, to show population in the Municipal Power Works distribution area, and its power and energy purchases with total receipts from consumers of electricity. In columns 5 and 6 the energy purchases are shown per capita in the district (not per consumer) and in columns 8 and 9, the receipts are calculated per annual kW and produced kWh. In order to find the price per kWh sold, the figures in column 9 have to be increased by abt. 15%.

In column 10 the per capita receipts are shown.

These figures give a picture of the energy consumption, and may be used with advantage for comparison with other places. But it must be borne in mind that in some of the years tabulated the power demand cannot be met, even though the energy requirements may be expected to be filled.

Table 12. Energy distribution and population.

Year	Number of inhabitants in the dist. area 1000	Power purchase		Power per capita		Total receipts from sale of energy mill.kr.	Receipts per unit <i>purchased</i>		Receipts per capita kr.
		Load MW	Energy mill. kwh	Load watt	Energy kwh		Kr.pr. annual kw	Aurar pr. kwh	
1	2	3	4	5	6	7	8	9	10
1949	56	23	103	410	1840	15.24	662	14.8	272
1950	57	-	111	404	1950	17	740	15.3	298
1951	58	-	123	397	2120	24.6	1070	20.0	423
1952	59	-	135	390	2280	26.4	1140	19.4	447
1953	60	37	148	618	2470	28.3	770	19.2	472
1954	61	40	163	657	2500	30.4	760	18.6	500
1955	62	44	176	710	2840	32.5	740	18.4	524
1956	63	46	191	730	3020	34.8	760	18.2	552
1957	64	-	208	720	3250	39.3	810	18.0	582
1958	65	-	229	710	3510	40	870	17.6	618
1959	66	-	249	700	3770	43	930	17.3	650
1960	67	-	270	690	4000	46	1000	17.0	685

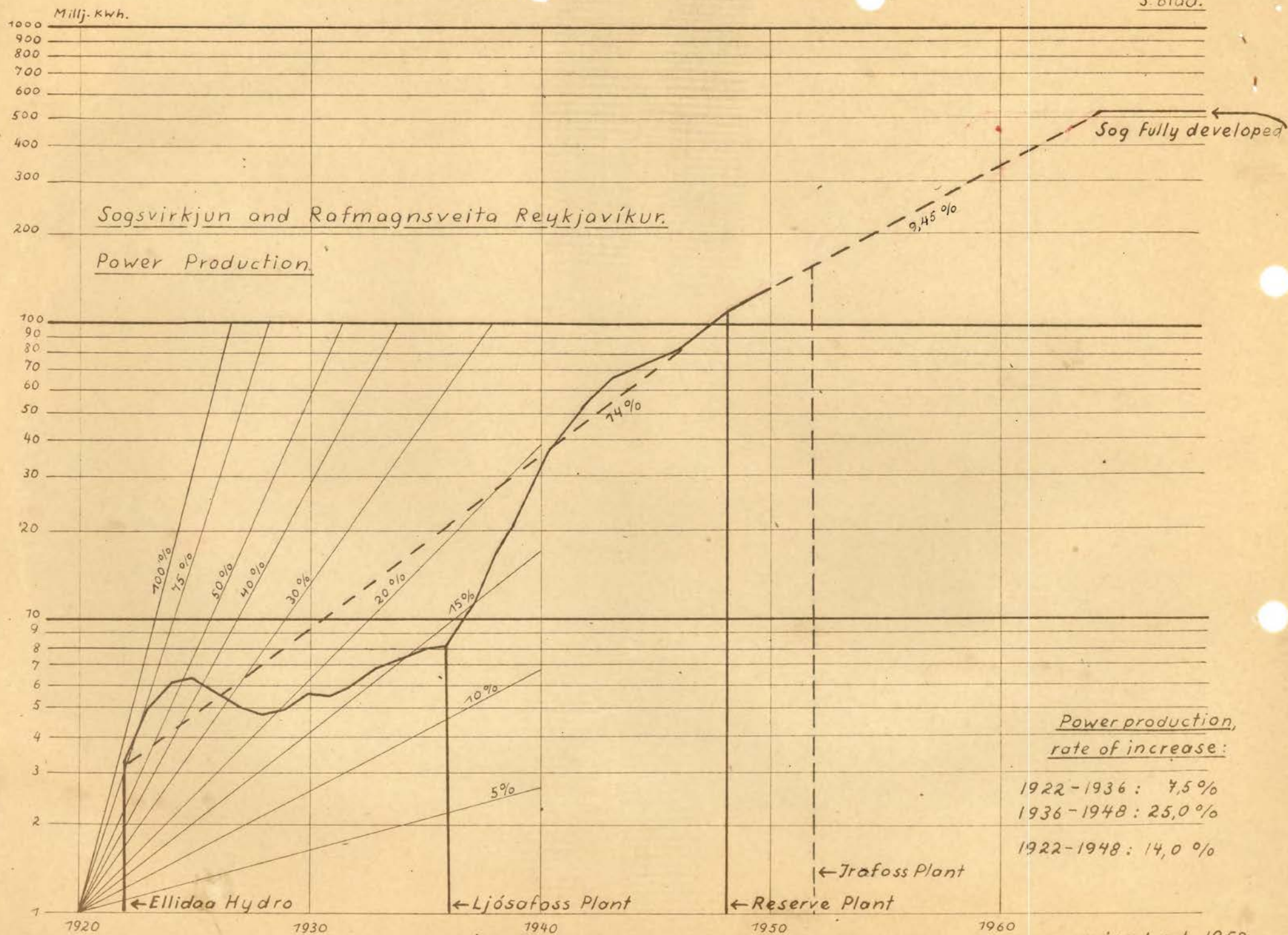
b) Other distribution systems.

In Tables 11 and 12 is shown the distribution of 85 - 82% of the power production. The remaining 15 - 18% are distributed through two other concerns, the Hafnarfjörður Electricity System, and the State Distribution systems, that purchase the power wholesale in the same manner and at the same price -as the Municipal Power Works.

Both these distribution systems are growing, and are able to receive and distribute the energy which they will get, and it is not necessary to describe them further.

Reykjavík, October 31st 1950.

Steinþór Jónsson



revised oct. 1950



OFFICE MEMORANDUM

TO: Mr. L. B. Rist
 Mr. M. M. Rosen
 FROM: Herbert W. Robinson *HW.R.*

DATE: November 8, 1950

SUBJECT: Iceland - Hydro-Electric Power Projects

1. Iceland has enquired into the possibility of loans for two hydro-electric projects (Sog and Laxa) and has submitted information regarding a fertiliser plant and a cement plant. The costs of the four projects and the present stage of external financing are set out below:-

Project	Total Cost (Including local ex- penditure)	European Foreign Exchange Cost	U.S. Dollar Foreign Ex- change Cost	To be provided by ECA
<u>HYDRO-ELECTRIC PLANTS</u> (In Million of U.S. Dollars Equivalent)				
a. Sog	8.57	1.72	3.86	3.86 in dollars
b. Laxa	2.70	.36	.97	.97 " "
<u>FERTILISER PLANT</u>	4.66	.61	2.58	Not yet known
<u>CEMENT PLANT</u>	2.8	2.00 (total foreign exchange)		Nil
Total	18.73	12.10 (total foreign exchange)		4.83 in dollars

Maximum amount to be financed by the Bank = 12.10 minus 4.83 = \$7.27 million.

2. According to our preliminary economic report, the Bank's policy on lending for the above program must depend upon the results of an appraisal of the appropriateness of Iceland's investment program as a whole for ameliorating the country's economic problems. We must answer immediately the important question of how far, on the basis of information presently available, the Bank can proceed with a loan for the two hydro-electric projects without waiting for the results of more intensive investigation.

3. Arguments for taking action on these two projects immediately are as follow:-

a. The country's credit-worthiness seems good, even to the extent of loans totalling \$7.27 million for all four projects, provided that the investment program as a whole and the level of consumption are henceforth kept within reasonable bounds.

b. The Icelandic program of development of hydro-electric power potential has been approved technically by the Bank's engineering staff; it seems clearly desirable in view of Iceland's present economic position since it would bring into operation natural resources presently un-utilised; finally, it is urgently needed to meet a serious power shortage.

c. The Bank would have to obtain permission to provide European 18% currencies. Moreover, Swedish Kronor would be required and, unless Sweden soon becomes a member of the Bank or allows the Bank to sell its bonds in Sweden, British approval for the use of 18% sterling to purchase Kronor would be required. Although in these circumstances the Bank cannot lend immediately, there is a strong case for not losing any time in ascertaining whether the European countries involved would be willing to release their 18% currencies for lending to Iceland.

4. The arguments for postponing actual lending for the Hydro-electric projects are:-

a. Iceland's credit-worthiness does depend on the country's following desirable economic policies. To lend \$2 million before we are satisfied on this score means taking the risk that appropriate policies will not be pursued.

b. Iceland can draw up to \$7 million under EPU without putting up gold or dollars (she has already drawn \$1-1/2 million). If, therefore, the Bank lends European currencies immediately to finance the hydro-electric project it is possible that EPU resources might be used to finance imports of consumer goods. Should our more intensive investigations then lead to the conclusion that the level of consumption is too high the EPU currencies will prove to have been spent unwisely. This would indicate the desirability of examining the Icelandic import program and its means of financing before making the loan. It should be borne in mind here that, even if EPU resources were used to finance the projects, the Bank could later re-imburse Iceland for the expenditures made.

c. Owing to the present nature of the Icelandic economy most of the increase in electricity production will go into increasing consumption unless desirable uses of electricity such as its use in industry are simultaneously developed. And desirable uses may involve additional investment. Hence the Bank might wish to be satisfied regarding the investment program as a whole before it felt safe in financing the expansion of power production.

5. Taking into account all these considerations, it seems clear that we cannot say definitely whether the Bank would be doing right or doing wrong to go ahead immediately with the financing of the hydro-electric projects. On the whole I incline to the view that we could take the risks involved and proceed. The best policy would seem to be;

- a. to make the general economic investigations as quickly as possible;
- b. meanwhile, on the assumption that a loan will eventually be made, to take up the question of obtaining the necessary European currencies.

If it is discovered that these currencies are readily available then, in the light of what other investigations have proved practicable and with any safeguards which may appear necessary, a loan could be made for the power projects forthwith.

Iceland Memo.

November 6, 1950

Mr. Jon E. Vestdal
Iceland Government Cement Works
Havallagata 21
Reykjavik, Iceland

Dear Mr. Vestdal:

Retained by Mr. Spottswood

This will acknowledge with thanks receipt of your letter of October 20 and the copy of the offer from Messrs. Kennedy Van Saun Mfg. & Eng. Corp., New York, which was enclosed. I am very glad to have this proposal in my files as it will give me detailed information about various items of machinery proposed for the project.

I do not think it will be necessary to send me the offers of Messrs. F.L. Smidth & Co., Copenhagen, or Polysius G.m.b.H., Neubeckum, Germany, but I would appreciate your keeping me advised of the amount of the bids from the various firms from whom you are expecting offers.

The information which you have sent me together with that which you gave me while I was in Iceland will be very helpful in making a detailed analysis of the project should your Government formally request the Bank to consider financing some portion of it.

Yours very truly,

A.D. Spottswood

Iceland Nego.

November 6, 1950

Mr. Steingr Jonsson
Sogsvirkjunin
The Hydro-Electric
Development of Sog
Reykjavik, 12 Tjarnargotu
ICELAND

*retained by
Mr. Spottswood*

Dear Mr. Jonsson:

Your letter of November 2, 1950 enclosing the revised cost estimate of the Sogsvirkjun Project and corrections to certain answers previously given to me was received this morning. I have not yet had the opportunity to analyze the data but shall do so at an early date and will advise you if further information is required on this project.

I greatly appreciate the detailed breakdowns of the cost which you supplied. I feel sure that these figures will give me all the information I shall require for an analysis of the project.

I shall look forward to receiving the complete report on the Sogsvirkjun Project which you mentioned.

Yours very truly,

A. D. Spottswood

ADSpottswood:lfh

cc: Files
Mr. Foster

SOGSVIRKJUNIN

THE HYDRO-ELECTRIC DEVELOPMENT OF SOG

P. O. BOX 537 TELEPHONE 1222

TELEGRAMS: RAFMAGNSVEITAN

REYKJAVÍK, Nov. 2nd 1950.

¹/₂ TJARNARGOTU, ICELAND

JG/AS/NF.

The International Bank for Reconstruction
and Development,
Mr. A. D. Spottswood,
Washington.

Sogsvirkjun.

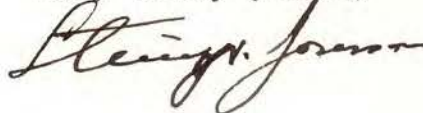
Dear Mr. Spottswood:

In accordance with previous conversation, I herewith
enclose Revised Cost Estimate of the Sogsvirkjun Project. This
cost estimate is based upon to-day's wages and prices, and
supersedes the one shown in Sogsvirkjun: Preliminaries for a
new development, on page 11.

Also, are enclosed, corrections to the answers to the
I.B.R.D. questionnaire dated October 4th 1950, which I handed over
to you during your visit here. These corrections are a consequence
of the revised cost estimate.

A complete report on the Sogsvirkjun project is now
almost finished, and will be sent to you by the next airmail.

Very truly yours,



Iceland Neg.

Mr. S. R. Cope

October 31, 1950

A. D. Spottswood

Iceland

Attached are four copies of a memorandum on the Icelandic projects for distribution to the Working Party. This memorandum supplements my preliminary report and summarizes my conferences with ECA, General Electric, Westinghouse and the Chemical Construction Company.

Attachment

ADSpottswood:lfb

cc: General Wheeler
Files ✓

*(original of W.P. memo sent
to Gen Wheeler)*

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT
WASHINGTON 25, D.C.

Tel: LITtré 67-20
71-03

67 rue de Lille
Paris (7e) France

P.2053

October 30, 1950

Mr. A.S.G. Hoar
Assistant Director, Loan Department
International Bank for Reconstruction
and Development
Washington 25, D.C.

McKeefe
Le

Dear Stanley:

Thank you for your letter of October 25. ✓

I enclose an OEEC document which you may find
useful in surveying the Icelandic investment
programme. Reference is made in this document
to another paper, CP(50)13; this was sent to
Washington with P.1021/D of September 22, 1950.

*doc. in
research
files*

Best wishes.

Yours sincerely,

Walter

Walter Hill

Enclosures: 1

U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

NOV 1 4 02 PM 1910

TO THE DIRECTOR

WASHINGTON

DEPT. OF AGR.

FROM THE DIRECTOR

WASHINGTON

RE: Report of the Director of the
Bureau of Plant Industry, dated
October 1, 1910, relative to the
results of the investigation of the
diseases of the cotton plant.
The report of the Director of the
Bureau of Plant Industry, dated
October 1, 1910, relative to the
results of the investigation of the
diseases of the cotton plant, is
herewith transmitted for the
information of the Department.

Very respectfully,
The Director
Bureau of Plant Industry
U. S. Department of Agriculture
Washington, D. C.

10-10

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10-10

U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

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Iceland Rego.

Working Party

October 30, 1950

A. D. Spottswood

Icelandic Development Projects -

During the week October 23 - 27, I consulted with ECA officials in Washington, with International General Electric, Westinghouse International Corporation and the Chemical Construction Corporation in New York, regarding the various Icelandic development projects now before the Bank for consideration.

ECA officials confirmed that ECA dollar financing of \$3,955,000 for the Sog project and \$1,110,000 for the Laxa project, has been approved. This amount of dollar financing approved by ECA for the two projects exceeds by \$235,000 the estimated dollar cost (\$4.83 million) submitted to me in Iceland. The difference is probably due to the availability of more accurate costs resulting from actual contracts and proposals received since the first estimates were made.

Contracts for electrical equipment and water wheels totaling \$3,536,600 for the two projects have been approved by ECA and entered into with the manufacturers.

ECA has also approved the consultants' contracts in the amounts involved for their services and also for the services of the necessary erection personnel from IGE and Westinghouse.

✓ Attached is copy of the report of the special ECA Mission to Iceland dated August 5, 1949, on the economic importance of the expansion of the hydroelectric power facilities in Iceland.

I had discussions in New York with engineers of both IGE and Westinghouse who had been in Iceland in connection with the projects. These engineers were of the opinion that there would be adequate skilled and unskilled labor for the erection of the plants, that the Icelandic supervisory personnel was competent both for work of erection and for the operation of the projects. The engineers were satisfied that the consultants employed by Iceland were competent and were favorably impressed by the specifications which these consultants had prepared for the two projects. They considered that both projects were technically sound and could be economically constructed.

From my discussions with ECA, Westinghouse and IGE engineers and from my own analysis and observations, I am of the opinion that the two hydroelectric projects, Sog and Laxa, are technically sound and will be required to provide for the demand for electricity in the distribution areas of Reykjavik and Akureyri.

At present the generating equipment in both localities is overloaded and at peak hours it is necessary for generating companies to reduce both voltage and frequencies. This creates a problem for industries as it affects the operations of motors and all other electrical equipment.

According to data submitted in Iceland, the entire capacity of the new installations in the Sog project, 31,000 kw, will be absorbed Before 1960 without

FILE COPY

the load of the proposed fertilizer plant. The new Sog station will be constructed to accommodate three units of 15,500 kw each, but only two will be initially installed. If the fertilizer plant should be constructed and put in operation by 1954 as proposed, the third unit would have to be installed prior to 1960 in order to meet the total demand. The installation of 31,000 kw in the Sog plant, however, would provide some reserve initially and the fertilizer plant could utilize this reserve and commence operations before the third Sog unit was installed.

By the end of 1952 when the new Sog installations are expected to be completed, the peak demand on the system is expected to be 45,500 kw; almost twice the present installed capacity of 24,960 kw.

At the present time the generating facilities of the Laxa system which total 4,400 kw are also overloaded and during peak hours it is necessary for the company to reduce voltage and frequencies. It is estimated that by 1952 when the new plant is scheduled to be completed, the peak demand on the system will be 9,000 kw, or over twice the present capacity.

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Attachment

ECA Special Mission to Iceland
August 5, 1949

Economic Importance of the Expansion of
Hydro-electric Power Facilities in
Iceland

Approximately 50% of Iceland's total population is concentrated in Reykjavik and its peripheries. Moreover, the industrial, financial, and economic life is particularly centered in this area. Up until the present, demands for electrical power have been increasing, and as a result the Reykjavik Municipal Power and Light Works has been unable, particularly during the winter months, to supply the power requirements of industry and the inhabitants. The Sog project will be increased by approximately 115%, from 27,000 to approximately 58,000 kilowatts (an expansion of 44,000 horsepower). This expansion will alleviate to a great extent the shortage of electrical power.

The Laxa project located in the north supplies Akureyri, the second largest town in Iceland with a population of 7,000 people, and the districts between Dalvik and Husavik. An expansion of over 200% in kilowatt production is anticipated by 1952; from 4,400 kilowatts to 12,500 kilowatts (or 11,500 horsepower). Subsequently, extensions are contemplated to connect Siglufjordur, the most important herring processing center in Iceland. In the Akureyri area there are several important industries such as the textile plant, shoe plant, machine shops, herring processing plants, freezing plants, and a host of smaller industries.

At present, local industries utilize to a great extent coal, fuel oil, and to a lesser extent, electrical power. To harness and develop the local power potentialities would mean to reduce the imports of coal and fuel oils. In this way, large savings of foreign exchange could be made possible by reducing imports. Many homes in Reykjavik as well as Akureyri utilize electricity for cooking and lighting purposes. It would be quite possible to heat homes and industrial plants with electricity. Such a development would even further reduce the imports of coal and fuel oils and thereby prevent the depletion of foreign exchange required for imports of petroleum products particularly.

The construction of other projects envisaged in Iceland's Four Year Economic Plan are contingent primarily on the expansion of hydro-electric power. The following projects will require electrical power: cement factory, refrigeration plant, hardening and

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WBG ARCHIVES

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Attachment

ECA Special Mission to Iceland
August 5, 1949
Hydro-electric Power Expansion

- 2 -

refining plant, fertilizer plant, and shipyards. Moreover, the expansion of local industry is thwarted by the lack of cheap power.

The availability of increased and cheaper energy will undoubtedly contribute to a lowering of the cost of production and export goods. Iceland's fish processing plants depend to a great extent on the availability of power. Rural electrification would enhance the development of agriculture, the second largest activity.

Heavy traffic exists between Reykjavik and Hafnarfjordur. Motor vehicles are employed to transport persons and goods between these two cities. It would be quite possible for both of these municipalities to install some type of electric trolley line and thereby curtail the consumption of petroleum, tires, and so forth. Also, it would be quite feasible in due time to extend the transportation line to Keflavik, the largest international airport in Iceland.

Iceland

October 25, 1950

No. 537

Dear Walter:

✓ Thank you for sending us the report on the economic position of Iceland prepared by ECA in Paris. It arrives at a most appropriate time since we are at present surveying the Icelandic investment program and trying to assess the credit-worthiness of the country.

In view of its confidential character the report is being made available only to staff members concerned with Icelandic affairs.

Best regards.

Yours sincerely,

Sh.

A.S.G. Hoar
Assistant Loan Director

Mr. Walter Hill
International Bank for Reconstruction
and Development
67 rue de Lille
Paris (7e), France

JFajana/pmk

ack. Oct. 30, 1950

Oct. 20

*Iceland
Neg. II*

OFFICE MEMORANDUM

TO: Files

DATE: October 25, 1950

FROM: A. D. Spottswood *ADS*

SUBJECT: Discussion with ECA Officials regarding
Hydroelectric Power Plants in Iceland -

Mr. Eslick, Power Branch, ECA, stated that ECA had approved both the sog and laxa projects and had earmarked a total of about \$5,000,000 for the necessary purchases in the dollar area. This figure exceeds slightly the revised estimated cost of the two projects. The consultants' contracts have been approved. Mr. Eslick supplied me with copies of their reports on the two projects, both reports being dated May 9, 1950.

In Mr. Eslick's opinion, the two projects were fully justified and necessary to meet the power demands in the two largest population centers in Iceland, Reykjavik and Akureyri.

Dr. Houston promised to send me copy of the letter informing the Iceland Legation in Washington of ECA's approval of the two projects.

Cc: Gen. Wheeler

al/

Iceland Org.

October 24, 1950

Mr. Jon Arnason
Managing Director
National Bank of Iceland
Reykjavik, Iceland

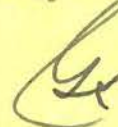
Dear Mr. Arnason:

✓ late order
In your letter of September 11, 1950, inquiring into the possibility of your Government obtaining a loan in the equivalent of approximately \$2.08 million from the International Bank for Reconstruction and Development to cover expenditure in European currencies on two hydroelectric projects, you asked to be informed at an early date of the Bank's decision and of the necessary steps to be taken by the Icelandic Government with regard to a loan operation.

As you know, Mr. A. D. Spottswood, an engineer of the Bank, visited Iceland and made an investigation of both hydroelectric projects. He has now submitted his preliminary report and has referred to the Economic Department of the Bank the economic data he obtained in Reykjavik. A study of the economic situation in Iceland is now under way.

When this has been completed, the Bank will indicate what further steps are necessary in the matter. Meantime, I should like to express the Bank's appreciation of the excellent cooperation extended to Mr. Spottswood during his visit to your country.

Yours very truly,



A.S.G. Hoar
Assistant Loan Director

SRC/pmk
c.c. Mr. Spottswood



INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT
WASHINGTON-25, D.C.

1. Mr. Hoar
2. Mr. Cope
Walter Hill

Tel: LITtré 67-20
71-03

67 rue de Lille
Paris (7e) France

P. 2013

October 20, 1950

Confidential

Mr. A.S.G. Hoar
Assistant Loan Director
International Bank for Reconstruction
and Development
Washington

Mr Cope
1) Please see
2) Pl draft ackmt.
Gr 24
X.

Dear Stanley:

At Mr. Iliff's request I sent you, on September 22, a summary of my discussions with Mr. Livermore of ECA about power stations in Iceland, together with a copy of a memorandum given by the Icelanders to Mr. Iliff. In paragraph 2 of my note of September 22, I reported that the answers to Mr. Iliff's questions would be embodied in a report that ECA in Paris had in preparation. The attached report is it.

I have been asked by ECA that the report should be treated as a confidential one, since it would be most embarrassing to them if it were seen by the Icelanders. I assured them that the necessary precautions will be taken.

Best wishes.

Yours very sincerely,

Walter
Walter Hill

RECEIVED
U.S. AIR FORCE
ALBANY, NEW YORK

OCT 23 11 51 AM 1950

URGENT

TO: SAC, NEW YORK

FROM: SAC, ALBANY

SUBJECT: [Illegible]

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RECEIVED
U.S. AIR FORCE
ALBANY, NEW YORK

Mr Robinson

Please note

Mr

BOARDS OF GOVERNORS
INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT
INTERNATIONAL MONETARY FUND

15 Oct. 50

Martin Rorer

To what extent are
we ready to report on
Iceland's economic
conditions & prospect.

Kerry Clark should have
a very complete file -

This may become suddenly
important. ~~are~~ So we have
the ~~skeleton~~ of at least a
creditworthiness report
(taking into acct. & problems)

DECLASSIFIED

JAN 16 2018

WBG ARCHIVES

ICELAND'S ECONOMIC POSITION

14 October 1950

Received with letter
to House from Hill
d. Oct 20/50.

(Confidential)

Summary

Iceland's international economic position, as of October 1950, is most precarious. Heavy imports since the end of the War, largely for investment purposes, combined with the near-failure of the herring catch in the last three years, have resulted in serious balance of payments deficits. Large exchange reserves accumulated during the War have been completely wiped out; indeed, Iceland has been running into a current-account debt position. Two devaluations have been undertaken in an effort to make more manageable the mounting foreign deficit. So far the results cannot be considered satisfactory. Trade difficulties have again been intensified by another failure of the herring catch in the past summer. The program for import-saving now under way in Iceland, however, does offer some prospect that Iceland could be generally viable by the end of the ERP period. Dollar viability and world trade viability must, however, be carefully distinguished as objectives.

National accounts.

Table I shows the past and future programmed developments in gross national product. The figures are unreliable in detail, since some basic data are missing; but collectively they give some idea of the relationships among the various components and over time. The decline in GNP since 1947 is probably due largely to falling fish prices. The very high proportion of resources going into investment is the major fact to be learned from these figures.

The industrial breakdown of gross product (not shown) indicates that agriculture and fishing in both 1948 and 1949 accounted for 37 per cent of GNP. This proportion is extremely high; it compares with 23 per cent in Denmark and 15 per cent in Norway, two other European countries considered largely agricultural. Thus the whole level of national output is extremely dependent on weather and the habits of fish.

Table I
National Accounts
million of kroner

	1945	1946	1947	1948	1949	1950	1951
Gross National Product	960	1220	1320	1220	1200	1190	1260
Net import surplus	50	150	230	40	80	70	35
Gross available resources	1010	1370	1550	1260	1280	1260	1295
Consumption	750	900	1060	880	900	940	985
Gross domestic investment	260	470	490	380	380	320	310
Domestically financed investmt. as % of GNP	22	26	20	28	25	21	22

Source: Revised 1949-50 Programme

International Economic Position.

Before the War, Iceland had a surplus in her balance of payments on current account. Since the War, however, the deficit has been sizable, as Table II shows. The decline in export receipts, for reason largely beyond Iceland's control, is striking. The previously-mentioned failure of the herring catch and the catastrophic decline in terms of both price and volume of sales of iced demersal fish (largely cod) to the U.K. and Germany are responsible for this drop. Fish and fish products account for 96 per cent of Iceland's exports. Thus while the market is good for herring, the fish cannot be caught; and the market for cod, which can be caught, has deteriorated drastically. Table II shows the fish catch in recent years, estimates for the future, and the pre-war average. It will be noted that the total catch is above the pre-war average (although in the past two years not all the catch of cod has been sold). In fact, through 1948 at least, the volume of exports was considerably above pre-war, but the volume of imports exceeded the pre-war level by an even greater amount.

Table II
Balance of Payments
millions of dollars

	<u>1947</u>	<u>1948-49</u>	<u>1949-50</u>	<u>1950-51</u>
Imports	<u>68.0</u>	<u>58.8</u>	<u>42.1</u>	<u>37.5</u>
Dollar	<u>22.4</u>	<u>14.3</u>	<u>10.5</u>	<u>9.4</u>
Non-dollar	45.6	44.5	31.6	28.1
Exports	<u>44.6</u>	<u>53.5</u>	<u>36.8</u>	<u>29.5</u>
Dollar	<u>6.7</u>	<u>5.0</u>	<u>2.5</u>	<u>2.25</u>
Non-dollar	37.9	48.5	34.3	27.25
Net invisibles	- <u>13.7</u>	- <u>5.1</u>	- <u>4.3</u>	- <u>3.9</u>
Dollar	n.a.	+ <u>1.5</u>	+ <u>1.1</u>	+ <u>1.6</u>
Non-dollar	n.a.	- 6.6	- 5.4	- 4.5
Current balance	- <u>37.1</u>	- <u>10.3</u>	- <u>9.6</u>	- <u>10.9</u>
Dollar	n.a.	- <u>7.8</u>	- <u>6.9</u>	- <u>5.5</u>
Non-dollar	n.a.	- 2.5	- 2.7	- 5.4
ECA aid	-	6.0	7.0 b)	7.2 a)

Sources: 1948-49 realizations submitted to OEEC Dec. 20, 1949
1947 current balance all currencies - ERP - Iceland
Country Study Wash. Feb. '49 net invisibles residual
1949-50 Gen'l Memo on '50-51 and '51-52 Programmes
1950-51 from IP submission, June 1950

- a) of which \$4.0 million is initial grant in EPU.
b) of which \$2.0 million loan.

Table III
Fish Catches
(whole fish basis)

	<u>Cod and re- lated species</u>	<u>Herring</u>	<u>Total</u>
	(in metric tons)		
1934-38 (average)	177,000	120,000	299,000
1946-47	245,000	143,000	388,000
1947-48	255,000	297,000	552,000
1948-49	300,000	59,000	359,000
1949-50 (est.)	316,000	65,000	381,000
1950-51	325,000	64,000	389,000
1951-52	380,000	65,000	445,000
1952-53	408,000	65,000	473,000

Source: Gen'l Memorandum on the 1950-51 and 1951-52 Programmes, submitted to the OEEC by the Icelandic government, Paris, April 1950.

As the result of these developments in trade, the Icelandic foreign exchange reserves, which had reached great heights during the War, have been depleted. The course of this decline is shown in Table IV. Holdings of currencies of ERP countries have changed from assets of \$2.2 million at the beginning of 1950 to unfunded debts of \$1.2 million at the end of August.* It has been, of course, vis-a-vis these countries that Iceland's position has recently deteriorated so rapidly. Because of these difficulties, Iceland was given as initial grant at the EPU of \$4 million, with the expectation that Iceland would also have to use up part of her EPU quota during 1950/51.

Table IV
Foreign Assets
millions of dollars

	end of period						
	<u>1937</u>	<u>: 1944</u>	<u>: 1945</u>	<u>: 1946</u>	<u>: 1947</u>	<u>: 1948</u>	<u>: 1949</u>
National Bank							
Gold	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Foreign exchange	.2	43.1	4.7	8.5	2.7	6.8	2.1
Foreign investment	-	41.8	42.9	26.1	6.4	5.3	4.4
Total	1.2	85.9	48.6	35.7	10.2	13.1	7.5
Other Banks							
Foreign exchange	-	3.8	3.7	2.8	1.3	1.5	.6
Total	1.2	89.7	75.7	38.5	11.5	14.6	8.1

Source: IMF, International Financial Statistics.

Internal financial stability.

Iceland has been in a state of inflation since the start of the War.

*Icelandic Memorandum on liberalization of trade, TC(50)70.07, Oct. 7, 1950

The rise of prices in the UK, the major market, rose rapidly thereby causing a rise in the income in Iceland's export industries. Import prices also rose, although to a smaller extent, so that the general internal price level was soon affected. By 1945, the cost of living index was 280 compared with 100 in 1937 and 104 in 1939. At the end of the War a liberal import policy was followed and a large foreign deficit arose, caused by high current incomes in Iceland plus demand built up during the War years. In the middle of 1947 strict quantitative import restrictions were imposed; the high level of investment, for which imports were still permitted, meant that there was almost immediately a shortage of consumer goods at existing prices.

Toward the end of 1947 and during 1948, the government undertook various measures to control the resulting inflation: direct investment control, higher interest rates, stricter control of credit, rationing, and price control. At the beginning of 1948, wages were lowered by 8 per cent, the prices of agricultural products and certain other goods and services were reduced, and a tax was levied on the increase in property values. Stability of prices and wages was maintained throughout 1948 by these measures, but inflationary pressures were steadily getting stronger. Bank credit continued to expand, the government deficit exceeded the original estimates, and domestically financed investment rose as a proportion of GNP. The pressures broke through in 1949. In the spring, wages rose by 10 per cent, followed by a similar increase in government salaries, and in the Fall of 1949 by agricultural prices. The government's budgetary situation was made worse by the simultaneous increase in export subsidies made necessary by the fall in export prices. Government subsidies on domestically-consumed goods were also rising.

Iceland's devaluation of September 1949 had little effect on exports, or the level of export subsidies required, because Iceland's major trading partners devalued at the same time and by the same amount.

Measures to deal with the situation were postponed during 1949 because of the general elections in October. The elections returned an Althing of pretty much the same composition as the outgoing one - no single party had a majority. The Conservatives formed a government, however, which in February of 1950 introduced a bill containing a number of measures to improve the economic situation, including a further devaluation of 42.6 per cent. The Government fell on presentation of this bill. A Progressive-Conservative coalition was formed which did put through the program in March.

The major features have been described by the Icelandic government as follows:

II. Principal Provisions of the Act of March 19, 1950

21 Apr 1950

GE(50)29/07

1. Devaluation

The most important provision of the act of March 19, 1950, stipulates that the Icelandic krona should be devaluated by 42.6 per cent, the new dollar par value rate to be \$1.00 : 16.2857 kr. The aggregate depreciation in respect to dollar as compared with the par value before the devaluation in September 1949 is 60.1 per cent. At the same time the Government guarantees on export prices, and thereby subsidies on export articles were abolished.

The magnitude of the devaluation is primarily determined with respect to the needs of the motor vessel fisheries. As the price and marketing situation of both frozen and salted fish is at present rather uncertain, it can not as yet be ascertained if this devaluation will be adequate to bring about and maintain a full capacity use of the motor vessels and the processing plants.

2. Production Tax

Due to the greatly different productivity level of the export industries it has been found necessary to levy a production tax on certain export products. This tax is a kind of excess profits tax. It is levied on the catch of the new trawlers, built after the war and on herring and whale products. The tax amounts to 10 per cent of the gross value of the trawler catches if the catch is landed in Iceland. If the catches are landed abroad, iced fish, the tax amounts to 25 per cent of the gross value exceeding the average of $\text{¥}8,500$ per landing in five successive landings. The tax is 10 per cent on the export value of whale products and 8 per cent on the export value of herring products, assuming an average herring season. The receipts from this tax shall be used as follows :

1) For granting of loans to refrigeration plants constructed or reconstructed in the years 1945-49, provided that they have not received loans from the Fisheries Loan Department.

2) To pay Government debts originating from the various measures adopted for supporting the fisheries in past years.

3) To cover current governmental expenses.

4) The revenue of the tax on herring products is reserved for a loan fund to be operated in the interest of the herring fisheries.

No estimates have been made of the prospective revenue from this tax, which of course is dependant upon future catches and export prices. As the great difference in productivity level between the new trawlers and the motor vessels will probably be a permanent feature in the Icelandic economy for the next years, the tax is not intended to be only a temporary measure.

Before the devaluation the exchange rate was determined by the productivity level of the new trawlers, and the motor vessels received compensations in the form of export subsidies. After the devaluation the exchange rate is determined by the productivity level of the motor vessels, and an excess profits tax is levied on the new trawlers to prevent a disruption of the whole cost structure.

The tax on herring and whale products is warranted by the high export prices, which still are prevailing in this field.

3. Wages and Prices

The law presumes a stabilisation of wages and prices on a level somewhat higher than before the devaluation. Wages shall rise in accordance with the rise in a special cost of living index number, which has been revised in order to give rentals and agricultural products greater weight. Wage increases shall be effectuated in April, May, June and July 1950 and January and July 1951 in case the rise of the index number is 5 per cent or more as compared first with March 1950 and then with the last month, in which wages increased in conformity with the law. The prices of agricultural products are to be determined in the same way as before, i.e. once a year in the fall, on the basis of average production cost, except wages, the agricultural year before, and the wage level on the 1st of August. The effects of the devaluation on agricultural prices will hence in part appear in the fall of 1950 and in part in the fall of 1951.

Rises in the index number due to higher agricultural prices originating from wage increases shall not be compensated by new wage increases. The prices of domestically produced industrial articles may rise in conformity with increased foreign costs and the increased wage cost provided for by the law, but not on any other account. The same applies to marks up.

Increases in wages above those prevailing before the devaluation are not prohibited, but the trade unions which obtain higher wages through agreements will lose the benefits of the automatic wage increases provided for by the law.

The prospective rise in cost of living due to the direct and indirect effects of the devaluation was estimated at about 15 per cent and the rise in wages at about 10 per cent. Recent investigations indicate, however, that these rises may probably turn out to be somewhat higher.

It is clear, that these wage increases counteract the general purpose of the law. It was, however, found necessary to include such provisions to ensure a peaceful development in the labour market.

4. Changes in Taxes

During the years 1947 and 1948 special fees and provisional tariffs were introduced in order to finance the payments of subsidies. Some of these measures have been abolished, as the 50-100 per cent fee on import licences for certain articles, others have been

lowered, as the licensing fee on foreign exchange for travelling expenses, from 75 to 25 per cent. The surcharge on the ad valorem import duty has been reduced from 65 to 45 per cent, but on the other hand the turnover tax from 1947 will be maintained unchanged. The revenue from all these taxes will increase due to the devaluation, while at the same time payments of export subsidies will disappear. The budget situation should consequently be improved. Further comments on the budget situation are given later in this report.

5. Capital Levy

The capital levy as provided for by the act has two main purposes :

- 1) To counteract latent inflation, which might be activated in connection with the devaluation.
- 2) To confiscate the increase in property values due to the devaluation and transfer these gains to the holders of saving deposits, and to the state. As the act finally was passed the levy will also mean higher rate of taxation on great property holdings as such aside from the increase in property values due to the devaluation.

The main provisions concerning the capital levy are as follows :

a) There is no levy on corporation. The property of corporations will be divided between the individual shareholders and the tax levied on them. This proceeding is accounted for by the nature of most Icelandic corporations, which are owned by one or few individuals or a family.

b) For the purpose of the capital levy the present real estate assessments will be increased greatly in varying proportions depending on the location of the property. These real estate values will, however, be somewhat below present market values.

c) Net assets amounting to less than 300,000 kr. are free of tax. On assets ranging from 300,000 to 500,000 kr. the tax is 10 per cent on the amount exceeding 300,000 kr. The scale then increases up to 25 per cent on amounts exceeding one and a half million kronur.

d) If the tax exceeds 2,000 kr. the taxpayer is permitted to pay 90 per cent of the tax by issuing bonds payable in annual instalments in twenty years, bearing 4 per cent interest, and holding a mortgage on the taxed property.

c) The proceeds of the capital levy shall be used as follows:

1. Five million kronur shall be invested in the Catch Guarantee Fund, which is intended to compensate the fisheries for bad fishing seasons.
2. Ten million kronur shall be used to compensate savings holdings as further mentioned below.
3. The rest of the revenue is to be divided into two equal parts, one being used to repay the temporary loans to building activities mentioned section 7, and the other for the payment of floating debts of the Treasury.

No estimates have been made of the prospective yield of this tax.

6. Compensation of Savings

Ten million kronur of the revenue of the capital levy shall be used to pay compensation for the losses in the real value of savings due to the inflationary development. Compensation shall be paid on deposits on saving terms in banks and similar institutions which have remained in the accounts from the close of 1941 to June 1946, and have been declared for taxation. Compensation is only paid to individuals, and may be paid in Government bonds.

It is expected, that these measures may have some beneficial effects on the propensity to save in the future.

7. Profit on sales of Foreign Currency Holdings

The profit derived from the sale of the net currency possessions of the banks at a higher price after the devaluation is estimated about 15 mill. kr. In accordance with the act this profit shall fall to the Treasury and be used for granting loans for building and cultivation purposes. One third shall be used for granting loans to the buildings of apartments by workers building associations and municipalities, and one third shall be used to grant loans to the building of dwellings in rural districts.

These loans shall be repaid to the Treasury immediately when that part of the capital levy, which is devoted to these purposes, has been collected, and shall then be used to pay floating debts of the Treasury. One third of the profit shall be loaned to the cultivation fund on two per cent interest and shall be repaid by annual instalments in twenty years. The purpose of the cultivation fund is granting of loans for cultivation and building of farm buildings excluding dwellings.

The background of these measures is the increasing difficulty to provide capital to these purposes on acceptable terms. On the other hand the investment in question is of an urgent necessity both as regards the development of agriculture and the alleviating of the housing difficulties in the towns by the building of small and cheap apartments and must consequently be placed very high in priority. It can be maintained that these measures are by their nature inflationary. This depends, however, on the development of the total situation with regard to investment, budgetary and credit policy. The amount in question is, anyhow, rather small and shall mostly be used only temporarily for the present purposes.

These measures cannot be expected to increase export sales, but merely to permit abolition of the subsidies. They could be expected to reduce imports, however, if - but only if - domestic inflation were adequately controlled. Because of the tying of wages to the cost of living, the devaluation will not have the salutary effect on domestic financial conditions that might have been expected from the elimination of export subsidies. A devaluation of only 30 per cent (against all currencies) was expected to increase the cost of living by 20 per cent, according to an estimate quoted by the International Monetary Fund. Thus if wages and costs are not to rise substantially, there must be more consumer subsidies with their consequent burden on the budget. Wages could probably rise to some extent without bringing export prices back up to uncompetitive levels; but if they rise by almost as much as import prices, the devaluation will not accomplish its purpose.

The proposed measures thus contain certain deflationary measures, but also certain off-setting forces. Unfortunately, we do not have available the data necessary to weigh these factors statistically, but it is useful to list the measures according to their "flationary" effects:

Disinflationary

1. Reduction of government expenditures by the elimination of export subsidies.
2. Increase in budget receipts from new export duties and new capital levy.
3. Abolition of automatic increases in domestic agricultural prices.

Inflationary

1. Possible increase in government expenditures through consumer subsidies.
2. Decrease in budget receipts from the reduction in import duties.
3. Tying wage rates to cost-of-living index when latter is likely to rise.
4. New expenditure of some of the funds raised by the export tax and the capital levy plus profits derived from sale of existing foreign currency holdings.

On the whole, it does not appear that the effects on the government budget would be likely to change the present budgetary position, unless consumer subsidies are not increased. If such subsidies are not increased, however, a round of price and wage increases can be foreseen. The new proposals therefore are no substitute for a cut-back in the investment program.

The actual developments since the devaluation have not been favorable. What has been happening in the two very important matters of the budget and investment program for 1950 is not clear. The continuing decline of the iced fish markets, and the failure of the summer herring catch, make of course the attack on inflation very difficult. On July 1, the trawler seamen went on strike over a wage question. This meant a loss of catches which could have been processed into fish meal, for which there is good foreign demand and price. In addition, some iced fish could have been delivered to Germany. There is a possibility that in connection with settlement of the strike, the export tax on products of the trawler fleet may be lifted, further reducing Government revenue.

The most serious blow to financial stability came, however, from the herring failure, since some price and wage increases after such a large devaluation are only to be expected. In addition to meaning a loss of imports with the resulting diminution of supplies of goods, budgetary prospects were worsened. Income tax collections will be less; customs duties will be less; government-guaranteed loans had to be granted to the fisheries and these are now not likely to be repaid.

Future prospects.

The rather gloomy picture just painted for the present situation is partly seasonal. Exports are always low in the summer. They should pick up in the Fall when fairly large shipments of salt fish to Latin American and Mediterranean markets is expected. In the longer run, the prospects are dependent on really effective reduction in the rate of internal investment, some expansion of exports, and reduction of imports. The standard of living must absorb some of the resulting effects.

It is a definite part of the Government's policy to keep investment to the level which can be offset without price rises by domestic savings plus the import surplus. Priority is being given to the Sog and Laxa hydro-electric projects, basic to the development of those sections, and to salting plants for the fisheries which are necessary if Iceland is to develop new export products to replace the lost markets in iced fish.

Export possibilities will increase once this shift to the production of salted fish is completed. At the same time the completion of these plants will mean a cessation of the imports for new equipment, which will further ease the balance of payments. The development of agriculture which is being undertaken during the ERP period will also reduce the need for imports. The programmed cuts in investment will also have an immediate impact on imports by reducing machinery requirements.

The Icelandic aim is to reach trade balance by the end of the ERP without counting on good herring catches again. If these should eventuate, its task would be much simpler, of course. Similarly, if western re-armament should mean more development and use of the American military facilities in Iceland, the country's problems might be solved with almost no Government action. Barring this, however, success in achieving viability will depend on the political ability of the Government to reduce both investment and the standard of living, both of which have clearly been in excess of what Iceland can currently afford without substantial external aid. The coalition government now in office should be strong enough to put through such a program; but it is still too early to judge its political capabilities. The period immediately following a major devaluation is always a difficult one, in addition to which summer is, in Iceland, the most difficult season. By the end of 1950-51, it should be possible to get a clearer picture of Iceland's economic future.

Appendix: The Sog and Laxa Hydro-electric Projects.

Of the various projects listed in Iceland's long-term program (hydro-electric plants, nitrogenous fertilizer plant, cement plant, flour mill, and ship drydock) only three, two hydro plants and the fertilizer plant have been submitted. The first two have been approved by ECA, while approval of the last is waiting for the Icelanders to present a plan for meeting the domestic costs. Development of the Sog hydro-electric plant is in any case necessary to furnish power for the fertilizer plant.

The Sog and Laxa projects were approved in May of this year. Of the total dollar aid for 1949-50, \$2 million was set aside for these projects (at Iceland's request); this is the same \$2 million as was given to Iceland in the form of a loan. No specific part of the 1950-51 allotment has been earmarked because there was no division-of-aid screening this year, but rather the use of the Snoy-Marjolin formula.

Work was delayed on starting the projects by the difficulty of obtaining PC currencies. In July, however, overdraft facilities were arranged

with Swedish and Danish banks and a construction contract for Sog was signed with a Swedish-Danish combine. The construction contract for Laxa was signed with an Icelandic firm.

The Icelandic Government has indicated a desire to use some of the 95 per cent counterpart funds for the domestic costs, but no application has been made. Iceland has not used counterpart funds for any purpose to date.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

OFFICE MEMORANDUM

TO: Mr. Leonard B. Rist

DATE: October 17, 1950

FROM: Herbert W. Robinson *HWR*

SUBJECT: Iceland

Reference your note to Mr. Rosen, a brief report entitled "Iceland's Economic Position and Creditworthiness" which I am now preparing should be ready by the end of this week.

HWR:js:#2112

File

1/12

Roby
Did you talk to
Clark and Haralz
With Haralz - continuously
"Clark - have used his report and
will discuss with him, Rosen
and Haralz when final
draft is typed up (meeting)
HWR.

RAFORKUMÁLASTJÓRNIN
THE STATE ELECTRICITY AUTHORITY

THE STATE ELECTRIC POWER WORKS
THE STATE ELECTRICAL INSPECTION
PROJECTS & SURVEYING DEPARTMENT
GEOTHERMAL RESEARCH & WELLDRIILLING DEPT.

118 LAUGAVEG
REYKJAVÍK
ICELAND

TELEGRAMS & CABLES:
RARIK. REYKJAVÍK

YOUR REF.

OUR REF. EB/ks

DATE, October 13th 1950.

Mr. A.D. Spottswood,
The International Bank for
Reconstruction and Development,
Washington D.C.,
U.S.A.

Dear Mr. Spottswood,

As mentioned in my letter to you, dated Oct. 5th -50, the Laxa Plant (Laxarvirkjun) sells electricity wholesale to "The Municipal Light and Power Works of Akureyri", which in turn distribute and sell the power to the ultimate consumers in Akureyri. Laxarvirkjun also sells electricity wholesale to "The State Electric Power Works", which in turn sell the power to "The Municipal Light and Power Works of Husavik" and besides to a few ultimate consumers. The State Electric Power Works did not commence to buy power from the Laxa Plant until 3 years ago and up till that time the Power Works of Akureyri were the sole buyers. The State Electric Power Works are not allowed and will not be allowed to buy except a small fraction of the total production of the Laxa Plant until the Laxa Plant has been extended, due to the power shortage. In this connection I may mention that during the years 1948 and 1949 the Laxa Plant sold power as follows:

	1948:	1949:
Total generated power in Laxa Plant		
minus losses in main transformer station,		
mill.kwh.	22.98	25.00
Sold to Power Works of Akureyri, mill.kwh.	21.99	23.64
" " State Electric Power Works,		
mill.kwh.	0.99	1.36

The production in the year 1949 was estimated in my previous report of September 25th. The actual figure is now available and turned out to be almost exactly as estimated.

Your questions nos. 13, 14 and 23 (Part II, Technical questions) ask for information about the buyers of power from the Laxa Plant, their economy, how much each type of ultimate consumers uses and pays etc. I will now try to give the information I believe you want about the Power Works of Akureyri, which as mentioned above have been the sole consumer of power from the Laxa Plant and still are except for the limited consumption of the State Electric Power Works. This consumption started so recently and has hitherto been curtailed to such an extent that an analysis thereof would not be very instructive.

Not sent to files.

Iceland

October 18, 1950

Mr. Eiríkur Briem
Director of the State
Electric Power Works
Reykjavik, Iceland

Dear Mr. Briem:

Your letters of October 11 and October 13, 1950, were received this morning. I have not as yet had the opportunity to study the information which they contained, therefore, this letter is merely to acknowledge the receipt of the data.

I shall immediately study the figures which you have presented and I shall let you know if there is any further data which will be required on the Laxa Project.

Yours very truly,

A. D. Spottswood

A.D.Spottswood:lfb

cc: Files ✓
Mr. Foster

Mr. A.D. Spottwood, The International Bank for Reconstruction & Devl.p.
Washington.

Attached table No. I shows the power bought from the Laya Plant, power generated in own Plant (375 KVA) and power sold to ultimate consumer in year 1940-49.

Table No. II shows the annual sales of electricity to ultimate consumers for year 1940-49.

Table No. III shows revenue and expenditure in year 1940-49. The expenditure in '49 is estimates as revised figures are not yet available, but the estimate is very close.

Table No. IV shows assets and liabilities from 1940 - '48.

As can be seen from table IV the accumulated surplus in year 1940-48 has been disposed of as follows:

Invested in Network, Meters etc.	1000 Ikr.	3647
Increased cash	1000 "	422
Increased Bank Account	1000 "	1379
Increased Other Assets	1000 "	22
Total Accumulated Surplus	1000 Ikr.	5470
Less Written off	1000 "	1457
Increased Booked Assets	1000 Ikr.	4013
XXXX Amortised Dept.	1000 "	175
Increased Net Booked property	1000 Ikr.	4188

Attached is also a "daily load diagram" for the Laya Plant (answer to question No. 27 in Part II - Technical questions).

I hope this letter gives the information desired.

Yours faithfully,

E. Brian

1. The International Bank for Reconstruction and Development, Washington, D.C.

2. Attached hereto are the financial statements of the Authority for the year ended 31st March 1950, and the auditors' report thereon.

3. The financial statements are prepared in accordance with the provisions of the Electricity Act, 1945, and the regulations made thereunder.

4. The financial statements are prepared on a cash basis, and the assets and liabilities are valued at cost, less depreciation.

5. The financial statements are prepared in accordance with the provisions of the Electricity Act, 1945, and the regulations made thereunder.

6. The financial statements are prepared in accordance with the provisions of the Electricity Act, 1945, and the regulations made thereunder.

Invested in Electricity, Water, etc.	1000	1000
Increased stock	1000	1000
The General Bank Account	1000	1000
Invested in Electricity, Water, etc.	1000	1000
Increased stock	1000	1000
The General Bank Account	1000	1000
Invested in Electricity, Water, etc.	1000	1000
Increased stock	1000	1000
The General Bank Account	1000	1000
Invested in Electricity, Water, etc.	1000	1000
Increased stock	1000	1000
The General Bank Account	1000	1000

7. Attached hereto are the financial statements of the Authority for the year ended 31st March 1950, and the auditors' report thereon.

8. The financial statements are prepared in accordance with the provisions of the Electricity Act, 1945, and the regulations made thereunder.

9. The financial statements are prepared in accordance with the provisions of the Electricity Act, 1945, and the regulations made thereunder.

10. The financial statements are prepared in accordance with the provisions of the Electricity Act, 1945, and the regulations made thereunder.

OCT 16 4 06 PM 1950

RECEIVED
RECONSTRUCTION AND DEVELOPMENT
SECTION

THE MUNICIPAL LIGHT AND POWER WORKS OF AKUREYRI

TABLE I. Annual purchase, own production, and sale of electricity

Year	Bought from Laxár- virkjun	Produced in own plant (375 kVA)	Total power to net- work	Losses in net- work	Total sale to ultimate consumers
	Mill.kwh.	Mill.kwh.	Mill.kwh.	Mill.kwh.	Mill. kwh.
1940	4,41	0,07	4,48	0,97	3,51
1941	6,85	0,11	6,96	0,99	5,97
1942	8,45	0,20	8,65	1,13	7,52
1943	9,65	0,51	10,16	0,83	9,33
1944	11,33	0,35	11,68	1,16	10,52
1945	14,52	0	14,52	1,25	13,27
1946	18,21	0,05	18,26	2,71	15,55
1947	20,00	0,21	20,21	3,07	17,14
1948	21,99	0,34	22,33	3,49	18,84
1949	23,64	0,34	23,98	4,13	19,85
1950	23,60	0,25	23,85	4,41	19,44

THE MUNICIPAL LIGHT AND POWER WORKS OF AKUREYRI

TABLE II ANNUAL SALE OF ELECTRICITY, in 1000 kwh. and 1000 Ikr., for each class of consumer.

Consumer classes:	Units:	1940:	1941:	1942:	1943:	1944:	1945:	1946:	1947:	1948:	1949:
<u>A. Lighting</u>	1000 kwh.	137	274	465	617	223	290	347	360	395	435
	1000 Ikr.	82	164	294	513	190	252	307	435	476	521
	^{aurar} am /kwh.	60.0	60.0	64.2	84.1	85.2	87.0	88.4	120.8	120.0	120.0
<u>B1 Cooking</u>	1000 kwh.	260	277	295	312	339	433	458	445	485	504
	1000 Ikr.	26	28	31	43	48	62	68	89	98	101
	^{aurar} am /kwh.	10.0	10.0	10.5	13.8	14.1	14.4	14.8	20.0	20.0	20.0
<u>B2-3 Gener. House- hold Supply</u>	1000 kwh.	1265	1911	2737	3194	3683	4057	4624	5031	5615	5983
	1000 Ikr.	144	199	278	436	501	551	625	908	1001	1061
	^{aurar} am /kwh.	11.4	10.4	10.5	13.6	13.6	13.6	13.5	18.0	17.9	17.8
<u>C. Industries</u>	1000 kwh.	446	1034	1123	1265	1514	1701	1922	2022	1984	2092
	1000 Ikr.	70	93	122	170	205	247	264	435	422	489
	^{aurar} am /kwh.	15.7	9.0	9.9	13.4	13.5	14.5	13.7	21.5	21.3	23.4
<u>D. House-heating</u>	1000 kwh.	1315	2376	2793	3833	4646	6670	8073	9155	10228	10693
	1000 Ikr.	36	62	88	160	182	269	355	618	785	809
	^{aurar} am /kwh.	2.7	2.6	3.1	4.2	3.9	4.0	4.4	6.7	7.7	7.6
<u>F. Street-lighting</u>	1000 kwh.	90	95	100	105	110	116	122	128	134	140
	1000 Ikr.	8	8	11	22	23	23	23	38	40	40
	^{aurar} am /kwh.	8.9	8.5	11.0	21.0	21.0	19.9	18.9	29.7	29.8	28.6
<u>Sum Total</u>	1000 kwh.	3.513	5.967	7.523	9.326	10.515	13.267	15.546	17.141	18.841	19.846
	1000 Ikr.	366	554	824	1.344	1.149	1.404	1.642	2.523	2.822	3.021
	^{aurar} am /kwh.	10.4	9.3	11.0	14.4	10.9	10.6	10.6	14.7	15.0	15.7

Regarding consumer classes A - B1 - B2-3 etc. see attached Proposed rates.

THE MUNICIPAL LIGHT AND POWER WORKS OF AKUREYRI

TABLE III. FINANCIAL BALANCE.

Year	Gross Revenue			Gross Expenditure				Surplus		
	Sold Electr.	Meter hire etc.	Gross Rev.	Bought Electr.x)	Op.& Maint.	Inte. rest	Amor-tation	Gross Exp.	Annual Surpl.	Accum. Surpl.
	1000 Ikr.				1000 Ikr.				1000 Ikr.	
1940	366	14	380	180	94	13	35	322	58	58
1941	554	16	571	200	101	7	35	343	228	286
1942	824	18	842	290	225	5	35	555	287	573
1943	1344	28	1372	370	328	3	35	736	636	1209
1944	1149	32	1181	465	461	1	18	945	236	1445
1945	1404	43	1447	610	382	1	17	1010	437	1882
1946	1642	60	1702	610	424	2	0	1036	646	2528
1947	2523	86	2609	675	592	2	0	1269	1340	3868
1948	2822	108	2930	700	628	0	0	1328	1602	5470
1949	3021	115	3136	740	700	0	0	1440	1696	7166

x) From the Laxa Plant.

THE MUNICIPAL LIGHT AND POWER WORKS OF AKUREYRI

TABLE IV. ASSETS AND LIABILITIES

End of Year	Invested Capital				Written off	Booked Plant, Network etc.	Cash and Sund- ries	Total Assets less Wr. off	Lia- bili- ties	Net Booked Property	
	Glera	Network	Total								
	Power Plant	Meters etc.	1000	Ikr							
1000	Ikr	1000	Ikr	1000	Ikr	1000	Ikr	1000	Ikr	1000	Ikr
1939	270	751	1021	441	580	35	615	175	440		
40	270	846	1116	470	646	51	697	193	504		
41	270	901	1171	517	654	171	825	105	720		
42	270	1109	1379	563	816	250	1066	70	996		
43	270	1806	2076	657	1419	189	1608	35	1573		
44	270	2154	2424	821	1603	97	1700	37	1663		
45	270	2580	2850	1019	1831	88	1919	0	1919		
46	270	3158	3428	1260	2168	306	2475	150	2325		
47	270	3573	3843	1558	2285	1081	3366	0	3366		
48	270	4398	4668	1898	2770	1858	4628	0	4628		

PROPOSED RATES OF CHARGE

IN

AKUREYRI (Present rates of charge are quoted in brackets).

I. ELECTRICITY SUPPLY.

The rates of charge for supply of electricity in Akureyri are as follows:

A. Lighting.

kr. 1.35 per unit
(Present: kr. 1.20 per unit)

B. General Household Supply.

1. Lighting. kr. 1.35 per unit. (Present kr. 1.20 per unit)
Cooking and heating kr. 0,28 per unit. Cooking and heating appliances shall be permanently connected. A range may, however, be connected through a special plug, and a single other plug is allowed in the kitchen for kettle, iron etc. (Present: kr. 0,20 per unit.)
2. Fixed amount kr. 3,00 per month for each apartment, and in addition kr. 0,30 per month for each square meter floor area. Meter rental is included in the fixed amount.
Unit charge kr. 0,28 per unit.

In calculating the floor area, kitchen and all rooms intended for dwelling are included, but corridors, bathrooms and store rooms are excluded.

(Present:

Fixed amount kr. 2,40 annually for each square meter floor area.

Unit charges.

kr. 0,20 per unit for every 2,75 units per month per square meter floor area up to 50 sq. meters, and every 1 unit per month per square meter in excess of 50 sq. meters floor area.

For consumption in excess of the above: kr. 0,12 per unit).

C. Motive Power.

1. kr. 0,70 per unit.
Minimum charge kr. 140,- annually for each rated kW of the motors.
(Present: kr. 0,50 per unit, and minimum charge kr. 100,00 per kW.)
2. kr. 480,00 annually for each kW maximum load in the year, and in addition kr. 0,06 per unit.
(Present: Same)
3. At peak load hours 10⁴⁵ A.M. to 12 NOON kr. 1,35 per unit. At off peak load hours kr. 0,36 per unit.
(Present: kr. 1,00 per unit at peak load hours and kr. 0,32 at off peak load hours.)
If the annual consumption at off peak hours exceeds 5000 units metered by a single demand meter the following rebates may be given:

For the first	5000 units, rebates	0 %
" " next	10000 " "	10 %
" " "	30000 " "	20 %
" " "	60000 " "	30 %
" " "	100000 " "	40 %
For excess over	205000 " "	50 %

The above is only applicable when the load exceeds 10 kW and the annual load factor exceeds 500 hours.

D. Heating.

1. kr. 0,15 per unit when the supply may be interrupted for 3 hours a day during the peak load hours before noon and in the afternoon, but not for longer time than 1½ hour at a time.
(Present: kr. 0,12 per unit)
2. kr. 0,09 per unit during 11 P.M. to 8 A.M. and kr. 0,18 per unit from 8 A.M. to 11 P.M.
The current may be interrupted at the same hours as for D1.
(Present: Same)
3. kr. 0,075 per unit when the supply is interrupted from 8 A.M. to 11 P.M.
(Present: Same)

Conditions for power supply for heating.

1. That generating capacity, distribution network and transformer capacity is sufficient for the load.
2. That the consumer pays the expense of connection of a time switch and pays a rental of it in accordance with the rules of meter rental.
3. That installations including all appliances conform to conditions set by the Power Works, electric stoves permanently connected through individual switches, and thermostats applied.

E. Tarriffs for special purposes.

1. Special arrangement can be made for electricity sale to consumers, who have generating units of their own, provided that the supply can be discontinued whenever deemed necessary.
2. Under special circumstances a separate contract of sale of electricity can be made.
3. The city council determines charges for street lighting supply, not less than kr. 150,00 annually for each light point.

II. METER RENTAL.

	Annual charge in kr.			
	Up to 5 amps	5-30 amps	35-75 amps	Over 75 amps
Single phase meters	12,00	24,00	-	-
Single ph. subtraction m.	42,00	-	-	-
Three phase meters	42,00	42,00	63,00	84,00
Double tariff meters	-	63,00	84,00	105,00
Time switches, only	24,00			

(Present:

	Annual charge in kr.)			
	Up to 5 amps	5-30 amps	35-75 amps	Over 75 amps
Single phase meters	6,00	14,40	-	-
Single ph. substr. meters	24,00	-	-	-
Three phase meters	-	24,00	36,00	48,00
Double tariff meters	-	36,00	48,00	60,00
(Time switches		12,00		)

For other metering instruments than those listed above the annual rental shall be approximately 15% of the price of the instrument.

III. REOPENING CHARGES.

1. In case of non payment of charges under this tariff so that service for a consumer has been interrupted, the charge for reopening the service shall be kr. 20,00.
(Present: kr. 4,00)
2. If illegal or too large fuses are found upon inspection of an installation, the service shall be interrupted, and not reopened until the reopening charge of kr. 20,00 has been paid at the office.
(Present: kr. 4,00)

IV. TEMPORARY ARTICLE.

Charges according to the D section of the tariff change in accordance with the price of coal in Akureyri, in such a way that the present charges are considered equivalent to a price of kr. 360,00 per H metric ton of coal, and shall increase and decrease at the same rate as the retail price of coal at any time.
(Present equivalent coal price kr. 360,00).

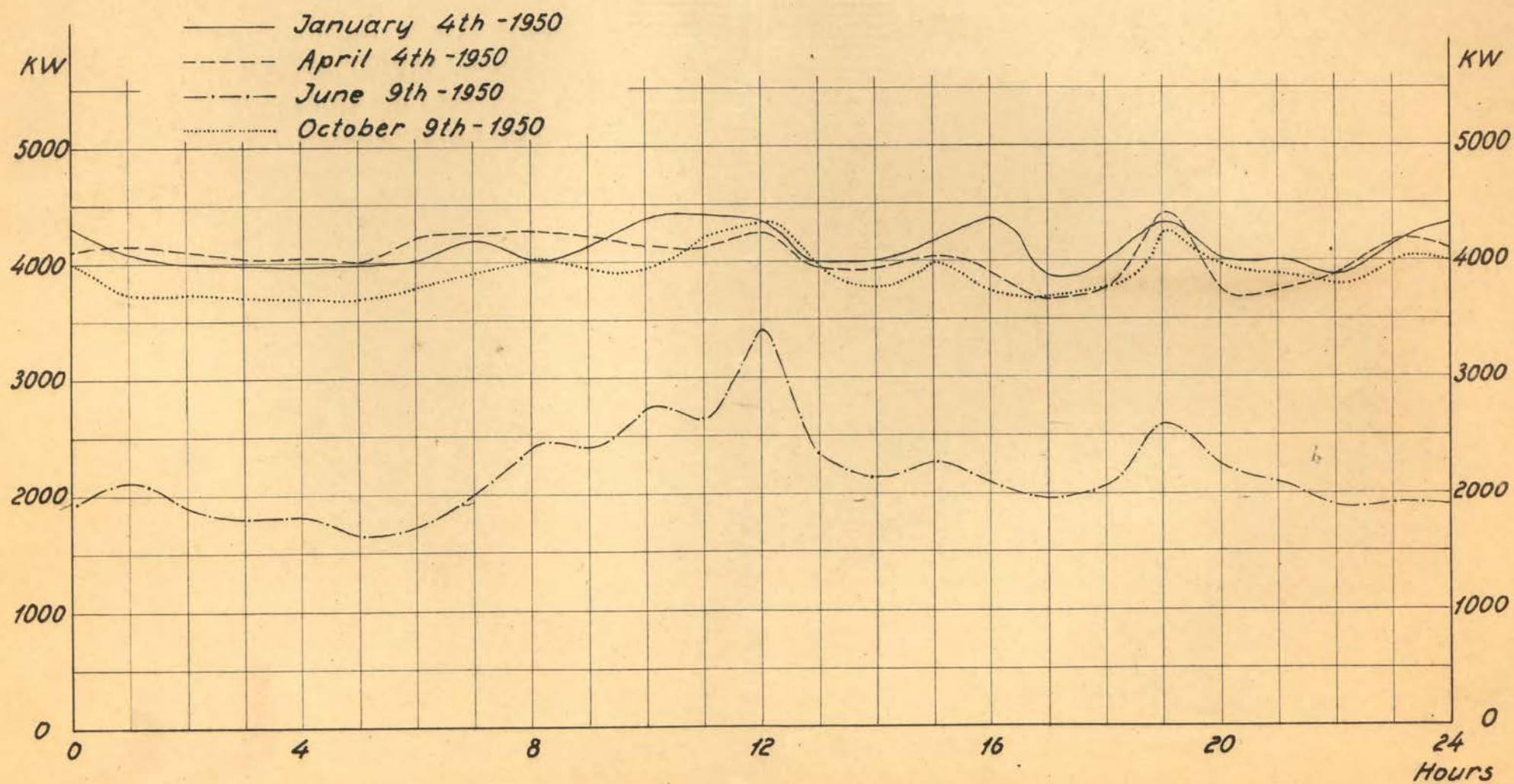
V. AMENDMENTS.

The city council can raise or lower the rates of charge until 10% without the authorisation of the ministry dealing with electricity, provided that the city council advertises the change in advance in the State Gazette.

October 3rd 1950

LAXÁRVIRKJUN

Daily load Diagrams



Out

A. D. Spottswood
October 13, 1950

Iceland
See
John

PRELIMINARY REPORT ON ICELANDIC DEVELOPMENT PROJECTS

The Proposed Development Program -

In a letter dated 11 September 1950, Mr. Jon Arnason, Managing Director of the National Bank of Iceland, stated that his Government had requested him to inquire into the possibility of obtaining a loan from the International Bank in an amount equivalent to US\$2.08 million to cover the European (non-dollar) foreign exchange expenditures for the new Sog and Laxa hydroelectric projects and transmission lines.

In addition to the two hydroelectric projects memoranda were submitted on a proposed fertilizer plant and a proposed cement plant, but no actual request for a loan for these projects was made. Loans for these projects may be requested at some future date.

All of the projects will be operated by semi-autonomous corporations created by law and owned either entirely by the state or jointly (in the case of the power projects) by the state and municipalities.

ECA has approved the two hydroelectric plants and transmission lines and has committed itself to provide \$4.83 million required for the necessary purchases of materials and equipment for these projects in the dollar area, \$2.0 million of which will be in the form of a loan; an application for the fertilizer plant is pending with ECA, but the cement plant has not been presented to ECA, as it is probable that the anticipated grants from ECA will not be sufficient to cover this project in addition to the other 3 projects. While it has the lowest priority of the 4 projects submitted, the Icelandic Government hopes it may receive favorable consideration by the Bank at some future date.

The estimated cost of the projects expressed in millions of U.S. dollars follow:

<u>Project</u>	<u>Dollar Expenditures</u>	<u>European Expenditure</u>	<u>Domestic Expenditure</u>	<u>Total</u>
Sog Development	\$ 3.86	\$ 1.72	\$ 2.99	\$ 8.57
Laxa Development	<u>.97</u>	<u>.36</u>	<u>1.37</u>	<u>2.70</u>
Total hydro projects	\$ 4.83	\$ 2.08	\$ 4.36	\$11.27
Fertilizer plant	\$ 2.58	\$.61	\$ 1.47	\$ 4.66
	<u>Total Foreign Exchange ^{1/}</u>			
Cement Plant	\$ 2.00		\$.80	\$ 2.80

One Icelandic Kroner = 6.11404 U.S.cents.

Proposed Financing Program for Hydro Projects -

The Icelandic Government proposes to finance the Sog and Laxa projects by obtaining the dollar requirements through loans and grants from ECA, the European currency requirements through a loan from the IBRD and the domestic currency requirements partly through withdrawals from ECA counterpart funds and partly through loan advances from the cities of Reykjavik (for Sog) and Akureyri (for Laxa) to the two state (and municipally) owned corporations, Sogsvirkjum and Laxarvirkjum, both of which are going concerns operating existing hydroelectric plants.

Even though the Icelandic Government expects to obtain grants of dollars from ECA and to draw against counterpart funds for domestic currency, it proposes to loan these funds to the corporations. The entire capital for the two projects will, therefore, be loan capital.

^{1/} No estimate of dollar and other foreign exchange requirements yet available.

The Sogsvirkjun -

In 1933 the City of Reykjavik was granted, by an act of Parliament, a franchise for the development of hydro power on the Sog River at Ljosafoss (Ljosa Falls) about 31 miles from Reykjavik. A dam and power station with an installed capacity of 8800 kw in two units was completed and put into operation in 1937 with a loan from a Swedish-Danish bank combine, Norwegian engineers and a Danish contracting firm. The machinery and equipment was bought from Swedish manufacturers. In 1944 a third unit of 5500 kw capacity of American manufacture was installed in an extension of the power station and the height of the dam was increased. This brought the installed capacity to 14,300 kw, but with the raised water level and an overload on the machinery, the plant has been able to carry a load of 16,500 kw.

Sogsvirkjun sells at cost plus 5% all the power it generates to the Rafmagusveita Reykjavikur, or Municipal Power Works, the agency which distributes the power to the actual consumers in Reykjavik and vicinity. The Municipal Power Works owns and operates a small (3200 kw) hydro station built in 1921 and a steam plant (which burns either coal or oil) of 7500 kw capacity which was completed in 1947. At present the steam plant is operated as a peak load plant although it was intended as a reserve plant.

With overloads on the equipment, the existing Sog hydro plant and the Municipal Power Works plants can generate 28,000 kw with an installed capacity of about 25,000 kw.

Need for Additional Power in Reykjavik and Vicinity -

According to the Sogsvirkjun engineers the demand for power has increased directly in proportion to the increase in population in the area served. In 1918 Reykjavik had a population of 18,000. In that year the harbor improvements were

completed. By 1942 the population of Reykjavik had increased to 41,000. The average rate of growth in this period was about 1080 per year. From 1942 to 1948, the rate of increase was about 2200 per year. At the beginning of 1948 Reykjavik's population was estimated at 52,000. The increase in population in Reykjavik results from a natural increase of about 800 to 900 per year and migration from rural areas of the remainder. The population outside of Reykjavik served by the transmission system from existing power plants is between 8000 and 9000. It also has been increasing in the past few years, but apparently not as rapidly as in Reykjavik.

When Sogsvirkjun began operations in 1937, the power production was 280 kwh per capita in the Reykjavik distribution area. By 1947 it had increased to 1640 kwh per capita and by 1950 to 1900 kwh per capita, (including the production of the municipal hydro and steam plants).

Up to 1941 the full power demand was met by the capacities available. In 1942 a power shortage developed and continued until the new unit in Ljosafoss of 5500 kw came on the line in 1944. This unit only provided for the accumulated demand and a new shortage developed in 1945 and continued until the reserve steam plant was completed in 1948. This plant, however, was only able to restore the voltage drop in the overloaded system for a short while. Until the new Sog project is completed in 1952 or 1953, an increasing power shortage with reduced voltages/^{at peak periods}upto 50% to 60% is anticipated.

The new Sog project is expected to provide for only the normal increase in power demand until about 1960. If the demand of the proposed Fertilizer Plant is added, additional power will be required before 1960 if a power shortage is to be avoided, according to Sogsvirkjun engineers.

The New Sog Hydro Plant and Transmission Lines -

To provide for the additional power required and for some reserve, further development of the 126 foot (37.6 meter) head on the Sog River at two falls, Irafoss and Kistufoss, immediately below the existing plant at Ljosafoss is being undertaken. Actual construction of the project was started in the summer of 1950. It will consist of a relatively small dam across the Sog just above Irafoss and an underground powerhouse designed to house 3 units of 16,400 kw each. (The initial installation, however, will be only 2 units or 32,800 kw); a new single circuit 132,000 volt overhead transmission line to take the power to a new 132/33 kv transformer station at Ellidar on the outskirts of Reykjavik; transformers and underground cables for a 33,000 volt distribution system in Reykjavik; equipment for the extension of the existing 6,600 volt distribution system in Reykjavik and the necessary equipment for certain alterations of the existing distribution system.

The flow of the Sog River which has its source in a large lake is remarkably constant. Discharge measurements from 1938 to 1947 show an annual mean of 116.5 cubic meters per second with variations from 129 to 107 cubic meters per second. The daily maximum flow was 150 and the minimum was 84.6 cubic meters per second.

Laxarvirkjun -

In 1938-1939 the city of Akureyri constructed a 1680 kw hydroelectric plant on the Laxa River at Bruar Falls about 25 miles (40 km) by airline east of the city. In 1944 the capacity of the plant was increased to 4440 kw. Energy from the plant is at present transmitted westwards 37 miles (60 km) to Akureyri and vicinity through a 33,000 volt overhead transmission line and northwards 15 miles (25 km) to the fishing village of Husavik through a line of the same voltage.

Laxarvirkjun sells all the power it generates to the Municipal Light and Power Works of Akureyri at cost plus 5%. The Power Works in turn distributes the electricity to the ultimate consumers.

Need for Additional Power in Akureyri and Vicinity -

Akureyri is the second largest city in Iceland. In 1930 it had a population of 4,300. By 1940 the population had increased to 5,723 and at present it is estimated at about 7,400.

In the expansion program, it is proposed to connect villages of Dolvik and Hrisey into the transmission system in addition to Husavik. The combined populations of these three villages ^{was} 1,424 in 1930, 1,702 in 1940 and the present estimated population is about 2,100.

The population of the rural districts in the vicinity of Akureyri has been declining steadily since 1930 when it numbered 6,429. By 1940 it had declined to 6,361 and at present it is estimated at about 5,500. The same number of farms remain in the rural areas but they are run by fewer people. The excess population moved to the towns and villages.

The consumption of electricity has increased along with the increase in population. The production per capita in Akureyri increased from 850 kwh in 1940 to 2,430 kwh in 1945 and is estimated at 3,600 kwh at present. It cannot increase beyond this figure (which was reached in 1948) until additional capacity is added.

When the Laxa project was first put into operation in 1940, it was fully loaded in the first year. The area suffered a power shortage and a voltage drop of about 25% in peak periods until 1944 when new machines increased the capacity of the Laxa plant to 4,440 kw. The area was then free from power shortage until

1948 when the plant again became fully loaded. Until the new hydro plant on the Laxa is completed in 1952, no new loads can be added. It is estimated that the new 8,000 kw project on the Laxa will provide for the needs of the area until about 1958.

New Laxa Hydro Plant and Transmission Line -

The Laxa River, which rises in Lake Myvatn at elevation 277 meters above sea level, flows northward into the Atlantic Ocean on the northern coast of Iceland. Of the total gross head of the river, about 75 meters (248 feet) is concentrated at Bruar falls. Here the river falls from elevation 107 to elevation 32 m in a distance of 1,800 meters (5,940 feet). The flow of the Laxa river is very even averaging 30 to 40 cubic meters per second.

The new Laxa hydro plant will be located about 1,056 feet (320 meters) downstream from the existing power station at Bruar falls (which developed the head between elevation 107 m. and elevation to 69 m. (125 feet)) and will develop the head of Bruar falls between ^{elevation} 69 and 40 meters (96 feet).

The project will consist of a relatively small dam across the Laxa River 21.7 feet (6.6 m.) high; a 898 feet (272 m.) wood stave pipe 13 feet (4.0 m) inside diameter which will conduct water from the intake gate of the dam to a concrete surge tower; a steel penstock 13 feet (4.0 m) in diameter and 350 feet (106 m) long leading from the surge tower to the turbine; a vertically mounted Francis turbine directly connected to an 8,000 kw generator; a new single circuit 66,000 volt transmission line from Laxa to Akureyri approximately 34 miles (55 km) long; transformers, switchgear and equipment for the Laxa hydro station and for the main transformer station in Akureyri and transformers and other equipment for the distribution system inside the town of Akureyri.

Actual construction on the project began in August, 1950.

Consulting Engineers -

The Consulting Engineers for the Sog Project are:

a) For Civil Engineering Work -

Mr. A. B. Berdal, C.E., of Oslo, Norway. Mr. Berdal was the consulting engineer for Sogsvirkjun when the first power station at Ljosafoss was built in 1935-37. He is very familiar with local conditions.

b) Electrical Engineering Work -

E. G. Eggerston Inc., New York, N.Y., U.S.A. Mr. Eggerston, M.&E.E. was Consulting Engineer on the Ljosafoss and Laxa-extensions, the reserve steam plant for Reykjavik and the Skeldfoss project. He is very familiar with the present transmission and distribution systems and with local conditions.

The Consulting Engineers for the Laxa Project are:

a) For Civil Engineering Work -

Mr. Sigurð Thoroddsen, Reykjavik, Iceland, except for the stave pipe penstock and surge tower. These items are being designed by Vattenbyggnadsbyran, Stockholm, Sweden. Mr. Thoroddsen was educated at the Technical University in Copenhagen, Denmark, and has acted as a Consulting Engineer in Iceland since 1931.

b) For Electrical Engineering Work -

E. G. Eggerston Inc., New York.

Recommendation -

From my inspection of the two hydroelectric projects in Iceland, from my consultations with Icelandic engineers and officials, and from my preliminary

study of the data presented to the IBRD and to ECA (which I obtained from the ECA office in Paris), I am of the opinion that from a technical point of view they could become a basis for project loan and recommend careful consideration.

The Fertilizer Plant and the Cement Plant are both meritorious projects, but until more data are received and I have had time to make more detailed studies, I am not prepared to make recommendations in regard to them.

FILE COPY

Iceland

Gen. R. A. Wheeler

October 12, 1950

A. D. Spottswood

Preliminary Report on Icelandic Development
Projects -

— No attach

Attached is my preliminary report on the Icelandic Development Program. This report is designed merely to give a brief information about the projects presented to the Bank by the Icelandic Government. If a decision is made in principle by the Bank to proceed with negotiations with Iceland, I shall of course prepare more detailed reports. Copies of this report will be distributed to the Working Party.

We have all copies of report.

OFFICE MEMORANDUM

TO: Files

DATE: October 12, 1950

FROM: S.R.Cope

SUBJECT: Iceland

Mr. Brunner, E.C.A., called to tell me that their engineer who studied Iceland was Mr. Eslick (Extension 2530) and that he would be pleased to discuss the projects with us at any time. We were to let him know when it would be convenient.



SRC/pmk

RAFORKUMÁLASTJÓRNIN
THE STATE ELECTRICITY AUTHORITY

THE STATE ELECTRIC POWER WORKS
THE STATE ELECTRICAL INSPECTION
PROJECTS & SURVEYING DEPARTMENT
GEOTHERMAL RESEARCH & WELLDRIILLING DEPT.

118 LAUGAVEG
REYKJAVÍK
ICELAND

TELEGRAMS & CABLES:
RARIK. REYKJAVÍK

YOUR REF.

OUR REF.

DATE, October 11th, 1950
K2 PS/aj

Mr. A.D. Spottswood
The International Bank for Reconstruction and Development,
Washington D.C.
U. S. A.

Re. L A X Á R V I R K J U N.

Dear Mr. Spottswood,

This is in reply to your enquiry how the prognosis of the generation of Laxarvirkjun to 1960 is arrived at in the report: "Laxarvirkjun Estimated Cost and Receipts for Laxa Plant in the First Years of Operation after Development of the Lower Falls", dated September 25th, 1950.

In the report: "Laxarvirkjun, General Information and Economic Survey", dated April 13th 1949, the generation of energy is estimated up till 1960 in Table III, and the generation, the peak load and the annual load factor plotted graphically on Annexure 3, the actual figures being available from 1940 to 1948 and as estimated from 1949 to 1960. The prognosis was based on a logarithmic increase in the generation of power in accordance with the experience of the previous years. The generation per capita in Akureyri was, however, expected to increase at a slower rate in the future than in the years 1940 to 1948.

The figures for generation of energy, annual load factor, and peak load 1950 to 1960 in the report: "Laxarvirkjun General Information and Economic Survey" were estimated as follows:

Year	Generation Million kWh	Annual Load Factor Hours	Peak Load KW
1950	28.9	6400	4500
51	29.6	6600	4500
52	35.8	4000	9000
53	39.3	4200	9400
54	43.7	4400	9900
55	48.3	4600	10500

Year	Generation Million kWh	Annual Load Factor Hours	Peak Load KW
1956	53.4	4800	11.100
57	59.2	5100	11.600
58	65.5	5400	12.100
59	73.0	5700	12.800
60	81.7	6000	13.600

the plant being overloaded in 1950/51 and 1959/60.

This estimate was based upon that the new development were put into operation by the end of 1951. The new plant is now, however, expected to commence generation of power July 1st 1952, and the amount of generated units expected to be held back accordingly, such that the generation previously estimated for the year 1952 is now expected in 1953 and so on. The generation of energy in 1952 is estimated 33.8 units and the increase therefore greater than the next year's increase in generation because of the expected latent demand created by 5 years power shortage.

In this connection it can be mentioned that the estimated generation in the report of September 25th 1950 is not taken directly from the corresponding column in Table III in the report of April 13th 1949, but as a multiply of the values of the annual load factor in hours by the peak load in kW, which gives a slight discrepancy in the slide rule computations, but is of no material importance. Besides an overloading in 1960 is not accounted with.

To make a long story short the prognosis in the report of September 25th 1950 is practically the same as the prognosis in the report of April 13th 1949. The prognosis is probably best explained by the chart Annexure 3 in the report of April 13th 1949, which is attached with a few explanatory remarks.

Yours faithfully,

E. Brien

- 2 -

Year	Generation Million KWh	Annual Load Factor Hours	Peak Load KW
1956	23.4	4800	11.100
57	22.2	5100	11.600
58	22.2	5400	12.100
59	23.0	5700	12.800
60	21.7	6000	13.600

the plant being overloaded in 1950/51 and 1959/60.

This estimate was based upon that the new development were put into operation by the end of 1951. The new plant is now, however, expected to commence generation of power July 1st 1952, and the amount of generated units expected to be held back accordingly, such that the generation previously estimated for the year 1952 is now expected in 1953 and so on. The generation of energy in 1952 is estimated 55.8 units and the increase therefore greater than the next year's increase in generation because of the expected latent demand created by 5 years power shortage.

In this connection it can be mentioned that the estimated generation in the report of September 25th 1950 is not taken directly from the corresponding column in Table III in the report of April 15th 1949, but as a multiply of the values of the annual load factor in hours by the peak load in KW, which gives a slight discrepancy in the slide rule computations, but is of no material importance. Besides an overloading in 1960 is not accounted with.

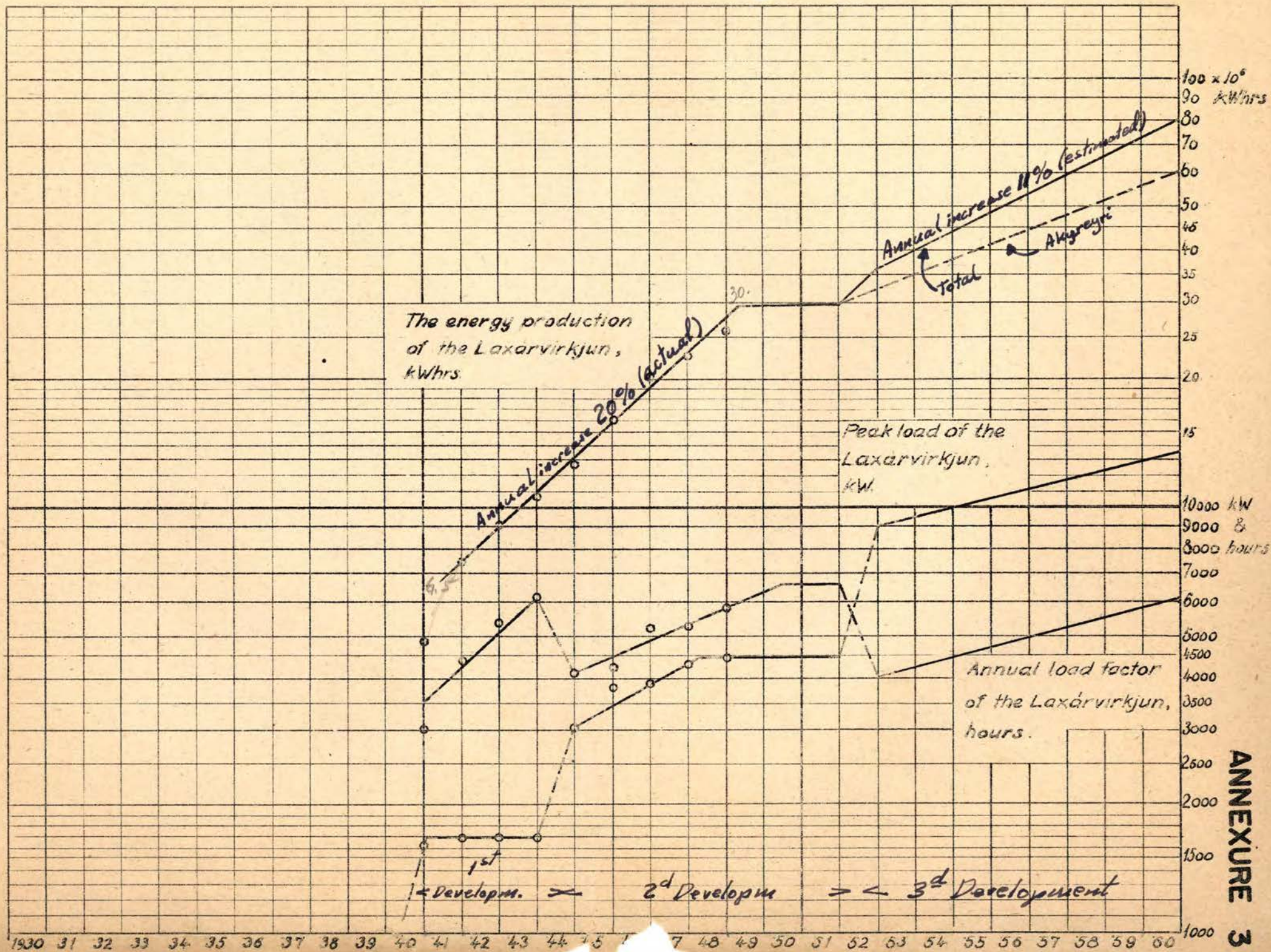
To make a long story short the prognosis in the report of September 25th 1950 is practically the same as the prognosis in the report of April 15th 1949. The prognosis is probably best explained by the chart Annexure 5 in the report of April 15th 1949, which is attached with a few explanatory remarks.

Yours faithfully,

E. Brown

OCT 16 4 06 PM 1950

RECEIVED
INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT



Iceland

October 11, 1950

Mr. Samuel F. Neville
Office of Special Representative
ECA Mission to France
% American Embassy
Paris, France

Dear Mr. Neville:

This is to thank you again for the information you supplied me about the hydroelectric projects in Iceland during my recent visit in Paris. I find the papers invaluable and your comments regarding these projects most helpful.

You will recall that we had some discussion regarding the cost of the power to be supplied to the proposed fertilizer plant. In the project report which you read, it is stated that the power station finds it possible to sell power to the fertilizer plant for the low price of Kr. 0.0067 (or \$0.0004) per KWH. We thought at the time that this figure was possibly a typographical error. I found while I was in Iceland that this figure is not a typographical error and the reason for the low selling price is the fact that power sold at this price will be off-peak power estimated on the incremental basis. In other words, the proposal is that the power station operate during off-peak hours at a full load and that the only charge made for this power is cost of operation for a few additional hours. Perhaps your people handling the fertilizer project are aware of this, but recalling our discussion I thought perhaps you would be interested in learning the basis for the figures shown in the report.

I just returned to the Bank on October 9, and have not yet had an opportunity to talk with Mr. Eslick, Power Branch, ECA Washington, but I expect to do so in the very near future.

Yours very truly,

A. D. Spottswood

Iceland

OFFICE MEMORANDUM

TO: FILES

DATE: October 6, 1950

FROM: Joseph Fajans *JF*

SUBJECT: Discussion with ECA about Iceland

Today, Messrs. Cope, Robinson and Fajans discussed with Mrs. Ripps and Mr. Brunner, of the United Kingdom, Ireland and Iceland division of the ECA, the Icelandic investment program. The following points were made:

1. ECA has approved the two hydroelectric projects and the financing of the dollar cost in the amount of appr. \$5 million appears to be secured. In fact, \$2 million were provided in the form of a loan under the 1949/50 allocation. Whether the remaining appr. \$3 million would take the form of a grant or loan, cannot be said before the 1950/51 allocations are worked out in detail.
2. The use of the counterpart of ECA loans is entirely at the discretion of the borrowing countries. Any decision regarding the use of the counterpart of grants would have to be taken jointly by ECA and the Icelandic Government.
3. Although the proposed power supply would be adequate for the fertilizer plant, ECA expressed doubts as to the economic justification of the fertilizer project. The cement plant proposal has not been brought to the attention of ECA.
4. ECA was of the opinion that no very well thought out investment program in relation to Iceland's economic problems has been worked out. Political pressures play an important part in influencing investment. This makes a balanced program impossible and sometimes results in un-economic development.
5. No up-to-date report on Iceland is available, nor is one in preparation by ECA. This runs counter to Mr. Livermore's statement to Mr. Hill in Paris.
6. Mrs. Ripps will arrange a meeting between Mr. Rembert and the power expert of ECA in order to ascertain the basis on which ECA approved the hydroelectric projects in their present form.

JF:bd

cc: Mr. S. R. Cope
Mr. E. Wayne Rembert
Miss Virginia Morsey
Mr. H. W. Robinson
Mr. R. W. Cavanaugh

SOGSVIRKJUNIN

THE HYDRO-ELECTRIC DEVELOPMENT OF SOG

P. O. BOX 537 TELEPHONE 1222
TELEGRAMS: RAFMAGNSVEITAN

REYKJAVÍK, Oct. 5, 1950.

12 TJARNARGÖTU, ICELAND

SJ/AS/NF.

Mr. A. B. Spottswood,
Hotel Borg,
Reykjavík.

Re.: I.B.R.D. Questionnaire.

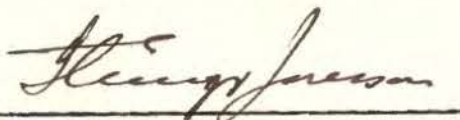
Dear Sir:-

Enclosed you will find preliminary answers to the different questions in the I.B.R.D. Questionnaire of Oct. 1st 1950 and most of the tables and other documents asked for are also attached, the remaining will be sent later.

If there are any answers or other information, that need further explanation, please inform us.

We will work on the completion of the informations and forward to you as soon as we have all the data needed.

Very truly yours,



Steingr. Jónsson

81222

4th Oct. 1950.

I.B.R.D. Questionnaire.

I. Answers to
General Questions.

Sog.

1. Attached.
2. The proportions of ownership are:

Municipality	85%
State	15%.

Capital was not supplied in this proportion, but it refers to division of liability.
3. Referred to State Electricity Authority.
4. No income tax, but communal property and road dues.
5. Depreciation on net booked assets:

Concrete buildings and dams	2%
Turbines	5%
Generators and El. equipment	4%
Tools & labour equipment	10%
Wood buildings	5%
Transmission line	5%
6. Surplus is used for extensions. Any surplus beyond that which is required for extension would go to reserves fund under the Sog Development Act. If deficits occur they must be covered by loans.
7. According to the Sog Development Act the power production is sold at cost price plus up to 5%. The cost price is estimated in the beginning of the year and revised at the end of the year. The power is thus sold wholesale to the Municipalities and to the State Electric distribution undertaking.

The Municipalities on the other hand sell the power to the consumers according to tariff rates, which are determined by the City Council. The tariff as passed by the City Council is subject to approval of the Government (minister of electric power affairs).
8. Yes.
9. The Municipalities purchase their power at cost price delivered from power stations or main transformerstations on main transmissionline plus up to 5% added to the cost price. The cost

price has been as yet based on kw-year price for maximum demand and was in 1949 245 kr. pr. kw. year.

After the new plant is put into operation, the Sog power will be 45.5 MW.

Total net generating cost is 15.22 million kronur. That makes 335 kr. pr. kw. max. output and year for Sog alone.

The Ellida hydro and reserve plants have machine power of 10.8 MW. The generating cost varies somewhat with the fuel consumption, but can be assumed on the average to amount to 5.75 million krónur. That makes 532 kr. pr. kw. and year.

The average price pr. kw. year generated from all three power stations is then:

15.22 + 5.75
$$\frac{21 \cdot 10^6}{56,3 \cdot 10^3} = 373 \text{ kr. pr. kw.}$$

With the transformer and transmission losses 5% it makes 391 kr. pr. kw., and with 5% surplus added 411 kr. pr. kw. delivered from main transformerstation at Reykjavík (on 30 and 6 kV busses).

This is the wholesale price of generation to the municipalities and state electric distribution system.

It will also be the price for primary power to the fertilizer plant at the main transformerstation.

10. The concern is entirely dependent on loans, and interest is paid on these. There is no original capital investment.

II. Technical Questions.

Sog Development.

1. Attached.
2. Summer 1950, main contracts signed July 1950.
3. Graphic charts are being prepared by the main contractor Fosskraft; will be sent later.
4. A. Building construction:
 - a) Fosskraft Ltd., Reykjavík. A consortium of 3 firms: E. Pihl & Søn, Copenhagen, A/B. Graevmaskiner, Stockholm and Östlunds byggnads A/B., Stockholm.
 - b) Construction of dam, intake structure, penstocks, power house and discharge tunnel.
 - c) July 27th 1950.
 - d) Power house to be completed May 1st 1952. The complete plant to be finished Dec. 1st 1952.
 - e) Payments in scandinavian and icelandic kr. amounting to U.S. \$ 2,340,000.--. \$ 2,53,000
- B. Hydraulic Turbines:
 - a) Karlstads Mekaniska Werkstad, Karlstad, Sweden.
 - b) Two vertically mounted 22,000 HP hydraulic turbines with entrance and discharge bends, governors etc.
 - c) Reykjavík 26th July 1950, Karlstad August 4th 1950.
 - d) 1st turbine February 4th 1952, 2nd turbine May 4th 1952.
 - e) Sw. Cr. 1,169,600.--. \$ 1,169,600
- C. Equipment for hydraulic powerstation Írafoss-Kistufoss: Generators, Transformers, Switchgear.
 - a) Westinghouse Electric International Company, 40 Wall Street, New York 5, N.Y.
 - b) 2 - 19,375 kVA, 80% power factor vertical waterwheel generators.
2 - 21,000 kVA, threephase transformers 10,5/138 kV.
1 - 13,500 " " " 138/66 kV.
1 - 6,000 " " " 63/33 kV.
In- and outdoor switchgear for the equipment listed above, and for one outgoing transmissionline.
 - c) August 21st 1950.
 - d) All the equipment will be ready for shipment, at October 21st 1951.
 - e) U.S. \$ 1,439,354.--.
- D. Transformerstation Ellidaár and Reykjavík distribution System: Transformers, Switchgear, Unit substations, Underground cables.
 - a) International General Electric Co., Inc., 570 Lexington Ave., New York 22, N.Y.,

- b) 2 - 25.000 kVA, threephase transformers 124/34,5 kV.
1 - 15.000 kVA, " " 31.350/6,0 kV.
1 - 10.000 kVA, " " 33/33 kV.
4 - 7.500 kVA, " " 31.350/6,0 kV.
2 - 5.000 kVA, unit substations 31.350/6,0 kV.

In and outdoor switchgear for the equipment listed above.

83000 feet, 300 MCM, 34.5 kV, underground cables.

c) August 7th 1950.

d) Starting December 7th 1950, completed September 7th 1951.

e) U.S. \$ 1.389.053.92.

5. The firms listed under paragraph 4. subparagraphs b), c) and d) will supervise the erection of the equipment they supply. Contracts have not been awarded on the following equipment:

- 1) Damgates and hoists, cranes and lifts £ 45.600. *50,000*
2) Transmissionline River Sog - Ellidaár U.S. \$ 350.000.- *324,000*

It is anticipated that purchases will be made, and contracts awarded on the above listed equipment in the course of the next three months.

- 3) Underground cable trenches Ellidaár - Reykjavík.

As the Sogsvirkjun has no forces of its own, following contracts will be awarded for the erection work to local contractors.

- a) Foundation work for the steeltowers of the Transmissionline.
b) Erection of the steel towers.
c) Trenches for the underground cables.

Sogsvirkjun will hire workers to erect:

- 1) Damgates and hoists, cranes and lifts.
2) Hydraulic turbines.
3) Generators, Transformers and Switchgear.

The stringing of wires on the h.t. transmissionline and the work on the underground cables will be done by the staff of the Reykjavík Municipality Electric Light & Power Works.

6. On 1) Building Construction:

Mr. A.B. Berdal, civil engineer, Grensen 17, Oslo.

Mr. Berdal was the consulting engineer for Sogsvirkjun when powerstation Ljósafoss was built in 1935 - 1937 and has a vast experience in Norway as consulting engineer on various hydraulic power projects.

- 2) Electrical engineering:

E.G. Eggertson Inc. Engineers, Room 1012, 11 Broadway,
New York 4, N.Y.

Mr. E.G. Eggertson B.Sc., M.E.I.C., MEM.AIEE. has

*Low Voltage cable
From conductors, etc
accessories -*

been the consulting engineer on various government sponsored, hydraulic power projects in this country (Skeiðfoss, extension of Ljósafoss and Laxá) and the reserve powerstation of The Reykjavík Municipal Electr. Light & Power Works.

Mr. Eggertson is familiar with our present system and the local conditions, and is therefore, in our opinion, highly qualified to act as our consulting engineer in the United States.

7. Mr. Berdals work consists in design of the whole power plant Kistufoss-Írafoss and supervision of the construction.

Mr. Berdal will be paid a fee in accordance with the tariff of the Norwegian Institute of civil engineers plus all travelling expenses. *(2% on value of work -*

Mr. Eggertson's work will consist in the detail planning of the electrical equipment of the powerstation Kistufoss-Írafoss, transmissi^online, transformerstation Ellidaár, and Distribution system inside Reykjavík. He will witness the factory tests, and speed up delivery, and supervise the shipping of the goods.

1 1/2%
Mr. Eggertson will also assist us in making the contracts on the equipment to be purchased in U.S., which still are pending.

8. Mr. Berdal will have his representative on the site during the construction period to supervise the construction.
9. There will be one civil engineer, as Mr. Berdals representative with an assistant civil engineer. These engineers will be paid by Sogsvirkjun. Both engineers will be of grade B.Sc. or M.A. and employed for approximately 2 1/2 years each.
10. Sogsvirkjun will coordinate the work of the various contractors.
A staff of 3 electrical engineers B.Sc. or M.^{Sc}A. will be devoted to the planning of the erection work; two of which will be cooperating with the superintendents of the contractors on the sites of erection, but one will be mainly handling the correspondence with the consulting engineers and the contractors.
11. The Sog Development sells wholesale to The Reykjavík Power Works, The State Distribution System, The Hafnarfjörður Distribution System; at cost price, plus an advance of up to 5%.
12. Attached.
13. Attached.
14. Attached.
15. Generation of reserve plant:

1948	(10 months):	5.406	mill.	kWh.
1949	(12 months):	13.123	"	"
1950	(9 months):	9.967	"	"

16. The Sog plant has hitherto not been used to heat water for the Municipal Natural Hotwater Supply System, owing to the fact that in wintertime nearly all the flow in river Sog has been required for the electricity production.

The reserve plant has produced steam, to heat water for the Municipal Hotwater Supply System, with the following equivalent kWh's.:

1948	(10 months):	23.5	mill.	kWh.
1949	(12 months):	75.0	"	"
1950	(9 months):	0.9	"	"

The heating of the water may be accomplished by:

- 1) The steam boiler of the reserve plant by fuel oil.
- 2) The electric boiler of the reserve plant by Sog hydro el. power.

Each of these boilers may be used to:

- a) increase the temperature of the natural hot water from 86°C to 96°C.
- b) heat additional water from river Ellidaár.

Both methods are applied by heat exchangers and may be used simultaneously.

The heat is thrown on according to directions from the Municipal Natural Hotwater System, usually during cold spells and heavy winds in wintertime.

	Rated Load	Max. Load in wintertime
17. Ljósafoss hydroelectric powerstation	14.300 kw.	16.400 kw.
Reserve Station	7.500 "	8.000 "
Ellidaár hydroelectric powerstation	3.160 "	3.600 "
Total	24.960 kw.	28.000 kw.

18. Not now.

The reserve plant is owned by The Reykjavík Municipal distribution system and is planned to work both as a reserve plant inside the town and also as an auxiliary plant carrying the base load in exceptionally dry years for the hydro power stations. The plant is also intended to work as a peak load station for the electric system in cooperation with the hydro stations carrying the base load. Further is the station built to work as a peak load station for the municipal natural hot water system during cold spells by giving the hot water extra heating from 80°C up to maximum 96°C (The waterflow 1948 - 50 is 1000 metric tons per hour).

The size of the plant was based on the working as a peak load plant in cooperation with the hydro plants and to be gradually extended correspondingly to the extensions of the hydro plants.

The reserve plant was built 1946 - '47 and put into operation in April 1948. The next step was planned to be the new hydro-station Írafoss at River Sog.

The plans for extension of the reserve plant will be studied again after 1952, when the Írafoss power plant is being put into operation.

19. The income rise is estimated at 6% under the present tariff rates. It is however pointed out, that if the sale of electricity for industries and heating purposes would be increased proportionally to the present sale, the increase in income would only amount to ca. 70% of these 6% $\approx$ 4% owing to the fact that the energy for industries and heating purposes will have to be sold at a lower rate.
20. The tariff rates for ultimate customers do not affect the Sog Development.
21. Table VII refers to Reykjavík Municipal Electric distribution system. The bought electricity is from Sog plant.
22. The Reykjavík Municipal Electric distribution system pays annually 4% of the net booked property as a tax. There is no income tax on Sog.
24. The Sog concern is operated as an independent undertaking and pays duty on all imports. The percent value levied is 8 on Turbines and Generators, 10 on Transformers and Switch-gear, and on sundry items 30. At present duty is assessed with 65% surcharge on these figures.

The policy of the duty authorities has been to give no exemptions as to the payment of duties, as there are so many other official institutions that would make similar claims.

25. Steel towers will be erected by local contractors.
26. The loan from the International Bank will be used as payment for the following materials and services:

	Currency	Total amount in icel. kr.
1) Hydraulic turbines	swedish kronur	4.120.000.-
2) Building materials:)	danish kronur)	
cement, reinforcing)	swedish kronur)	9.680.000.-
steel, timber)	£)	
3) Contractors	swed. & dan. kronur	10.500.000.-
4) Damgates, lift cranes	£	2.290.000.-
5) Technical assistance		
Mr. Berdal	norwegian kronur	1.340.000.-
6) Turbine erectors	swedish kronur	30.000.-
Total		27.960.000.-

The amounts listed above are estimated from the contracts with the turbine manufacturer, and the civil engineering contractor, as both these contracts are made on a sliding scale basis.

These amounts will be distributed over the construction period as follows:

	Costs in thousand icel. kronur.			
	1950/51	1951/52	1952/53	Total
1) Hydraulic turbines	690	690	2740	4.120
2) Building materials	5200	3870	610	9.680
3) Contractors	5970	3930	600	10.500
4) Damgates, lifts, cranes	760	1530	0	2.290
5) Technical assistance	340	500	500	1.340
6) Turbine erector	0	0	30	30
Total	12.960	10.520	4.480	27.960

27. Attached.

Result

TARIFF OF RATES FOR ELECTRICITY SUPPLIES.

1. ELECTRICITY SUPPLY.

The charges for a supply of electricity in Reykjavík are as follows - :

(A). Lighting.

Where the supply is used principally for lighting the charges will be - :

- (I). Through a Kilowatt-hour-meter at 93 Aurer per Unit (KWH). This applies to all forms of consumption not specified in the following rates - :
- (II). On a maximum-demand rate, or a peak-load meter at 116 Kr per 1000 watts. Meter to be set on a full 1000 watts continuously, the difference between 2 settings being not less than 10% of the higher setting. Where such a meter is in use, the extra consumption is to be charged in accordance with the rate in table A.I. (above). Open air lighting may be supplied under this paragraph, even when measuring instruments cannot be employed.
- (III). For Office, Shop, or Factory lighting, the charge is to be calculated at 23 Aurer per Unit (KWH) consumed, with a fixed charge of 116 Kr, per annum of the area lit, with a maximum area of 25 sq.metres, above this area each sq.metre of floor space lit is to be charged at 3.35 Kr per sq.metre. The full charge per sq.metre is to be made for dwelling rooms, workshops and offices, but the charge divided by 3.5 per sq. metre for store rooms and passages will be made.
- (IV). Through a double-tariff meter, if the load is greater than 2.5 Kws and the period in use more than 600 hours per annum, the charge is to be calculated at 93 Aurer per Unit (KWH) during the lighting period, and at 23 Aurer per Unit (KWH) during the non-lighting period.

The lighting periods are as below - :

During April - - - -	from 2030 to 2200.
- Sept. and March -	1900 to 2200,
- Oct. and Feb. -	1730 to 2200.
- Nov. - Jan. -	1600 to 2200.
- December -	1500 to 2200.

Where the annual consumption is more than 20.000 Units (KWH) a rebate may be made in accordance with paragraph C.IV. Where double-tariff meters cannot be employed a single-tariff meter is to be used for this consumption, and in this case 7 Units (KWH) per sq.metre of floor space per annum, shall be deemed in use during the lighting period, and all Units (KWH) over this figure consumed will be charged in accordance with the rate above.

(B). General Household Consumption.

- (1). Through two metres, one for lighting, the other for household appliances. The lighting consumption is to be charged in accordance with table A.1., and the remainder at 23 Auror per Unit (KWH). This rate may be used for offices, shops and workshops, excepting 3-phase motors.
- (2). Through a single meter recording the whole of the household consumption, and charged at 19 Auror per Unit (KWH), with a fixed rate of 24.00 Krónur per annum for each room in the house. Meter rent is included in the fixed rate.

Under this rate supply may be sold to restaurants, hotels, and other such places, which do not fall under the heading of households, and then sold through a single meter and meter rent paid, but no fixed charge assessed.

- (3). Through a peak load meter at 660 Kr per KW per annum plus a charge of 19 Auror per Unit used in excess. The minimum meter setting shall be 500 watt adding 100 watt for each room in the house above two.

This tabel B3 is also applicable to offices, shops and work-shops, though not for 3-phase supply for motors, and the meter setting shall then be 500 watt for the first 25 sq.m. floor-space or less, adding 100 watts for each 12 sq.m. or less, above that, calculated on the same basis as set out in table A3 previously.

(C). Motors.

Where the supply is used principally for motors, the charges will be - :

- (1). Through a single KWH-meter at 46 Auror per Unit. Where motors have a low annual utilization, a fixed charge of 55 to 93 Kr per installed Kw annually may be applied. This rate may be applied to supply for schools, hospitals, churches and similar public institutions. Also for construction work supply.

- (2). Through peak-load meters at the following rate - :

148	annual Kw	for the first 25 Kw.
120	-	- next 25 -
93	-	- all Kw in excess of 50

combined with a rate per Unit KWH as follows - :

First	100000 KWH annually	6.5	Aura KWH.
Next	100000	-	6.0 -
-	200000	-	5.5 -
-	200000	-	5.0 -
All in excess of	600000	4.6	-

- (3). Through peak-load meters for 446 Kr annual Kw, and 23 Aura per KWH in excess. The meter setting to be determined by director of power supplies in each instance in proportion to the load.

This rate is applicable to industrial heating.

- (4). Through double-tariff meters if the demand is more than 5 Kw, and the utilization is more than 500 hours annually, for 93 Aura during the higher period 10:45 - 12:00 hours, and 23 Aura for other consumption. If annual consumption during the lower period is more than 20000 KWH, a rebate may be given, calculated as follows - :

First	20000 KWH in lower period	23 Aura KWH.
Next	30000 - - - -	18 - -
Excess of	50000 - - - -	13 - -

For supply under this rate single KWH-meters may be used, and the charge shall then be 30 Aura per Unit.

The rebate shall then be assessed as follows - :

First	22000 KWH	30 Aura per KWH.
Next	33000 -	25 - - -
Excess of	55000 -	20 - - -

(D). Heating.

Where the supply is used as heating it is charged as follows - :

- (1). Through a KWH-meter at 11 Aurar a Unit (KWH) with a minimum consumption of 10.000 Units per annum.
- (2). Through a KWH-meter at 9 Aurar a KWH. The supply to be interrupted between 9-12 hours and 18:30 - 19:45 hours.

This rate may be combined with table B₂, and then 1000 KWH per annum shall be calculated under B₂ for a single room flat, and 600 KWH for each added room up to 3000 KWH per annum.

- (3). Through a KWH-meter at 5 Aura if load is interrupted between 9-12 hours, and for 6 hours in the period 15-23 hours.
- (4). Through a KWH-meter at 3,7 Aura if the load is interrupted by a time switch between 8-23 hours, and provided adequate storage tanks are installed for the days requirements. For heating where the space exceeds 2000 sq.m. or for other comparable supply loads, current may be supplied also in the period 12:30 to 15:30 hours if necessary.

- (5).
- (a). Through a double-tariff meter at 23 Aurar per Unit (KWH) from 0800 to 2300, and at 5,5 Aurar per Unit (KWH) per from 2300 to 0800.
- (b). Supply may be sold under this rate for motors qualifying for rate C₄, if the load is interrupted by time switch from 10:45 to 12 hours.

Conditions of power supply for heating.

- a) That generating capacity, transmission lines and transformers allow the load to be taken.
- b) That the consumer defrays the expense of connecting a time switch and pays a rent for it in accordance with rules about meter rent.
- c) That installations, including all appliances, conform to conditions set by the Power Works, stoves permanently fixed with individual switches, and thermostats applied.
- (E). Under special conditions the director of power supplies can contract for supply at special rates with individual customers, though not for a period longer than one year at a time except with the consent of the city council.
- (F). Rates for street lighting shall be determined by the city council.
- (G). For every 10 points increase or decrease of the index number as calculated by the Bureau of Economics, it is permitted to raise or lower power charges with 2%.

II. Meter rent.

The director of power supplies determines size and type of metering instruments, to be used for a supply, which determination is binding for the consumer, who shall pay rent according to the following table - :

Type of meter	Annual Rent Kr.		
	up to 30 Amps.	35-75 Amps.	Above 75 Amps.
Single-phase KWH meters peak-load meters	15.00		
Three-phase KWH meters, three-phase peak-load meters, single-phase subtraction meters, loose	30.00	45.00	60.00
Double tariff-meters maximum load meters	45.00	60.00	75.00
Separate time switches	15.00		

For other metering instruments, than those listed above, the rent shall be approximately 15% of the instruments purchase price. The rent is to be collected along with the consumption dues.

III. Reopening charges.

- a) In case of non payment of charges under this tariff so that service to a customer has been interrupted, the charge for reopening the service shall be 5.00 Kr.
- b) If illegal fuses are found upon inspection of an installation or too large, the service shall be interrupted, and not reopened until a reopening charge of 5.00 has been paid at the office of the Power Works.

Proposed new.

TARIFF OF RATES FOR ELECTRICITY SUPPLIES.

1. ELECTRICITY SUPPLY.

The charges for a supply of electricity in Reykjavík are as follows - :

(A). Lighting.

Where the supply is used principally for lighting the charges will be - :

- (I). Through a Kilowatt-hour-meter at 135 Aurar per Unit (KWH). This applies to all forms of consumption not specified in the following rates - :
- (II). On a maximum-demand rate, or a peak-load meter at 170 Kr per 1000 watts. Meter to be set on a full 1000 watts continuously, the difference between 2 settings being not less than 10% of the higher setting. Where such a meter is in use, the extra consumption is to be charged in accordance with the rate in table A.I. (above). Open air lighting may be supplied under this paragraph, even when measuring instruments cannot be employed.
- (III). For Office, Shop, or Factory lighting, the charge is to be calculated at 34 Aurar per Unit (KWH) consumed, with a fixed charge of 170 Kr, per annum of the area lit, with a maximum area of 25 sq.metres, above this area each sq.metre of floor space lit is to be charged at 5 Kr per sq.metre. The full charge per sq.metre is to be made for dwelling rooms, workshops and offices, but the charge divided by 3.5 per sq. metre for store rooms and passages will be made.
- (IV). Through a double-tariff meter, if the load is greater than 2.5 Kws and the period in use more than 600 hours per annum, the charge is to be calculated at 135 Aurar per Unit (KWH) during the lighting period, and at 34 Aurar per Unit (KWH) during the non-lighting period.

The lighting periods are as below - :

During April - - - -	from 2030 to 2200.
- Sept. and March -	1900 to 2200.
- Oct. and Feb. -	1730 to 2200.
- Nov. - Jan. -	1600 to 2200.
- December -	1500 to 2200.

Where the annual consumption is more than 20.000 Units (KWH) a rebate may be made in accordance with paragraph C.IV. Where double-tariff meters cannot be employed a single-tariff meter is to be used for this consumption, and in this case 7 Units (KWH) per sq.metre of floor space per annum, shall be deemed in use during the lighting period, and all Units (KWH) over this figure consumed will be charged in accordance with the rate above.

(B). General Household Consumption.

- (1). Through two metres, one for lighting, the other for household appliances. The lighting consumption is to be charged in accordance with table A.1., and the remainder at 34 Aurar per Unit (KWH). This rate may be used for offices, shops and workshops, excepting 3-phase motors.
- (2). Through a single meter recording the whole of the household consumption, and charged at 28 Aurar per Unit (KWH), with a fixed rate of 36 Krónur per annum for each room in the house. Meter rent is included in the fixed rate.

Under this rate supply may be sold to restaurants, hotels, and other such places, which do not fall under the heading of households, and then sold through a single meter and meter rent paid, but no fixed charge assessed.

- (3). Through a peak load meter at 1000 Kr per KW per annum plus a charge of 28 Aurar per unit used in excess. The minimum meter setting shall be 500 watt adding 100 watt for each room in the house above two.

This tabel B₃ is also applicable to offices, shops and work-shops, though not for 3-phase supply for motors, and the meter setting shall then be 500 watt for the first 25 sq.m. floor-space or less, adding 100 watts for each 12 sq.m. or less, above that, calculated on the same basis as set out in table A₃ previously.

(C). Motors.

Where the supply is used principally for motors, the charges will be - :

- (1). Through a single KWH-meter at 68 Aurar per Unit. Where motors have a low annual utilization, a fixed charge of 80 to 135 Kr per installed Kw annually may be applied. This rate may be applied to supply for schools, hospitals, churches and similar public institutions. Also for construction work supply.

- (2). Through peak-load meters at the following rate - :

200	annual Kw	for the first 50 Kw.
160	-	- - - next 50 -
120	-	- - - all Kw in excess of 50,

combined with a rate per Unit KWH as follows - :

First 200.000 KWH annually	9	Aura KWH.
All in excess of 200.000	7	- -

- (3). Through peak-load meters for 660 Kr annual Kw, and 34 Aura per KWH in excess. The meter setting to be determined by

director of power supplies in each instance in proportion to the load.

This rate is applicable to industrial heating.

- (4). Through double-tariff meters if the demand is more than 5 Kw, and the utilization is more than 500 hours annually, for 135 Aura during the higher period 10:45 - 12:00 hours, and 34 Aura for other consumption. If annual consumption during the lower period is more than 20000 KWH, a rebate may be given, calculated as follows - :

First	20000 KWH in lower period	34	Aura KWH.
Next	30000 - - - -	27	- -
Excess of	50000 - - - -	20	- -

For supply under this rate single KWH-meters may be used, and the charge shall then be 44 Aurar per Unit.

The rebate shall then be assessed as follows - :

First	20.000 KWH	44	Aura per KWH.
Next	30.000 -	37	- - -
Excess of	50.000 -	30	- - -

(D). Heating.

Where the supply is used as heating it is charged as follows - :

- (1). Through a KWH-meter at 16 Aurar a Unit (KWH) with a minimum consumption of 10.000 Units per annum.
- (2). Through a KWH-meter at 13 Aurar a KWH. The supply to be interrupted between 9-12 hours and 18:30 - 19:45 hours.

This rate may be combined with table B₂, and then 1000 KWH per annum shall be calculated under B₂ for a single room flat, and 600 KWH for each added room up to 3000 KWH per annum.

- (3). Through a KWH-meter at 7,5 Aurar if load is interrupted between 9-12 hours, and for 6 hours in the period 15-23 hours.
- (4). Through a KWH-meter at 5,5 Aura if the load is interrupted by a time switch between 8-23 hours, and provided adequate storage tanks are installed for the days requirements. For heating where the space exceeds 2000 sq.m. or for other comparable supply loads, current may be supplied also in the period 12:30 to 15:30 hours if necessary.

(5).

(a). Through a double-tariff meter at 34 Aurar per Unit (KWH) from 0800 to 2300, and at 8 Aurar per Unit (KWH) from 2300 to 0800.

(b). Supply may be sold under this rate for motors qualifying for rate C₄, if the load is interrupted by time switch from 10:45 to 12 hours.

Conditions of power supply for heating.

- a) That generating capacity, transmission lines and transformers allow the load to be taken.
- b) That the consumer defrays the expense of connecting a time switch and pays a rent for it in accordance with rules about meter rent.
- c) That installations, including all appliances, conform to conditions set by the Power Works, stoves permanently fixed with individual switches, and thermostats applied.

(E). Under special conditions the director of power supplies can contract for supply at special rates with individual customers, though not for a period longer than one year at a time except with the consent of the city council.

(F). Rates for street lighting shall be determined by the city council.

(G). For every 10 points increase or decrease of the index number as calculated by the Bureau of Economics, it is permitted to raise or lower power charges with 2%.

Should the city council consider it necessary to take steps to restrict power consumption, it is empowered, as a measure towards this purpose, to raise the price of supply in excess of average consumption to up to ten-fold the tariff price.

II. Meter rent.

The director of power supplies determines size and type of metering instruments, to be used for a supply, which determination is binding for the consumer, who shall pay rent according to the following table - :

Type of meter	Annual Rent Kr.		
	up to 30 Amps.	35-75 Amps.	Above 75 Amps.
Single-phase KWH meters peak-load meters	21.60		
Three-phase KWH meters, three-phase peak-load meters, single-phase subtraction meters, loose	45.00	67.20	90.00

Continued:

	Annual Rent Kr.		
	up to 30 Amps.	35-75 Amps.	Above 75 Amps.
Double tariff-meters maximum load			
meters	67.20	90.00	111.00
Separate time switches	21.60		

For other metering instruments, than those listed above, the rent shall be approximately 15% of the instruments purchase price. The rent is to be collected along with the consumption dues.

III. Reopening charges.

- a) In case of non payment of charges under this tariff so that service to a customer has been interrupted, the charge for reopening the service shall be 20.00 Kr.
- b) If illegal fuses are found upon inspection of an installation or too large, the service shall be interrupted, and not reopened until a reopening charge of 20.00 Kr. has been paid at the office of the Power Works.

- 1) Preliminary revision of tables I, II and III in "Sogsvirkjun Preliminaries for a new development" is as follows:

The foreign currency expenditure and domestic expenditure has now been estimated as follows, distributed over the construction period:

	in million icel. kronur.				
	1949/50	1950/51	1951/52	1952/53	Total
Domestic	3.0	17.0	21.7	7.0	48.7
U.S. dollars <i>22% of total</i>	27.1	35.7	0	0	62.8
European currency	0	13.0	10.5	4.5	28.0
Total	30.1	65.7	32.2	11.5	139.5

At this time, it is anticipated that the purchase to be made in Europe, will be distributed on the different countries as follows:

	in million icel. kronur.			
	50/51	51/52	52/53	Total
Sweden	4.07	4.57	2.29	10.93
Denmark	2.10	0.91	1.05	4.06
Sundry OEEC countries	5.33	5.04	1.14	11.51
Finland	1.46	0	0	1.46
Total	12.96	10.52	4.48	27.96

Will send revisions of tables I, II, & III

Table 1.

To quest. 14.

Cooperation of Sog hydro power with Reykjavík
Municipal power stations at Ellidaár. Generation.
(Sog: Ljósafoss 16,5-14,5 MW, Írafoss 31 MW,
Ellida Reserve 8,3 MW, Ellida Hydro
3,0 - 2,5 MW).

Year	Sog power				Reykjavík Municipal				Total		Max. out-put	Period ³⁾ of use
	Ljósafoss		Írafoss		Ellida hydro		Reservestat.		Inst. MW	MWh		
	Inst. MW	MWh	Inst. MW	MWh	Inst. MW	MWh	Inst. MW	MWh				
1938	8.0	16.205			3.0	884			11.0	17.089	5.9	2900
1939	-	23.874			-	527			-	24.401	8.4	2900
1940	-	33.633			-	937			-	34.570	11.0	3150
1941	-	41.117			-	2.607			-	43.724	-	3970
1942	-	51.975			-	3.442			-	55.417	-	5040
1943	-	60.657			-	7.298			-	67.906	-	6180
1944	16.5 ¹⁾	63.120			-	5.758			19.5	68.878	18.8	3650
1945	-	70.922			-	2.113			-	73.035	19.5	3750
1946	-	81.311			-	3.116			-	84.427	-	4330
1947	-	92.089			-	5.765			-	97.853	-	5000
1948	-	98.246			2.5 ²⁾	7.270	8.3	5.426	27.3	110.922	27.3	4050
1949	-	98.990			-	10.009	-	13.124	-	122.123	-	4480
1950	-	102.000			-	9.000	-	23.000	-	132.000	-	4820
1951	-	106.000			-	10.000	-	26.000	-	142.000	-	5200
1952	-	112.000			-	10.000	-	30.000	-	152.000	-	5320
1953	14.5	53.000	31	111.000	-	0	-	0	56.3	164.000	45.5	3600
1954	-	61.000	-	130.000	-	2.000	-	4.000	-	188.000	52.0	3600
1955	-	66.000	-	138.000	-	2.000	-	4.000	-	211.000	56.3	3730
1956	-	73.000	-	154.000	-	4.000	-	5.000	-	236.000	-	4180
1957	-	80.000	-	170.000	-	6.000	-	6.000	-	262.000	-	4630
1958	-	88.000	-	185.000	-	8.000	-	7.000	-	288.000	-	5100
1959	-	94.000	-	200.000	-	10.000	-	10.000	-	314.000	-	5570
1960	-	102.000	-	214.000	-	10.000	-	14.000	-	340.000	-	6000

1) Rated MW are 14.5 but the machines can be overloaded to 16.5.

2) 0.5 MW reduction for running auxiliary machinery in the reservestation.

3) The period of use was low in 1938 because of the great increase in production. With sufficient machine capacity it is now round 3700 hours. Period above 4000 hours indicates lack of machine capacity.

Reykjavík Municipal Electric Distribution System.

Sales of electricity.

		1947	1948	1949
A. Lighting:	Kwh. sold	5.054.283	5.174.111	5.968.887
	income kr.	2.620.980	2.612.898	2.811.636
	number of consumers	2.685	2.984	3.075
	price per kwh. kr.	0.548	0.505	0.47
	income pr. consumer kr.	1.000	870	910
B. General household:	Kwh. sold	28.747.793	30.857.414	35.282.906
	income kr.	6.411.536	7.175.861	8.040.392
	number of consumers	12.869	14.239	15.540
	price per kwh. kr.	0.224	0.232	0.228
	income pr. consumer kr.	500	502	520
C. Industrial:	Kwh. sold	9.632.422	10.844.941	11.180.683
	income kr.	2.085.991	2.160.160	2.326.868
	number of consumers	1.169	1.515	1.533
	price per kwh. kr.	0.217	0.20	0.208
	income per consumer kr.	1.780	1.420	1.520
D. Heating:	Kwh. sold	7.986.684	8.635.022	10.529.353
	income kr.	682.016	715.142	788.083
	number of consumers	297	323	341
	price per kwh. kr.	0.086	0.083	0.075
	income per consumer kr.	2.300	2.220	2.310
E. Special Contracts & Sundry:	Kwh. sold	4.750.319	5.064.450	5.354.298
	income kr.	570.700	534.346	584.115
	number of consumers	45	68	74
	price per. kwh. kr.	0.12	0.106	0.109
	income per consumer kr.	12.800	7.900	7.900
Total:	Kwh. sold	56.171.501	60.575.938	68.316.127
	income kr.	11.371.223	13.628.458	14.551.094
	number of consumers	17.065	19.029	20.563
	price pr. kwh. sold kr.	0.202	0.226	0.213
	income per consumer kr.	665	715	708

Reykjavik Municipal Electrical Distribution System.

Electricity Sales to Ultimate Customers											Income				Expenses				Surplus	
Year	A. Lighting		B. General Household		C. Industrial		D. Heating		E. Special Contr. and Sundry.		Total sales of Electr.	Heating Power	Other income	Total income	Maintenance & Operating cost	Interest	Paym. to Municipality.	Bought electricity	Total costs	Surplus
	KWh	kr.	KWh.	kr.	KWh.	kr.	KWh.	kr.	KWh.	kr.	1000 kr.		1000 k.	1000 k.	1000 kr.	1000 kr.	1000 kr.	1000 kr.	1000 kr.	1000 kr.
1939	299.157	405.373	8.408.127	856.640	1.766.360	278.612	642.861	22.001	3.262.986	195.317	1798		127	1915	670	66	158	744	1638	287
1940	1.042.759	378.326	12.940.431	1.361.176	2.829.846	444.055	1.241.352	42.831	2.868.638	157.626	2393		148	2541	732	91	165	863	1951	690
1941	3.022.663	1.056.571	15.548.897	1.612.452	2.625.248	465.190	2.479.985	128.153	4.088.181	257.428	3860		162	4022	1621	45	170	1043	2879	1143
1942	3.408.074	1.055.113	20.816.648	2.516.860	2.948.184	625.230	3.749.069	216.790	5.311.170	441.586	5328		245	5573	2199	80	186	1080	3545	2027
1943	4.829.380	1.283.606	27.114.053	3.109.701	3.898.775	726.505	4.561.893	248.591	4.674.617	430.593	6112		352	6464	3006	248	223	1200	4677	1787
1944											6878		301	7179	3280	324	332	1560	5496	1683
1945											8292		353	8645	3804	214	355	1800	6173	2472
1946											9249		790	10039	4283	593	405	1775	7056	2983
1947	5.054.283	2.620.980	28.747.793	6.411.536	9.632.422	2.085.991	7.986.684	682.016	4.750.319	570.700	12622		835	13457	4546	662	475	1850	7533	5924
1948	5.174.111	2.612.898	30.857.414	7.175.861	10.844.941	2.160.160	8.635.022	715.142	5.064.450	534.316	13628	1663	1281	16572	6575	965	560	1850	9950	4622
1949	5.968.887	2.811.632	32.906.282	8.040.392	11.180.683	2.326.868	10.529.353	788.083	5.354.298	584.115	14390	3210	856	18456	10997	965	720	855	13537	4919
Number of consumers.																				
1947	2685		12869		1169		297		45											
1948	2984		14239		1515		323		68											
1949	3075		15540		1533		341		74											

Street Lighting:

Kr:

1939	1940	1941	1942	1943
72.277.-	80.000.-	72.000.-	85.147.-	120.000.-
1947	1948	1949		
280.000.-	300.000.-	340.000.-		

S O G R E V E N U E (Exclusive of Fertilizer Plant).

Year	Max.out-put kw.	Period of use hours	Annual prod. million KWh.	Transf. & transmiss. loss mill. KWh.	Net sales million KWh.	Revenue from sales 1000 kr.	Average pr. kw. kr.	Revenue pr.kvh. kr.
1950	16.500	6200	102 103	10	92 92.0	2434	147	0.026
1951	-	6440	106 104	10.5	95.5 93.5	2613	158	0.027
1952	-	6800 7100	112 118	10.9	101.1 107.1	2648	160	0.025
1953	45.500	3600 3860	164 176	6.6 1)	157.4 159.4	15100	332	0.090
1954	-	4200	191 190	7.6	183.4 182.4	15220	334	0.083
1955	-	4500	204 208	8.2	195.8 199.8	15220	334	0.077
1956	-	5000 4940	227 224	9.1	217.9 214.9	15220	334	0.070
1957	-	5500	250 245	10	240.0 235.0	15220	334	0.063
1958	-	6000 5900	273 268	11	262.0 257.0	15220	334	0.058
1959	-	6480	294 289	11.7	272.3 277.3	15220	334	0.056
1960	-	6720 6820	316 310	12.6	303.9 297.4	15220	334	0.050

This great production from the Sog-plant is only possible in cooperation with the Ellidaår-plants. The resulting whole sale price will include generating cost in the Ellidaår-plants, and therefore be higher than shown here.

See table 1 to q. 14 for total production and answer 9 to gen. q.

1) New transmission line.

S O G E X P E N D I T U R E - and S U R P L U S.

All figures in 1000 kr.

Year	Generating cost	Interest & Amortisation				Gross Expenditure	Gross Revenue	Annual Surplus	Cumulative Surplus
		Existing Loans	Projected Loans	IBRD Loans	Total Loans				
1950	1230	1110			1110	2340	2434	120	5675
1951	1364	1110			1110	2474	2613	140	5815
1952	1394	1110			1110	2504	2648	145	5960
1953	4400	1110	6650	2240	10000	14700	15200	500	6460
1954	4500	1110	6650	2240	10000	14500	15220	720	7180
1955	4500	1110	6650	2240	10000	14500	15220	720	7900
1956	4500	1110	6650	2240	10000	14500	15220	720	8620
1957	4500	1110	6650	2240	10000	14500	15220	720	9430
1958	4500	1110	6650	2240	10000	14500	15220	720	10060
1959	4500	1110	6650	2240	10000	14500	15220	720	10780
1960	4500	1000	6650	2240	10000	14500	15220	720	11500

Projected loans are: 48,7 mill. will be solicited from counterpart fund 4%, term 25 years.
 27,18 " E.C.A.-loan 2,5%, term 29 years.
 35,62 " domestic loan 6%, term 23 years.
 111,50 mill. -
 of which 16,50 " will be borne by Municipal Power Works
 and 95,0 mill., assessed above.

Existing loans are: Domestic loan converting initial swedish loan: taken 1945 - 4%, term: 15 years.
 Domestic loan to pay for extension taken 1944 4%, term: 20 years.

S O G R E V E N U E (Exclusive of Fertilizer Plant).

Year	Max.out put kw.	period of use hours.	Annual prod. million KWh.	Transf. & transmiss. loss.mill. KWh.	Net. sales million KWh.	Revenue from sales 1000 kr.	Average pr. kw. kr.	Revenue pr.kvh. kr.
1950	16.500	6200	102	10	92	2434	147	0.026
1951	-	6440	106	10.5	95.5	2613	158	0.027
1952	-	6800	112	10.9	101.1	2648	160	0.025
1953	45.500	3600	164	6.61)	157.4	15100	332	0.090
1954	-	4200	191	7.6	183.4	15220	334	0.083
1955	-	4500	204	8.2	195.8	15220	334	0.077
1956	-	5000	227	9.1	217.9	15220	334	0.070
1957	-	5500	250	10	240.0	15220	334	0.063
1958	-	6000	273	11	202.0	15220	334	0.058
1959	-	6480	294	11.7	272.3	15220	334	0.056
1960	-	6720	316	12.6	303.9	15220	334	0.050

This great production from the Sog-plant is only possible in cooperation with the Ellidaår-plants. The resulting whole sale price will include generating cost in the Ellidaår-plants, and therefore be higher than shown here.

See table 1 to q. 14. for total production.

1) New transmission line.

S O G E X P E N D I T U R E - and S U R P L U S .

All figures in 1000 kr.

Year	Generating cost	Interest & Amortisation.				Gross Expenditure	Gross Revenue	Annual Surplus	Cumulative Surplus
		Existing Loans	Projected Loans	IBRD Loans	Total Loans				
1950	1230	1110			1110	2340	2434	819	6374
1951	1364	1110			1110	2474	2613	869	7243
1952	1394	1110			1110	2504	2648	904	8147
1953	4400	1110	6650	2240	10000	14700	15100	3650	11797
1954	4500	1110	6650	2240	10000	14500	15220	3810	15607
1955	4500	1110	6650	2240	10000	14500	15220	3950	19557
1956	4500	1110	6650	2240	10000	14500	15220	4110	23667
1957	4500	1110	6650	2240	10000	14500	15220	4270	27937
1958	4500	1110	6650	2240	10000	14500	15220	4438	32374
1959	4500	1110	6650	2240	10000	14500	15220	4618	36992
1960	4500	1000	6650	2240	10000	14500	15220	4800	41792

Annual Surplus consist of Amortization on loans plus net. profit.

Manual

Table VI.

S O G S V I R K J U N.

General Balance Sheet.

Revenue Account

no amortization

Year	Invested Cost.			Written off	Booked plant and distribution	Cash and sundries	Total Assets less written off	Lia-bilities	Net booked property	Gross receipts	Expenses			Surplus	Year
	Ljósafooss plant	Hight.trans-missionline on Main Transf. St.	Total								Operation & Mainten.	Interest	Total		
	1000 kr.	1000 kr.	1000 kr.	1000 kr.	1000 kr.	1000 kr.	1000 kr.	1000 kr.	1000 kr.	1000 kr.	1000 kr.	1000 kr.	1000 kr.	1000 kr.	
1938	5735	1275	7010		7010		7063	7063		453	128	325	453		1938
1939	5735	1275	7010		7010	2325	9335	9091	244	744	165	335	500	244	1939
1940	5779	1281	7060	225	6835	2729	9564	9256	308	863	138	437	575	288	1940
1941	5781	1281	7062	441	6621	2946	9576	8982	585	1043	163	387	550	492	1941
1942	5787	1281	7068	650	6418	4159	10577	9735	845	1080	230	381	611	469	1942
1943	5791	1281	7072	851	6221	8808	15029	13843	1186	1200	323	335	658	542	1943
1944	7802	1653	9455	1122	8333	6924	15257	13947	1310	1560	526	639	1165	395	1944
1945	13583	2584	16167	1677	14490	547	15037	13712	1325	1800	796	535	1331	569	1945
1946	13588	2584	16172	2209	13963	1069 ^{xx)}	15032	13627	1405	1775	550	613	1363	612	1946
1947	13657	2584	16241	2723	13518	1566 ^{xx)}	15084	13609	1475	1850	782	484	1266	584	1947
1948	13686	2584	16270	3216	13054	1942 ^{xx)}	14996	13348	1648	2003	874	463	1337	666	1948
1949	13633	2584	16217	3686	12531	3529 ^{xx)}	16060	14189	1871	2118,00	696	456	1425	693	1949

xx) Including preliminary costs of projected extension:

1946 - 924.527.42

1948 - 1.665.892.68

1947 - 1.448.301.95

1949 - 2.071.094.61

Iceland

Mr. J. Burke Knapp

September 26, 1950

Herbert W. Robinson

ICELAND

Working Party ^{meeting} was held this morning to consider the Icelandic approach for financing electric power, nitrogen fertilizer and cement projects. Rembert considered:

- a) the electric power project is too ambitious;
- b) on a cost basis, the soundness of the artificial fertilizer project is doubtful;
- c) he was unable to appraise the cement project owing to lack of any information.

I stressed that it was essential to satisfy ourselves on:

- a) the creditworthiness of Iceland;
- b) the appropriateness of the investment program in the light of the difficult problems of readjustment now facing the Icelandic economy.

I agreed to prepare, as soon as possible after completion of my work on Turkey, a brief economic report on ~~the~~ creditworthiness and the major economic problems now facing the country.

It was also agreed that Mr. Rembert and Mr. Cope would confer with ECA in order to ascertain how much information was available in ECA regarding the projects submitted to the Bank and their views regarding justification of these projects.

Mr. Spottswood is due to arrive in Iceland on the 29 September. The Working Party suggested that if in the course of my investigations I need some specific information I might communicate with him during his stay in Iceland. In view of the fact that considerable economic investigation would, in any case, be required at a later date, I feel disposed to restrict requests to Mr. Spottswood only to any extremely vital questions which might affect the Bank's policy in moving further in this loan.

HWR:js:#2102

*Idus
Iceland*

Notes on the meeting of the Icelandic Working Party
held on September 26, 1950

Present:

S. R. Cope, Loan Department
E. W. Rembert, "
V. Morsey, Legal Department
R. W. Cavanaugh, Treasurer's Department
A. F. Geolot "
Dr. Robinson ~~A. Stevenson~~, Economic Department
J. Fajans, Loan Department

1. The following points were made and discussed:
 - a) The generating and productive capacities of the projects appear to exceed existing requirements. The construction of smaller power plants which could be later expanded by the addition of new generating units would be more advisable. Cost estimates for the fertilizer plant appear extremely high and the estimated price for the domestic product does not compare favourably with European prices for fertilizer which are now much lower than they used to be in the post war period. Proposals for the erection of fertilizer plants are, as a rule, a corollary of an over-expansion of power programs.
 - b) An on-the-spot investigation would be required to decide whether the projects submitted represent - from the economic point of view - the most desirable investment. It may be that a development program should rather be based on the fish processing industry and use fish manure and fish meal as substitutes for fertilizer and vegetable feeding stuffs.
 - c) The balance of payments position of Iceland is very difficult, due primarily to the endeavour to maintain a high standard of living resulting from wartime demand for fishery products. The krona has been devalued twice and its par value is now 60% less than it was in August 1949.
2. It was agreed that Mr. Robinson will, within the next two or three days, start working on a creditworthiness report and that Messrs. Cope and Rembert will ~~take up~~ with E.C.A. the problem of their participation in the construction of the power plants and the fertilizer plant. It was also agreed to postpone preparation of a project report until Mr. Spottswood returned to Washington.
- P.S. According to a memorandum from Mr. Hill to Mr. Iliff, which was only received by the Loan Department after the meeting, Mr. Shaw Livermore, Director of the E.C.A. Programs Division, told Mr. Hill in Paris that the question of E.C.A. participation in the financing of the two power plants will be the subject of a report on Iceland which should be ready by the end of September and will then be placed at the disposal of the Bank.

OFFICE MEMORANDUM

TO: Mr. A. S. G. Hoar

DATE: September 26, 1950

FROM: Mr. Luxford

SUBJECT: ICELANDIC WORKING PARTY

Miss Morsey will represent the Legal Department

on the Icelandic Working Party.

cc: Messrs. Knapp, Riley, Cope, Sommers
Miss Morsey

AFL/GW

To note for next
issue of report of
working parties

Re
Sep 26 50

GM

OFFICE MEMORANDUM

TO: Mr. J. Burke Knapp

DATE: September 26, 1950

FROM: Herbert W. Robinson *HWR*

SUBJECT: ICELAND

A Working Party ^{meeting} was held this morning to consider the Icelandic approach for financing electric power, nitrogen fertilizer and cement projects. Rembert considered:

- a) the electric power project is too ambitious;
- b) on a cost basis, the soundness of the artificial fertilizer project is doubtful;
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I stressed that it was essential to satisfy ourselves on:

- a) the creditworthiness of Iceland;
- b) the appropriateness of the investment program in the light of the difficult problems of readjustment now facing the Icelandic economy.

I agreed to prepare, as soon as possible after completion of my work on Turkey, a brief economic report on the creditworthiness and the major economic problems now facing the country.

It was also agreed that Mr. Rembert and Mr. Cope would confer with ECA in order to ascertain how much information was available in ECA regarding the projects submitted to the Bank, and their views regarding justification of these projects.

Mr. Spottswood is due to arrive in Iceland on the 29 September. The Working Party suggested that if, in the course of my investigations, I need some specific information I might communicate with him during his stay in Iceland. In view of the fact that considerable economic investigation would, in any case, be required at a later date, I feel disposed to restrict requests to Mr. Spottswood only to any extremely vital questions which might affect the Bank's policy in moving further in this loan.

HWR:js:#2102

OFFICE MEMORANDUM

TO: Members of the Working Party

FROM: Joseph Fajans *JF*

SUBJECT: Iceland

DATE: September 25, 1950

R. Hoar
This is a good summary of the proposal.

RF Sep 25 '50

1. An approach was made to the Bank in Paris by the Icelandic Government regarding the possibility of obtaining a long term loan equivalent to \$2,080,000 in European (mostly Scandinavian) currencies to finance the purchase of equipment for two hydroelectric power plants, the dollar cost of which is being covered by E.C.A.
2. Several memoranda and project surveys were submitted in support of this inquiry. These contain the indication that the Icelandic Government intends to contact the Bank at a future date with respect to two more projects. One of them is the construction of a fertilizer plant necessitating foreign exchange expenditures amounting to \$3,190,000 (\$2,580,000 in U.S. dollars and \$610,000 in European currencies); this project is at present being considered by E.C.A. and the approach to the Bank depends on their decision. The other project is the construction of a cement plant, external expenditures on which are estimated at \$2,000,000, mostly in European currencies.
3. The construction of the four plants represents an integrated program. Since their cost clearly exceeds private investment potentialities, they will be built and owned by the Government, but will be operated on a commercial basis. Mr. Spottswood is stopping at Reykjavik on his way back to Washington in order to assess the merits of the proposed development.
4. The diversification of economic pursuits is of foremost importance to Iceland in that it would lessen her exclusive dependence on the hazards of the fish export markets and reduce imports of some essential commodities. Since manufacturing industries have to rely on adequate supplies of electricity for their operation, the power development has been accorded priority. Work has started recently and orders for equipment were placed last July. The larger of the hydroelectric projects is to be erected on the River Sog, some 40 miles from Reykjavik; it will have the potential capacity of 44,000 H.P. and will service industrial users, including the proposed fertilizer plant, and the needs of the steadily increasing population of the city for lighting and heating. The smaller plant, with the potential capacity of 11,000 H.P. will be built on the River Laxa in the northeast of the island and will supply the town of Akureyri, second largest in Iceland, several other localities and, after the planned expansion of the transmission system, the herring oil factories located in the area.
5. Domestic production of fertilizer would be the first step toward the rehabilitation of Icelandic agriculture which has been neglected as a result of the heavy demand for fishery products during and after both world wars.

It would eliminate the need for imported fertilizer, the cost of which is more than twice as high as the estimated cost of the home product. Production of cement in Iceland would also be fully justified in view of the availability of raw material, and the shortage of other building materials.

6. The total cost of the two power plants is estimated at the equivalent of \$11.3 million, of which \$4.8 million (or \$5.1 million according to another estimate) would be in U.S. dollars, approximately \$4.4 million in Icelandic kronas, the rest representing purchases in Europe under the proposed loan from the Bank. ^{is} E.C.A. has already authorized the lending of \$2 million for the projects and it is assumed that the remaining \$2.8 million will be allocated in form of grants. About 78% of the local expenditures is to be financed by E.C.A. counterpart funds and the rest by long term loans from the municipalities. Bank credits equivalent to some \$3 million would be used during the first stage of construction in order to bridge the time until E.C.A. counterpart funds become available. Proceeds of the proposed loan from the Bank would be spent in Sweden, Denmark, Norway, the U.K., Western Germany and Finland.

7. Although the ~~project~~ ^{approach} appears to deserve consideration by the Bank, several aspects of it require detailed investigation:

- (a) The ability of Iceland to service an external debt in view of the present shortage of all foreign currencies;
- (b) The methods devised for financing of local expenditures which may not be satisfactory from the point of view of monetary stability;
- (c) The technical justification of the program; the expansion of existing power facilities aims to a large extent at supplying the household needs of urban population;
- (d) The availability to the Bank of currencies required to pay for the equipment which depends on the willingness of member countries to release corresponding amounts of their 18% subscription; Sweden, where presumably one-half or more of Bank financed goods would be procured, is not at present a member of the Bank.

JF/pmk

*Copies - Mr. Cope
Dr. Rembert
Dr. Robinson
Mr. Cavanaugh
Miss Morsey*

Iceland
X ECA

Mr. W.A.B. Iliff

September 22, 1950

Walter Hill *W.H.*

Discussions with Mr. Livermore of ECA about Power Stations
in Iceland

1. You requested me to ascertain from ECA in Paris whether the views expressed by Mr. Arnason in his memorandum (copy attached) corresponded with theirs, and, specifically, to ask them:

- (a) Their opinion of the two projected electric power projects;
- (b) Whether they would wish to participate in the financing of these projects; and
- (c) Whether counterpart funds would be utilised.

2. Mr. Shaw Livermore, Director of the ECA Programmes Division, told me that the interview with Mr. Arnason had been reported accurately. As to the specific questions, he said that the answers to these would be embodied in a report on Iceland which, he hoped, would be ready by the end of September and placed at the disposal of the Bank. Without prejudice to the report, he made the following comments about the first two questions:

- (a) The two power^{stations} had been "approved" by ECA in the sense that they have merit from an economic and technical point of view and deserve priority against other types of additional investment. For fiscal reasons, however, there was an element of doubt about whether any additional investment should take place at this stage. The forthcoming report is expected to clarify this issue.
- (b) If it were desirable to construct the two power stations, ECA was not yet in a position to say whether or not they might participate in the financing of the two projects, for it was not yet known whether any equipment would have to be imported from the United States.

cc: Mr. Garner
Mr. Hoar
Files (Washington) /
Files (Paris)

WE/ch

C O P Y

MEMORANDUM

I went with Mr. Peter Benediktsson, the Icelandic Minister, to see the ECA. We were received by Ambassador Tyler Wood and Mr. Shaw Livermore, Director of Programmes Division. We explained the need of Iceland of receiving supplementary loans to cover the non-dollar expenditure in connection with the long-term development programme in the country, as only the dollar expenditure is covered by ECA financing. We told them that I had already approached the IBRD on behalf of the Icelandic Government, and asked them if they had any objection to this step.

The representatives of ECA asked if this was a question of a loan repayable in dollars, and seemed to be pleased when we stated that this was not the case, as the loan would be in pounds sterling (and perhaps other OEEC currencies).

Furthermore they asked if we had any programme of seeking foreign loans for other big investment programmes in the near future. We were able to assure them that this was not the case.

They promised to get immediately in touch with the President of the Bank, Mr. Black, and Mr. Hill of the Paris Office. They did not commit themselves any further, but said that it should not take long to arrive at a decision.

Paris, September 13th, 1950

(s) Jaan Arnason

Iceland

FILE COPY

Mr. Stanley Hoar

September 22, 1950

J. Burke Knapp

ICELANDIC WORKING PARTY

✓
In response to your memorandum of September 21 with respect
to an Icelandic Working Party, I should like to designate
Mr. Robinson to represent this Department.

cc: Mr. Robinson

JBKnapp:rke

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

W. A. M. Cope
J. M. J. J. J.
Icelandic Neg
Sog-Labor

OFFICE MEMORANDUM

TO: Mr. Stanley Hoar

DATE: September 22, 1950

FROM: J. Burke Knapp

SUBJECT: ICELANDIC WORKING PARTY

In response to your memorandum of September 21 with respect to an Icelandic Working Party, I should like to designate Mr. Robinson to represent this Department.

cc: Mr. Robinson

FILE COPY

Iceland

Messrs. B. Knapp, H. Riley and A. Luxford

September 21, 1950

A. S. G. Hoar

ICELANDIC WORKING PARTY

1. An Icelandic Working Party is to be organized immediately to consider projects brought under discussion earlier this month with the Loan Director in Paris.
2. I shall be grateful if you will send to this office the name of the individual designated to represent your Department in this Working Party.
3. Mr. S. R. Cope will represent the Loan Department and as coordinator, will call a meeting of the Working Party at an early date.

CC: Mr. S. R. Cope

ASGHoar:dh
9/21/50

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INCOMING WIRE

1. Mr. Hoar
2. Mr. Cople
3. Mr. Lambert
J. J. L. L.

DATE OF WIRE: SEPTEMBER 20, 1950

TO: INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

FROM:

LONDON

TEXT:

ROUTING	
ACTION COPY TO	MR. HOAR
INFORMATION COPY TO	
Decoded By	

FOR HOAR

STOPPING ILIFF'S REQUEST IN ICELAND INVESTIGATION
POWER PROJECTS ARRIVE BORG HOTEL REYKJAVIK 25TH
SEPTEMBER ARRIVE NEW YORK 30TH SEPTEMBER.

SPOTTSWOOD
REYKJAVIK

ORIGINAL

Iceland

Extract from letter from
Mr. ILIFF to Mr. HOAR, dated September 15, 1950.

ICELAND

Arnason has talked to us about the two hydro-electric projects which you mentioned in your telegram and has left with me two copies of documentation. I send you one copy herewith. The other copy I am giving to Spottswood and have arranged for him to stop off for a couple of days in Iceland on his way back to the United States in about a week's time. I have also asked Walter Hill to talk to the ECA people here about their intentions and have arranged for him to report directly to you.

Rec'd Paris 9/12/50

LEGATION D'ISLANDE

p.t. PARIS, 11 Septembre
1950

*Hallgrímur
Lauri
(Paris Room)*

Mr. Jon Arnason, Managing Director
of the National Bank of Iceland
to
The International Bank for Recons-
truction and Developement
The Loan Department
Washington D.C.

Re : Loan for hydro-electric power projects.

Dear Sirs ,

My Government has requested me to inquire into
the possibility of obtaining a loan from the Inter-
national Bank for Reconstruction and Developement in
cover of the European expenditure of the new Sog and
Laxa hydro-electric power projects. The construction
work in connection with these projects has recently
started, and the contracts for the generators, tur-
bines and switch gear were signed in July 1950.

I enclose a Memorandum together with 4 Annexes from
the Icelandic Government on the two hydro-electric power
developments and two other projects connected with them :
the construction of a fertilizer plant and a cement plant.

As explained in the Memorandum and in Annex IV, the
E.C.A. has approved the two hydro-electric projects and

P.t.o.

Oct 24, 1950

*X
Cement
X
Fertilizer*

it is expected that the total dollar cost incurred in this connection will be covered by E.C.A. funds.

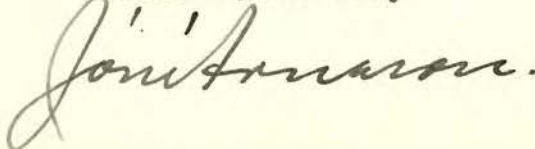
But owing to increasing shortage of European currencies, it is necessary for the Icelandic Government to raise a loan in cover of the non-dollar part of the foreign currency requirement, which according to the financing program (Annex IV) is estimated at the equivalent of \$ 2,08 Mill. The obtaining of a loan for approximately that amount from the I.B.R.D. is an essential condition of the realisation of these important projects and the Icelandic Government hopes that the I.B.R.D. deems them worthy of support, and takes fully into account Iceland's great need for the loan.

Although it is at this stage premature to discuss the terms of an eventual loan from the I.B.R.D., it should be added to the points mentioned in the Memorandum that the repayment period of the loan should be at least 20 years, and it should be free of amortization the first years of the loan period.

Owing to the urgency of this matter, I would appreciate it very much to be at the earliest possible date advised of the possibility of obtaining the loan, ^{and} in case of a positive attitude on the part of the Bank, to be informed of the steps to be taken by the Icelandic Government with regard to the borrowing act.

In the hope that you will take this matter under due consideration I remain

Yours faithfully

A handwritten signature in dark ink, appearing to read 'Jon Arnason', written in a cursive style.

Jon ARNASON

MEMORANDUM.

I went with Mr. Pétur Benediktsson, the Icelandic Minister, to see the E.C.A. We were received by Ambassador Tyler Wood and Mr. Shaw Livermore, Director of Programmes Division. We explained the need of Iceland of receiving supplementary loans to cover the non-dollar expenditure in connection with the long-term development programme in the country, as only the dollar expenditure is covered by E.C.A. financing. We told them that I had already approached the I.B.R.D. on behalf of the Icelandic Government, and asked them if they had any objection to this step.

The representatives of the E.C.A. asked if this was a question of a loan repayable in dollars, and seemed to be pleased when we stated that this was not the case, as the loan would be in pounds sterling (and perhaps other O.E.E.C. currencies).

Furthermore they asked if we had any programme of seeking foreign loans for other big investment programmes in the near future. We were able to assure them that this was not the case.

They promised to get immediately in touch with the President of the Bank, Mr. Eugene R. Black, and Mr. Hill of the Paris Office. They did not commit themselves any further but said that it should not take long to arrive at a decision.

Paris, Sept. 13th 1950.

Memorandum on Icelandic Government
Development Projects

The economy of Iceland depends on the export of fish and fisheries products, which are subject to great fluctuations due to both unstable market conditions and varying volume of production owing to forces of nature. A greater diversification of industries is therefore of primary importance in order to stabilize the national economy of Iceland. With that purpose in view the Icelandic Government has decided to carry out the following development projects in the next years at the rate which the general economic situation and availability of resources permit:

- 1) Hydro-electric Power Development at Sog, 44000 HP
- 2) Hydro-electric Power Development at Laxá, 11000 HP
- 3) Fertilizer Plant, capacity 6000-7500 tons N₂ per year.
- 4) Cement Plant, 75000 tons' capacity per year.

ECA-aid has made it possible to commence the execution of this program, the hydro-electric developments having been approved by the ECA, and a project letter application for the fertilizer plant is pending with the ECA. The cement plant project is also in course of active preparation.

The fertilizer plant project is explained in an attached report, Annex I, which has been submitted to OEEC for its consideration. ECA has desired that OEEC should consider the project before action is taken on the pending application. The foreign cost of the project are estimated at U.S. \$3.190.000 whereof \$2.580.000 payable in dollars and \$610.000 in European currencies. The Government expects to contact the International Bank in connection with the financing of the fertilizer plant as soon as ECA has made its decision. It is expected that the construction of the fertilizer plant will begin the next year with a view that it will be ready to be powered by the new Sog hydro-electric Plant as soon as the latter has been completed.

The construction of a cement plant is to follow the hydro-electric developments and the fertilizer plant. As in the case of the fertilizer plant the cement plant will be powered by electricity. The raw materials are available in abundant supply and the domestic need is great owing to shortage of natural building materials in Iceland.

The total construction costs of the cement plant are estimated at \$2.782.000, whereof the foreign cost are approximately \$2.000.000. The machinery and equipment for the cement plant will presumably be bought mostly in Europe. At a later date the Government expects to contact the International Bank concerning the financing of the cement plant.

The cement plant like the fertilizer plant will be built and owned by the state, as projects of this size exceed the financial capacity of private Icelandic investors. The plants will, however, be operated on a commercial basis.

Attached to this memorandum are the following papers covering the two hydro-electric developments:

Annex II

Sogsvirkjun: Preliminaries for a New Development. A Survey of Extension Possibilities and Financial Data.

Annex III

Laxárvirkjun: The Hydro-electric Development of River Laxá. General Information and Economic Survey.

Annex IV

Financing Program for the Sog and Laxá Projects.

These documents should give an adequate orientation of the projects in question and therefore only a few remarks will be added here relating to the Sogsvirkjun (Sog Development) and the Laxárvirkjun (Laxá Development) as prospective borrowers.

Both the Sogsvirkjun and the Laxárvirkjun are public corporations owned jointly by the State and Reykjavík Municipality (Sogsvirkjun) and Akureyri Municipality (Laxárvirkjun) respectively.

The organization and activities of both corporations are regulated by Acts of the Althing. It is estimated that about 85% of the electric power of the proposed new Sogsvirkjun will be sold to the Rafmagnsveita Reykjavíkur (the Reykjavík distribution system), and likewise about 75% of the electric power of the new Laxárvirkjun to Akureyri Municipality. Akureyri is the second biggest town in Iceland, having about 7.000 inhabitants, as compared to Reykjavík's 56.000.

As regards the financial position of the Sogsvirkjun and Laxárvirkjun and their chief municipal counterpart (Reykjavík and Akureyri), as well as the estimates for the operation of the new plants, reference is made to Annex II and III respectively.

As shown in the attached financing program, the total cost of both developments is estimated at kr. 184.000.000, and the period of construction extends over the years 1950-1952. Construction work has already started and contracts for the generators, turbines and switchgear have been placed. Of the total amount, kr. 82,5 mill. is dollar expenditure and it is expected that it will be covered by ECA-funds. The equivalent of kr. 32,5 mill. (i.e. \$2.000.000) have already been made available by ECA from the 1949/1950 allotments in the form of loan. It is anticipated that the balance will be in the form of direct grant from the 1950/1951 ~~and 1951/1952~~ and 1951/1952 ECA allotments.

The total foreign expenditure expressed in U.S. dollars, is estimated as follows for both the projects (compare Annex IV).

	Mill. of \$
U.S. dollar expenditure	4.82
European expenditure:	
Sweden	0.76
Denmark	0.31
Sundry OEEC count.	0.92
Finland	<u>0.09</u>
	<u>2.08</u>
Total	6.90

In addition to the \$ 0.76 Mill. expenditure in Sweden and \$ 0.31 Mill. expenditure in Denmark, part of the \$ 0,92 Mill. will be used for purchases from these two countries, and besides them from the United Kingdom, Norway, Belgium and Western Germany.

The purchases represented by \$ 0,92 Mill. will be made in the OEEC countries where the most favourable purchases can be made as to prices, quality and time of delivery. Further details on the distribution of the foreign expenditure are given in Annex IV.

It is proposed to approach the International Bank with a view to obtaining a long term loan to cover the European part of the foreign expenditure of the two projects. The amount which will have to be covered by such a loan is the equivalent of \$ 2,08 Mill. In case of a favourable response from the International Bank, it is expected that the loan would be granted in the currencies of countries in which considerable purchases of equipment and materials for the projects were made. The transfer and other problems arising in that connection would have to be solved by negotiations with the National Monetary Authorities concerned. A major difficulty in that connection is that Sweden, the country supplying maybe about 50% of equipment and materials needed for the developments, is not a member of the International Bank.

Owing to Iceland's scanty supply of free dollars, the loan would have to be repayable in the same currencies as it was granted.

The Icelandic state itself would be the borrower and wholly responsible for the repayment of the loan. The money would in turn be lent to the two corporations.

As shown in the attached financing program, a loan amount equivalent to \$ 1,08 Mill. would have to be disposable before the middle of 1951, \$ 0,73 Mill. in 1951/52, and the balance, \$ 0,27 Mill. before the end of 1952.

As described in detail in Annex IV, the local cost of the two projects are estimated at the equivalent of \$ 4,35 Mill. to which is to be added the counterpart requirements for the anticipated ECA grants used to cover part of dollar purchases, \$ 2.82 Mill. The total domestic currency requirement consequently amounts to \$ 7,17 Mill. and is intended to be covered as follows:

Mill. of \$

Contribution from the two Municipalities in the form of long term loans	0,93
Withdrawals from counter- part fund subject to ECA approval - long term loans	3,42
Bank loans	<u>2.82</u>
Total	7,17

It should be observed that at the end of the Marshall Aid period, the total amount deposited in the counterpart fund will presumably have reached kr. 300 Mill, or the equivalent of about \$ 20 Mill., according to the rates prevailing at the time of transactions. The above mentioned withdrawals from the counterpart fund together with the proposed bank loan therefore amount to not more than 30% of the total counterpart fund deposits.

August 26, 1950.

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May 19, 1950

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Mr. Leonard B. Rist

E. Harrison Clark

Approach to Bank by Iceland

1. The Icelandic Government has informed ECA that it will approach the Bank very shortly with a view to obtaining financing of a part of the non-dollar costs of two hydroelectric power projects. The Icelandic Government has negotiated with a Swedish firm for equipment of the value of \$1.5 m. to be paid for on the following schedule:

1949/50	\$450,000
1950/51	743,000
1951/52	307,000

2. The Icelandic Government apparently has been assured by Sweden that Sweden will accept sterling in payment and Iceland will endeavor to obtain the sterling equivalent from the Bank. Iceland would prefer to borrow Swedish kronor if they can be made available. Iceland informed ECA that they felt the interest rates of the Bank were high. However, Iceland did borrow in London last year in a public issue at fairly stiff terms. The issue was for \$1,250,000 twenty year 4½% registered stock at 99, callable in 1960. The issue provided for both a first mortgage on the trawlers for which the loan was negotiated and a full negative pledge clause.

3. The two hydroelectric projects will cost around \$12 m. ECA last week authorized funds for the dollar expenditures amounting to \$5,065,000. Probably very close to half of the costs will be in local currency.

CC: Messrs. Knapp
Rosen ✓
Hoar ✓
Cope

ENClark:am

Financing Program for the Sog and Laxá Projects

All figures in Mill. of krónur

I. Capital Expenditure

	49/50	50/51	51/52	52/53	TOTAL
1) <u>Sog Development</u>					
c) Domestic Expenditure	3.0	17.0	21.7	7.0	48.7
b) Dollar Expenditure	27.1	35.7			62.8
a) European Expenditure		13.0	10.5	4.5	28.0
Total	30.1	62.7	32.2	11.5	139.5
2) <u>Laxá Development</u>					
c) Domestic Expenditure	1.2	11.38	9.72		22.3
b) Dollar expenditure	5.42	10.38			15.8
a) European expenditure		4.57	1.33		5.9
Total	6.62	26.33	11.5		44.0
3) <u>Total for both Developments</u>					
c) Domestic expenditure	4.2	28.38	31.42	7.0	71.0
b) Dollar expenditure	32.52	46.08			78.6
a) European expenditure		17.57	11.83	4.5	33.9
Total	36.72	92.03	43.25	11.5	183.5

1 króna = 6.1404 U.S. cents.

II. Financing Program.

a) European expenditure.

As far as can be seen at this stage of the developments, the distribution of the European expenditure on countries will be as follows:

<u>Sog development.</u>	50/51	51/52	52/53	TOTAL
Sweden	4.07	4.57	2.29	10.93
Denmark	2.10	0.91	1.05	4.06
Sundry OEEC countries 1) ...	5.33	5.04	1.14	11.51
Finland	1.46	-	-	1.46
Total	12.96	10.52	4.48	27.96

1) I.e. the U.K. Sweden, Denmark, Norway, Belgium and Western Germany in unknown proportion.

Laxa development

Sweden	1.01	0.46	1.47
Denmark	0.78	0.14	0.92
Sundry OEEC countries 2)	2.78	0.74	3.52
Total	4.57	1.34	5.91

2) I.e. Sweden, Norway, Western Germany and Denmark in unknown proportions.

<u>Totals for both developments</u>		<u>50/51</u>	<u>51/52</u>	<u>52/53</u>	<u>Total</u>
Sweden		5.08	5.03	2.29	12.40
Denmark		2.88	1.05	1.05	4.98
Sundry OEEC countries, see above		8.11	5.78	1.14	15.03
Finland		1.46	-	-	1.46
Total		17.53	11.86	4.48	33.87 ¹¹⁶³ _{1270 1271}

The above purchases of materials and services will be effected in the countries where they are most favourable with regard to prices, quality and time of delivery. These data are therefore preliminary and only submitted for guidance.

It is proposed to approach the International Bank with a view to obtaining a long term loan in the currencies of some of the above countries to cover the European expenditure.

b) Dollar expenditure

ECA approved on May 10, 1950, the projects for ECA financing on the basis of estimated expenditures for purchases from the United States amounting to \$3.955.000 for the Sog Project and \$1.110.000 for the Laxá Project. The above figure for total dollar expenditure, 78.6 mill. krónur, is slightly lower according to this estimate, which is not final. ECA funds already authorized to the projects amount to 2 million dollars, 32.5 mill. kr. The allotment was in the form of a ECA loan. In this program it is assumed that the additional ECA funds required, 46.08 mill. kr., will be allotted on a grant basis.

c) Domestic expenditure.

In addition to expenditure set down in the table above the counter part requirements for the assumed ECA grant are estimated to be 46.1 mill. kr. The whole amount is supposed to fall due in 1950/51.

Expenditure already incurred locally is 4.2 mill. Kr.

The total domestic requirements for both development are estimated in mill. Kr. as follows:

	<u>49/50</u>	<u>50/51</u>	<u>51/52</u>	<u>52/53</u>	<u>Total</u>
Local costs	4.2	28.38	31.42	7.0	71.00
Counterpart requirements		46.08			46.08
Total	4.2	74.46	31.42	7.0	117.08

It is proposed to raise the required local funds as follows:

1. Sog Development

YEAR	Municipal Contribution	Withdrawals from counterpart fund	Bank loans	Total
49/50	3.0	0	0	3.0
50/51	3.0	14.0	35.7	52.7
51/52	3.0	18.7	0	21.7
52/53	3.0	4.0	0	7.0
	12.0	36.7	35.7	84.7

2. Laxá Development.

YEAR	Municipal Contribution	Withdrawals from counterpart fund	Bank loans	Total
49/50	1.2	0	0	1.2
50/51	1.0	10.38	10.38	21.76
51/52	1.0	8.72	0	9.72
	3.2	19.10	10.38	32.68

3. Total for both developments.

YEAR	Reykjavík Contribution	Akureyri Contribution	Withdrawals from counterpart fund	Bank loans	Total
49/50	3.0	1.2	0	0	4.2
50/51	3.0	1.0	24.38	46.08	74.46
51/52	3.0	1.0	27.42	0	31.42
52/53	3.0	0	4.00	0	7.00
	12.0	3.2	55.80	46.08	117.08

It is assumed that contribution from the Municipalities, will be in the form of long term loans. The counterpart funds made available subject to approval of ECA will also be in the form of long term loans.

The bankloans specified are intended to meet requirements for deposits in counterpart fund against the assumed ECA grants.

August 26, 1950.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

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LOANS FOR ELECTRIC POWER, CEMENT PLANT AND FERTILIZER PLANT STOP
AMOUNT INVOLVED ABOUT \$9 MILLION IN EUROPEAN CURRENCIES STOP
BANK MAY ALSO BE INVOLVED IN PROPOSED REORGANIZATION OF THE
CENTRAL BANK AND ESTABLISHMENT OF DEVELOPMENT BANK

HOAR

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NAME A.S.G. Hoar

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ECONOMIC COOPERATION ADMINISTRATION
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ADVANCE RELEASE for A.M. Papers
Saturday, May 13, 1950

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WASHINGTON, May 12 - Increased electric power for industrial and home use will be provided under two Marshall Plan industrial projects approved for Iceland, the Economic Cooperation Administration announced today in Washington and Reykjavik.

The expansion of two hydro-electric power projects will also reduce Iceland's requirements for imported fuels, ECA said.

ECA funds totaling \$5,065,000 will be used to finance the purchase of machinery and equipment in the United States and to pay for American engineering services. Total over-all cost of the projects is estimated at the equivalent of more than \$12,000,000.

One project provides for expansion of the Sog River plant of the Reykjavik Municipal Electric Light and Power Company. Development of this plant was first authorized in 1933 and the plant went into operation in 1937 with an installed capacity of 8,800 kilowatts. In 1944 an additional 5,500 kilowatts of capacity was added.

Under the expansion program, a dam will be constructed across the Sog River about 32 miles above Reykjavik and an underground power house to accommodate three 16,000 kilowatt units will be built. However, only two of these units will be installed at this time. A transmission line from the station to Reykjavik and substations, transformers, switchgear and underground cables will also be provided.

ECA will provide financing of \$3,955,000 for the project for the purchase in the United States of insulators, transmission line towers, steel aluminum wires, generators, transformers, switchgear, and other miscellaneous equipment as well as engineering plans and services. Total over-all cost is estimated at the equivalent of \$9,060,000.

The second project calls for expansion of facilities on the Laxa River in northeastern Iceland. A reinforced concrete dam, intake works, and power house will be constructed, together with a transmission line to Akureyri, and necessary substation and auxiliary equipment.

U.S. equipment costing \$1,110,000 will be purchased with ECA financing. The commodities needed include: wood poles and crossarms, insulators, penstock and surge tank, copperstrand, a generator, transformers and switchgear, a turbine, and construction machinery. Funds will also be used for supplying American engineering services. It is estimated that the total over-all cost will be the equivalent of \$2,981,000.

The Reykjavik project will supply power to meet increased domestic and industrial demand which has resulted from a rise in population. Power from the Laxa River project will be used mainly for domestic consumption in the central part of northern Iceland and to supply various industrial plants including a textile mill, three herring oil and meal factories and a number of freezing plants.

L A X Á R V I R K J U N
=====

THE HYDROELECTRIC DEVELOPMENT
ON RIVER LAXÁ.

GENERAL INFORMATION AND
ECONOMICAL SURVEY.

Compiled by:
THE STATE ELECTRICITY AUTHORITY
REYKJAVÍK, ICELAND.

APRIL 13TH, 1949.

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C O N T E N T S:

1. Introduction	Page	1
2. Population	"	3
3. Energy Production, Power Requirement and Load ..	"	4
4. Cost Estimate	"	6
5. Operation Cost	"	9
6. Financial Survey	"	13

T A B L E S:

<u>TABLE I.</u>	Population 1930 - 1947	Page	3
<u>TABLE II.</u>	Energy Production, Peak Load and Load Factor 1940-1948	"	4
<u>TABLE III.</u>	Estimated Energy Production, Peak Load and Annual Load Factor 1949-1960 .	"	5
<u>TABLE IV.</u>	Laxárvirkjun, 11,500 H.P. Cost Estimate	"	7
<u>TABLE V.</u>	Laxárvirkjun, 11,500 H.P. Estimated Distribution of Local Cost and Foreign Currency Expenditure over the Erection Period	"	8
<u>TABLE VI.</u>	Operation Cost of the Sog Power Plant 1938 - 1947	"	10
<u>TABLE VII.</u>	Operation Cost of the Laxá Plant 1940 - 1946	"	11
<u>TABLE VIII.</u>	LAXÁRVIRKJUN, 12,500 kW. Financial Balance Estimate. Loan for 25 Years. Interest $5\frac{1}{2}\%$. Sinking Funds Period 25 Years	"	13
<u>TABLE IX.</u>	LAXÁRVIRKJUN, 12,500 kW. Financial Balance Estimate. Loan for 25 Years. Interest $5\frac{1}{2}\%$, alt. 5% , alt. $4\frac{1}{2}\%$. Sinking Funds Period 23 Years	"	15

D I A G R A M S:

ANNEXURE 1. The Distribution Area
of Laxárvirkjun.

ANNEXURE 2. Population in Akureyri and
the Village of Glerá, 1930-1960.
Population in the Rural District, 1930-1947.
Population in Dalvík, Hrísey and Húsavík, 1930-1960.
Energy Production for Akureyri, kWhrs.pr. Capita, 1940-1960.
Energy Production for the Supply Districts
Outside Akureyri, kWhrs. pr. Capita, 1952-1960.

ANNEXURE 3. Energy Production of the Laxárvirkjun, kWhrs. 1940-1960.
Peak Load of the Laxárvirkjun, kW, 1940-1960.
Annual Load Factor of the Laxárvirkjun, Hours, 1940-1960.

ANNEXURE 4. Operation and Maintenance
Cost of Sogsvirkjun (1938-1947)
and Laxárvirkjun (1940-1946).

ANNEXURE 5. LAXÁRVIRKJUN, 11,500 H.P.
Development of the Lower Falls at Brúar.
Plan View and Longitudinal Section.

I. Introduction.

The 40 square km lake Mývatn is situated at elevation 277 m above sea level in the north-eastern area of Iceland (lat 65° 35', long 17° 0' approx). The river Laxá has its origin in the west end of the lake and flows northwards as shown on Annexure 1.

Of the total gross head of the river about 75 m are concentrated at a place called Brúar. Here the river falls from el. 107 to el. 32 m on a length of approx. 1800 m. For different reasons the last 8 m of this head will not be utilized so the gross head that will be developed at Brúar is 67 m, viz. from el. 107 to el. 40 m.

In the years 1938-1939 the municipality of Akureyri erected a 2000 H.P. hydroelectric development in the upper part of the waterfalls at Brúar, from el. 107 to el. 69 m. An extension of 4000 H.P. capacity was installed in 1944. The capacity of this development is thus 6000 H.P. now. This development does not utilize more than abt. 40% of the waterflow and can therefore be extended by approx 9,000 H.P.

Power from the present development is transmitted to Akureyri and Húsavík through 33 kV high tension transmission lines. The capacity of the development is now totally inadequate for the above mentioned municipalities, besides it is intended to extend the transmission system to the herring oil factories at Hjalteyri and Dagverðareyri and to the village Dalvík including different other localities.

The following three alternative hydroelectric developments can be taken into consideration for fulfilment of the increasing electric power demand, viz.

1. Full development of the upper parts of the falls at Brúar. Thus approx. 9,000 H.P. can be developed as mentioned above.
2. Full development of the lower part of the falls at Brúar, i.e. the head from el. 69 m to el. 40 m. The total capacity of such a development is approx. 11,500 H.P.
3. Development of the total head at Brúar from el. 107 to el. 40, utilized in one power house, the first stage being 16,000 H.P. and the second stage 10,000 alt. 11,000 H.P.

In the future different possibilities for further hydroelectric developments are at hand, e.g. a utilization of the waterflow in the river Laxá in the neighbourhood of Mývatn at a place called Sandvatn, where the gross head is abt. 100 m and capacity up to 40,000 H.P.

Investigations have shown that it is advantageous to develop the lower part of the falls at Brúar now, i.e. the head between el. 69 m to el. 40 m. The transmission voltage to Akureyri will be 66 kV as shown on the map, Annexure 1. Later on a 66 kV line will be erected from Akureyri to a power plant at Skeidsfoss. The capacity of the power plant at Skeidsfoss is now 2,400 H.P. and machines for an extension up to 4,800 H.P. have already been ordered. Power from

this development, which is owned by the municipality of Siglufjörður, is transmitted to Siglufjörður through a 22 kV transmission line. At Siglufjörður the greatest herring oil factories are located. These factories have own diesel-electric and steam-electric plants of several thousand H.P. capacity. A transmission line to the municipality of Ólafsfjörður will probably be erected in the near future.

It is, however, difficult to say at the present moment when the distribution system from Laxá Plant will be extended to Siglufjörður and Ólafsfjörður and connected to the Skeidsfoss Plant. It is to be expected that this will be done before 1960. But it has been considered safer not to include the consumption of Siglufjörður and Ólafsfjörður in the following operation estimate, and base the financial prospects for the Laxá Plant on consumption in the area from Húsavík to Dalvík only. Similarly no demand from large industrial centres, which may be established in the distribution area, as e.g. an oil-hydration plant, is included in the estimate, which only covers domestic demand and industrial requirements on a scale indicated by the development in the utilization of electricity at Akureyri since the first development on the Laxá River was completed. The distribution area is here classified into three categories:

1. Akureyri and the village of Glerá, which have been supplied from the Laxá Plant since the beginning of its operation.
2. Villages with more than 300 inhabitants. Húsavík, Dalvík and Hrísey. Húsavík has already been connected to the distribution system, with a limited load of 200 kW, and a normal growth in the demand is therefore not to be expected there, until the next development on Laxá is completed. It is estimated that Dalvík and Hrísey will be connected to the Laxá distribution system by the time the next extension begins operation.
3. The rural district excl. of the villages. In this area the distribution system already reaches a few localities, and several additional lines in the area have been projected and approved. It is estimated that a population of 1,200 will be supplied in this area as soon as the plant extension is completed.

As mentioned above it is intended to extend the transmission system to the herring oil factories at Hjalteyri and Dagverðareyri. As the activities of these factories are confined to the summer months, when the domestic load is small, this extension will not make an increase of installed capacity necessary. The energy production will increase, and the transmission system economy therefore become more secure. This factor, however, does not mean any direct increase of revenue for the Laxá Development itself and is therefore disregarded in the power requirement estimate below. Besides the herring oil industry is a rather uncertain factor with regard to power consumption, as the power demand depends upon the amount of herring caught within reach of these particular factories each fishing season.

2. Population.

The number of inhabitants in the three parts of the distribution area detailed above, has in the past years, been as shown here:

TABLE I.

Population 1930 - 1947.

Year	1. Akureyri & Glerárþorp	2. Húsav. Dalv. & Hrísey	3. The Rural Districts
1930	4,300	1,424	6,429
35			6,295
36			6,270
37			6,298
38			6,215
39			6,236
40	5,723	1,702	6,361
41	5,783	1,689	6,294
42	6,064	1,708	6,278
43	6,271	1,886	6,042
44	6,380	1,989	5,881
45	6,483	1,998	5,737
46	6,646	2,050	5,649
47	6,990	2,088	5,520

On Annexure 2. attached hereto is a diagram representing the population. It shows that the number has grown evenly in Akureyri, Húsavík, Dalvík and Hrísey. On the other hand, a reduction has taken place in the rural districts since 1942. A continued growth is estimated for the two first parts of the area, similar to that of the past years, and the number of inhabitants in Akureyri and the village of Glerá will then be above 10,000 in the year 1960, and in Húsavík, Dalvík and Hrísey about 2,800. In the rural districts and lesser villages, the decrease has been so fast, that continued at the same rate the number of inhabitants will be reduced to about 4,200 in 1960. The reason for this decrease is not primarily a rapid desolation of the farms, but rather that the farms are run with a reduced number of people. The labour goes to the towns and seaports where the demand for labour has been heavy lately and the living is better. It is to be expected that this flow of labour from the countryside will slow down somewhat in the next years, and perhaps a lesser decrease should be estimated than indicated by the broken line on Annexure 1. The point, however, is not of any great importance, concerning the number of inhabitants in the 3. part of the distribution area, as the distribution system is not supposed to reach all the rural districts before 1960, and an estimate has not been made further than that. It is estimated here that by the time the plant extension

is completed the distribution system will reach 1,200 inhabitants in the rural districts, and from then on until 1960, extensions will reach 300 inhabitants annually, so that in 1960 the number of inhabitants connected will be 3,600 in this part of the distribution area.

3. Energy Production, Power Requirements and Load.

The following Table shows how the power production for Akureyri has grown in the years 1940 to 1948, and the peak load in Laxá Plant. Based on that the power consumption per capita is calculated in kWhrs. and the load factor for Laxá Plant in hours.

TABLE II.

Energy Production, Peak Load and Load factor 1940 - 1948.

Year	Energy Production mill. kWhrs.			Population acc. to Table I.	Production per capita kWhrs.	Peak Load Laxá Plant kW.	Annual Load Factor Laxá Plant hours.
	Laxá	Glerá	Total				
1940	4.80	0.07	4.87	5,723	850	1,600	3,000
41	7.34	0.11	7.45	5,783	1,290	1,670	4,370
42	9.00	-	9.00	6,064	1,480	1,680	5,350
43	10.37	0.51	10.88	6,271	1,730	1,680	6,200
44	12.47	0.35	12.82	6,380	2,010	3,050	4,100
45	15.95	0	15.95	6,583	2,430	3,780	4,210
46	20.00	0.05	20.05	6,646	3,010	3,850	5,200
47	22.38	0.21	22.59	6,990	3,290	4,280	5,230
48	25.65	0.34	25.99	(7,200)	3,610	4,440	5,800

On Annexure 2 the energy production is shown in kWhrs. per capita in Akureyri. Since the Laxá Plant began operation the per capita production has grown rapidly, and is in 1948 3,600 kWhrs per capita. In 1949 this is estimated to reach 3,800 kWhrs per capita, but owing to power shortage this can go no higher until the plant extension in Laxá is completed. Following that the power production is estimated to grow slower than before and reach 6,000 kWhrs. per capita in 1960. For the villages and rural districts outside of Akureyri the power production is estimated at 1,000 kWhrs per capita in the first year of operation of the new plant, but should then grow at a rate similar to that of Akureyri in the first years. The power production for that section of the distribution area will then reach 3,200 kWhrs per capita in 1960, as shown on the diagram on Annexure 2.

On Annexure 3 are diagrams showing actual power production, peak load and annual load factor of the Laxá Plant in 1940 to 1948 as

set down in Table II, and continued as estimate up to 1960.

In the following Table is shown an estimate of population, power production, peak load and annual load factor of the Laxá Plant.

TABLE III.

Estimated Energy Production, Peak Load and annual Load Factor 1949 - 1960.

Year	Akureyri			Villages and rural district					Total Mill. kWh.	Annual Load Factor. Hours	Peak Load kW.
	Popu- lation	kWhrs. pr. capita	Mill. kWh.	Population			kWh. pr. capita	Mill. kWh.			
				Hús. Dal. Hr.	Rural Distr.	Total					
1949	7400	3,800	28.1								
50	7600	3,800	28.9								
51	7800	3,800	29.6								
52	8050	4,000	32.2	2400	1200	3600	1000	3.6	35.8	4000	9,000
53	8300	4,200	34.8	2450	1500	3950	1150	4.5	39.3	4200	9,400
54	8550	4,450	38.0	2500	1800	4300	1350	5.7	43.7	4400	9,900
55	8800	4,650	41.0	2550	2100	4650	1550	7.3	48.3	4600	10,500
56	9050	4,900	44.4	2600	2400	5000	1800	9.0	53.4	4800	11,100
57	9300	5,150	47.9	2650	2700	5350	2100	11.3	59.2	5100	11,600
58	9600	5,400	51.8	2700	3000	5700	2400	13.7	65.5	5400	12,100
59	9900	5,700	56.4	2750	3300	6050	2800	16.6	73.0	5700	12,800
60	10200	6,000	61.2	2800	3600	6400	3200	20.5	81.7	6000	13,600

As may be seen from Tables II and III and diagram on Annexure 3 the power production in Laxá Plant grows rapidly in the years 1940 - '48 and nearly all of the production goes to Akureyri. In 1949 - '51 the installed generating power will not be sufficient to allow the demand to grow at the same rate. In 1952 the plant extension is expected to be completed, and the installed generating power will then suffice to meet the demand from the distribution area for several years ahead. The diagrams on Annexure 3 also show the relation between peak load and annual load factor, when the power production grows evenly. When the first development in Laxá began operation, the generating unit was fully loaded at the outset, 1,600 kW in the year 1940, and could not rise above 1,680 kW until 1944 when additional machinery was installed. During this period the annual load factor increases from 3000 hours in 1940 up to 6,200 hours in 1943. It should be mentioned that the voltage had then been reduced to 5,100 Volt, i.e. the voltage drop was almost 23%. In 1944 new machines were installed, and for a time there was no power shortage. The annual load factor drops from 6,200 hours in 1943 to 4,100 hours in 1944, while the load increases up to 3050 kW. The generating power is again fully utilized in 1948, and the annual load factor reaches 5,800 hours. Until the next plant extension is completed, no further load increase can be taken in the Laxá plant,

but it is estimated that the annual load factor may increase to 6,600 hours, or about 75% of the year. It is however to be expected that this will entail a considerable voltage drop in the distribution system, and a serious power shortage is to be expected during the period. When the next plant extension is completed, sufficient power will again be available for a time. The annual load factor is then expected to drop to 4,000 hours, in 1952, to rise again and reach 6,000 hours in 1960. This equals a growth in demand from 9,000 kW. in 1952 up to 13,600 kW in 1960, based on the estimated energy production. Installed generating power in the Laxá plant, when the projected extension is completed, estimated 1952, will be 12,500 kW, and will, according to the above, be fully loaded in 1958. Should Siglufjörður and Ólafsfjörður be connected to the Laxá plant, or heavy industrial centres be established in the distribution area, the generating capacity of this development will be exhausted at an earlier date, and the next stage of development will have to take place correspondingly earlier.

4. Cost Estimate.

A plan view and a longitudinal section of the proposed development of the lower falls at Brúar is shown on Annexure 5. As mentioned above it is intended to utilize the fall in the river from elevation 69 m to el. 40 m. The dam is situated abt. 320 m downstream from the power house of present development. Gross head is 29 m, and full load output is computed 11,500 H.P. by 28 m net head.

The intake is in the eastern part of the dam. A 370 m long pipe of 4.0 m inside diameter conducts the water from the dam to the power house, which is situated on the eastern bank of the river by a small island in the river just below the road bridge. Abt. 100 meters above the power house a surge reservoir is erected. In the power house a vertical Francis turbine of 11,500 H.P. capacity is installed. Rated output of the alternator is 8,000 kW or 10,000 kVA by 0.8 p.f.

It is intended to operate the new power station from the existing one, and the outdoor 60 kW switching equipment will be situated nearby the power house of the present development.

Before the conclusion was reached, that the development outlined above was the most favorable one, different alternative plans and cost estimates were worked out. The total cost of the above development including the 60 kV H.T. line and the main transformer station in Akureyri is estimated kr. 25,240,000.-, based on the ruling price level in January 1949.

In table IV a tabulation of the estimated cost is shown, where the cost is split into local cost and foreign currency expenditure. In table V, below, the estimated distribution of local cost and the foreign currency expenditure over the erection period is shown.

The figures in these tables are estimated, but based on information gathered from various firms as regards purchase of machinery and equipment, and a firm schedule of cost cannot be made until definite offers are at hand, both as regards constructional work and mechanical and electrical equipment.

TABLE IV.

LAXÁRVIRKJUN 11,500 HP.Cost Estimate.

	Total mill.kr.		Local cost mill.kr.		Foreign currency expenditure mill.kr.	
<u>1. The Power Plant on Laxá</u>						
Construction:						
Materials	3,102		-		3,102	
Freight, duty, transport, erection	7,421		7,421		-	
Machinery:						
Materials, freight, foreign labour	3,951		-		3,951	
Duty, transport, erection	1,437		1,437		-	
Construction and machinery:						
Preparation and supervision	1,378		0,943		0,435	
Banking and interest	1,901	19,190	1,074	10,875	0,827	8,315
<u>2. The H.T. Transmission Line</u>						
Materials	1,250		-		1,250	
Freight, duty etc.	0,590		0,590		-	
Transport and erection	1,310		1,310		-	
Preparation and supervision	0,230		0,230		-	
Banking and interest	0,370	3,750	0,230	2,360	0,140	1,390
<u>3. The Transformerstation in Akureyri.</u>						
Construction:						
Materials	0,100				0,100	
Freight, duty, transport, erection	0,292		0,292			
Electrical equipment materials, freight, foreign labour	1,142				1,142	
Duty, transport, erection	0,359		0,359			
Construction and el. equipment.						
Preparation and supervision	0,180		0,120		0,060	
Banking and interest	0,227	2,300	0,083	0,854	0,144	1,446
Laxá Development total		25,240		14,089		11,151

TABLE V.

LAXÁRVIRKJUN 11,500 H.P.

Estimated Distribution of Local Cost and Foreign Currency Expenditure over the Erection Period.

	1949			1950			1951			Total		
	LOCAL THOUS KR.	FOREIGN THOUS. KR.	TOTAL THOUS KR.	LOCAL THOUS KR.	FOREIGN THOUS KR.	TOTAL THOUS KR.	LOCAL THOUS KR.	FOREIGN THOUS KR.	TOTAL THOUS KR.	LOCAL THOUS KR.	FOREIGN THOUS KR.	TOTAL THOUS KR.
Power Plant	3500	2315	5815	4500	3762	8262	2875	2238	5113	10875	8315	19190
Transmisson Line	100	400	500	1560	890	2450	700	100	800	2360	1390	3750
Main Transformer Station	-	366	366	600	580	1180	254	500	754	854	1446	2300
T o t a l	3600	3081	6681	6660	5232	11892	3829	2838	6667	14089	11151	25240

JANUARY 1949.

5. Operation Cost.

In order to make an estimate of eventual operation cost of the Laxá development, an examination has been made of the operation cost of the Sog power plant in the years 1938 - 1947. The Sog power plant, which supplies Reykjavík with electricity, is situated at approximately the same distance from its main source of demand as the Laxá plant, and is in the same class as regards generating power as the new development in Laxá, or 20,000 H.P., the lower falls in Laxá being 11,500 H.P. Maintenance of the High Tension line from Laxá to Akureyri will probably be higher than that of the Sog H.T. line, as conditions are less favourable in the north. Also, the maintenance of the Laxá penstock will probably be higher than that of the Sog plant, as the Sog penstocks are very short. Furthermore, maintenance has to be considered on the surge tank in Laxá, while the Sog plant has no such arrangement. Caretaking on the river Laxá is also to be expected to be higher than at Sog. On the other hand maintenance of plant machinery and substations should be comparatively less than at Sog, as Laxá will have only one generating unit, while the Sog plant has three.

In the following table is shown the operation cost of the Sogsvirkjun in 1938 - 1947.

TABLE VI.

The operation cost of Sog Plant 1938 - 1947.

	1938		1939		1940		1941		1942		1943		1944		1945		1946		1947		Total	
	1000	%	1000	%	1000	%	1000	%	1000	%	1000	%	1000	%	1000	%	1000	%	1000	%	1000	%
	kr.		kr.		kr.		kr.		kr.		kr.		kr.		kr.		kr.		kr.		kr.	
I.																						
Maintenance.																						
a. Power Plant	29	23	22	21	35	30	37	23	46	20	53	17	149	29	306	44	109	20	250	32	1036	28.7
b. H.T. Line	14	11	1	1	1	1	1	1	2	1	11	3	29	6	9	1	2	-	7	1	77	2.1
c. Substation	1	1	2	2	1	1	4	2	1	-	1	-	5	1	17	2	21	4	40	5	93	2.6
d. Sundries	2	2	4	4	4	4	5	3	8	3	4	1	24	5	29	4	22	4	18	2	120	3.3
Total	46	36	29	27	41	36	47	29	57	25	69	22	207	40	361	52	154	28	315	40	1326	36.7
II.																						
Operation and																						
caretaking																						
a. Power Plant	28	22	32	30	33	28	46	29	76	33	123	38	157	31	157	23	208	38	229	30	1089	30.2
b. H.T. Line	1	1	-	-	-	-	3	2	-	-	3	1	-	-	3	-	7	1	24	3	41	1.1
c. Substation	6	5	5	5	6	5	10	6	20	9	39	12	18	4	19	3	21	4	23	3	167	4.6
Total	35	28	37	35	39	33	59	37	96	42	165	51	175	34	179	26	236	43	276	35	1297	35.9
III.																						
Overhead Cost	32	25	12	11	12	10	20	13	22	9	27	8	46	9	47	7	52	10	62	8	332	9.2
IV.																						
Other Expenses	14	11	29	27	25	21	34	21	56	24	61	19	85	17	108	15	107	19	138	17	657	18.2
Total	127	100	107	100	117	100	160	100	231	100	322	100	513	100	695	100	549	100	791	100	3612	100

A similar survey has been made of the Laxá Plant operation cost in the years 1940 - 1946 as shown in the following Table.

TABLE VII.

Laxá Plant operation cost 1940 - 1946.

	1940		1941		1942		1943		1944		1945		1946		Total	
	1000	%	1000	%	1000	%	1000	%	1000	%	1000	%	1000	%	1000	%
	kr.		kr.		kr.		kr.		kr.		kr.		kr.		kr.	
I. <u>Maintenance.</u>																
a. Power Plant	13	30	7	11	8	11	15	11	7	7						
b. H.T. Line	10	23	36	56	22	30	32	25	13	13						
c. Substation	1	3	-	-	-	-	3	2	-	-						
	24	56	43	67	30	41	50	38	20	20	55	27	72	29	294	34
II. <u>Operation and caretaking.</u>																
Salaries	12	28	17	27	37	50	66	51	65	64	102	50	107	44	406	47
III. <u>Sundries.</u>																
Overhead Cost	7	16	4	6	7	9	14	11	16	16	46	23	65	27	159	19
Total	43	100	64	100	74	100	130	100	101	100	203	100	244	100	659	100

On Annexure 4 is a diagram showing the operation cost of Sog Plant and the present Laxá plant. All the items included are subject to price fluctuations both in respect of spare parts from a foreign market, and the domestic price index, in particular the wages rate. The price index has not been calculated for the separate cost items, as it is doubtful if a factual conclusion could be reached. Based on the present cost of living it seems reasonable to estimate the operation cost, less interest and repayment of loans, at kr. 800,000.- for the Sog Plant, and kr. 300,000.- for the Laxá Plant. By comparing the operation and maintenance cost of these two developments and taking the particulars of the development of the lower falls at Brúar in account, it is estimated that the annual cost of this 11,500 H.P. development, less interest and annuities, will reach kr. 460,000.-.

In the following estimate of the annual expenditure for the lower falls in Laxá, the capital cost is set at 25 mill. kr., and calculated with a $5\frac{1}{2}\%$ loan for a term of 25 years, to be repaid in annuities. It is also estimated that the proportionate cost of individual items will be similar to that of the Sog Plant:

Laxá development.

Lower Falls 11,500 H.P.

Operation Cost:

Maintenance.

a. Power Plant	kr.	130,000.-	
b. H.T. Line	"	10,000.-	
c. Main Transformer Station	"	15,000.-	
d. Sundries	"	15,000.-	kr. 170,000.-

Operation.

a. Power Plant	kr.	140,000.-	
b. H.T. Line	"	5,000.-	
c. Substation	"	20,000.-	kr. 165,000.-
Office expense			" 45,000.-
Other expenses			" 80,000.-
Interest and repayment of $5\frac{1}{2}\%$ loan			" 1.860,000.-
in 25 years, 7.45% of kr. 25 mill.			" 230,000.-
Unforeseen abt. 10%			

Total kr: 2,550,000.-

As pointed out before, it is to be expected that some cost items will be higher for the Laxá Plant than corresponding items for Sog Plant, and this would in particular refer to the H.T. Line. This higher cost is taken under the item unforeseen above.

It is proposed to operate the projected extension and the present plant as one undertaking. The operation cost of the present plant, including interest and repayment of loans is now about kr. 600,000.- annually. This cost is not expected to alter in future, and will be added to the above estimated cost. The total operation cost of the Laxá Plant, at the ruling price level is then estimated as follows:

Plant extension	kr.	2,550,000.-
Present plant	"	600,000.-
<u>Total</u>	<u>kr.</u>	<u>3,150,000.-</u>

6. Financial Survey.

Estimated Cost and Receipts for Laxá Plant in the First 9 Years of
Operation after Development of the Lower Falls.

As will be seen from the table above the price of the power produced is estimated to be kr. 300.- pr. kW.year, for the first 8 years, then to be reduced to 265.- kr./kW.year. According to the survey there is a loss estimated in the first four years, which is to be recovered in the next four years. The surplus in the 8th year is estimated at kr. 308,000.-, to be paid into the reserve fund of the development. Further it is estimated that 5% of the income or kr. 165,000.- will be paid to the reserve fund as of and from the 9th year of operation.

It should be mentioned that in the foregoing the generating power and price of electricity is based on plant conditions. It is to be expected that owing to transmission losses, the consumers' price will be higher. However, this difference is partly eliminated by the concurrent load factor as more than one consumer is concerned. This point is not to be enlarged upon here, as the operation estimate is only intended to submit a survey of the economic possibilities of the Laxá Plant itself.

The above loan terms are rather unfavorable as the interest is high, $5\frac{1}{2}\%$, and the sinking funds period is assumed to begin after the first year of operation. In Table IX below a financial balance estimate is shown when it is assumed that no annuities will be paid the first two years of operation, and the sinking funds period then 23 years. Besides the table shows the effect of decreasing rate of interest on the estimated financial balance. For the sake of comparison the price of energy, kr./kW.yr., remain unaltered from Table VI^{II}.

TABLE IX.

LAXÁRVIRKJUN 12,500 kW.Financial Balance Estimate.Loan for 25 years. Interest 5 1/2 %, alt. 5 %, alt 4 1/2 %. Sinking funds period 23 years.

Year of operation		1.	2.	3.	4.	5.	6.	7.	8.	9.
Energy sold, kW.yrs.		9000	9400	9900	10500	11100	11600	12100	12500	12500
Price, kr./kW.yr.		300	300	300	300	300	300	300	300	265
Revenue, thous kr.		2700	2820	2970	3150	3330	3480	3630	3750	3315
5 1/2% interest	Annual cost, thous kr.	2665	2665	3230	3230	3230	3230	3230	3230	3230
	Surplus, " "	35	155	-260	-80	100	250	400	520	85
	Accumulated surplus " "	35	190	-70	-150	-50	200	600	1120	1205
5 % interest	Annual cost, thous kr.	2540	2540	3140	3140	3140	3140	3140	3140	3140
	Surplus, " "	160	280	-170	10	190	340	490	610	175
	Accum. Surplus " "	160	440	270	280	470	810	1300	1910	2085
4 1/2% interest	Annual cost, thous kr.	2415	2415	3060	3060	3060	3060	3060	3060	3060
	Surplus, " "	285	405	-90	90	270	420	510	690	255
	Accum. Surplus " "	285	690	600	690	960	1380	1950	2640	2895

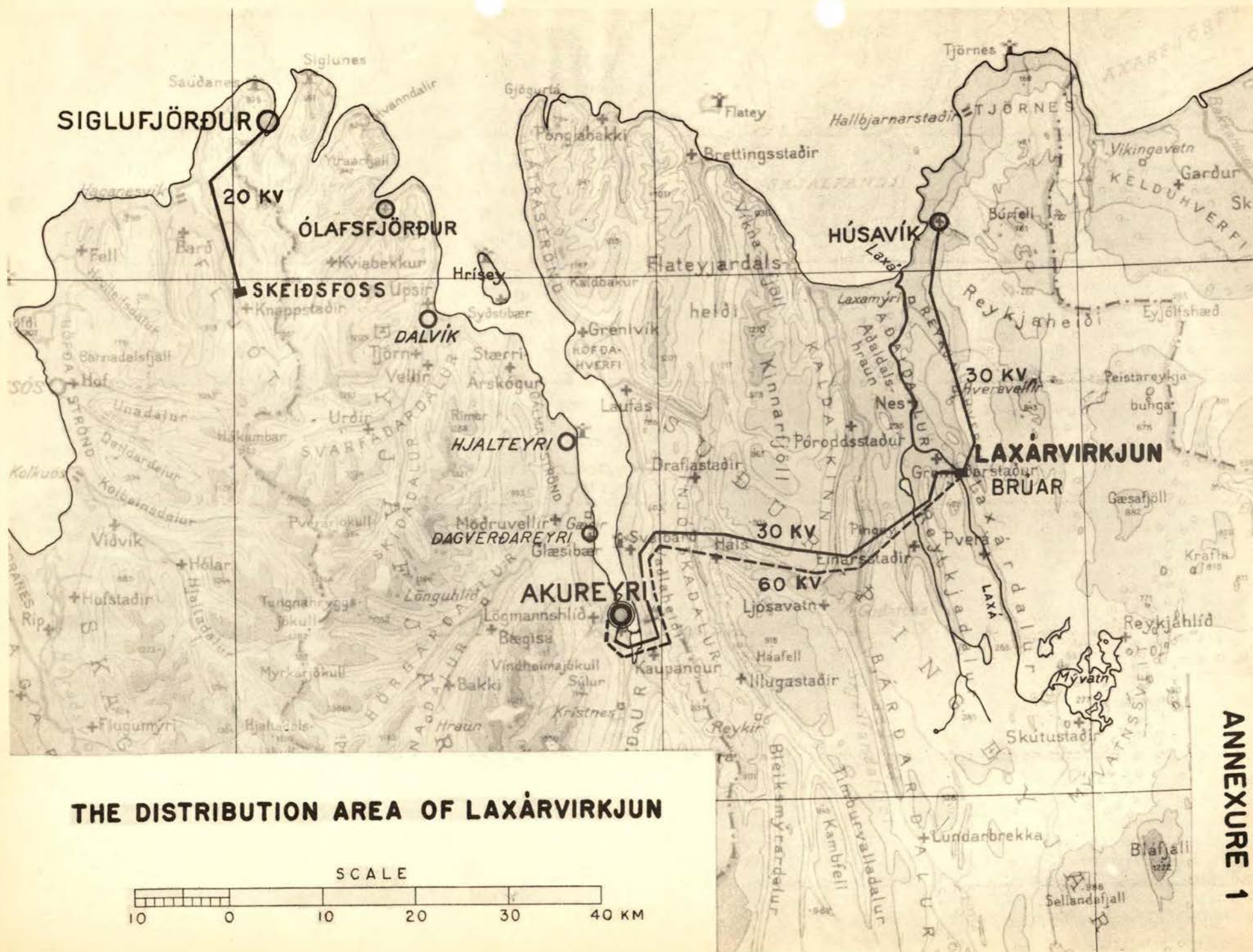
It is evident from Table IX, that the above financial terms are much more favorable for the Laxárvirkjun than the terms assumed in Table VIII. If the interest is $5\frac{1}{2}\%$ a deficit is only expected in the 3rd and the 4th year, and the accumulated deficit is reaching its maximum totaling kr. 150,000.- the fourth year, decreasing to kr. 50.000.- during the fifth year and disappearing during the sixth year. If the interest is 5 or $4\frac{1}{2}\%$ only the third year is showing a deficit. The accumulated surplus from the first two years, when no annuities are paid, is then, however, sufficient to cover the deficit of this third year, so a revenue balance deficit will not occur.

In the above financial survey the energy price, kr./kW.yr., has been determined in accordance with the loan terms assumed in Table VIII, and these prices retained in Table IX. According to the Act of the Laxárvirkjun the Development is only entitled to put 5% of the annual revenue aside to a reserve fund. The price of energy may therefore become somewhat lower if the more favorable loan terms assumed in table IX are obtained. In spite of that 300 kr/kW.yr. is considered a very moderate price of energy, a still lower price is very likely to stimulate increasing demand, and thus stabilize the financial foundations of the Development.

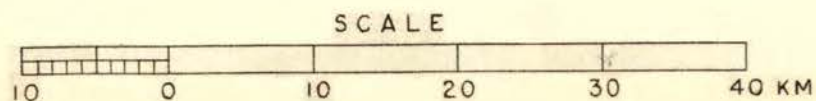
Reykjavík, April 13th, 1949.

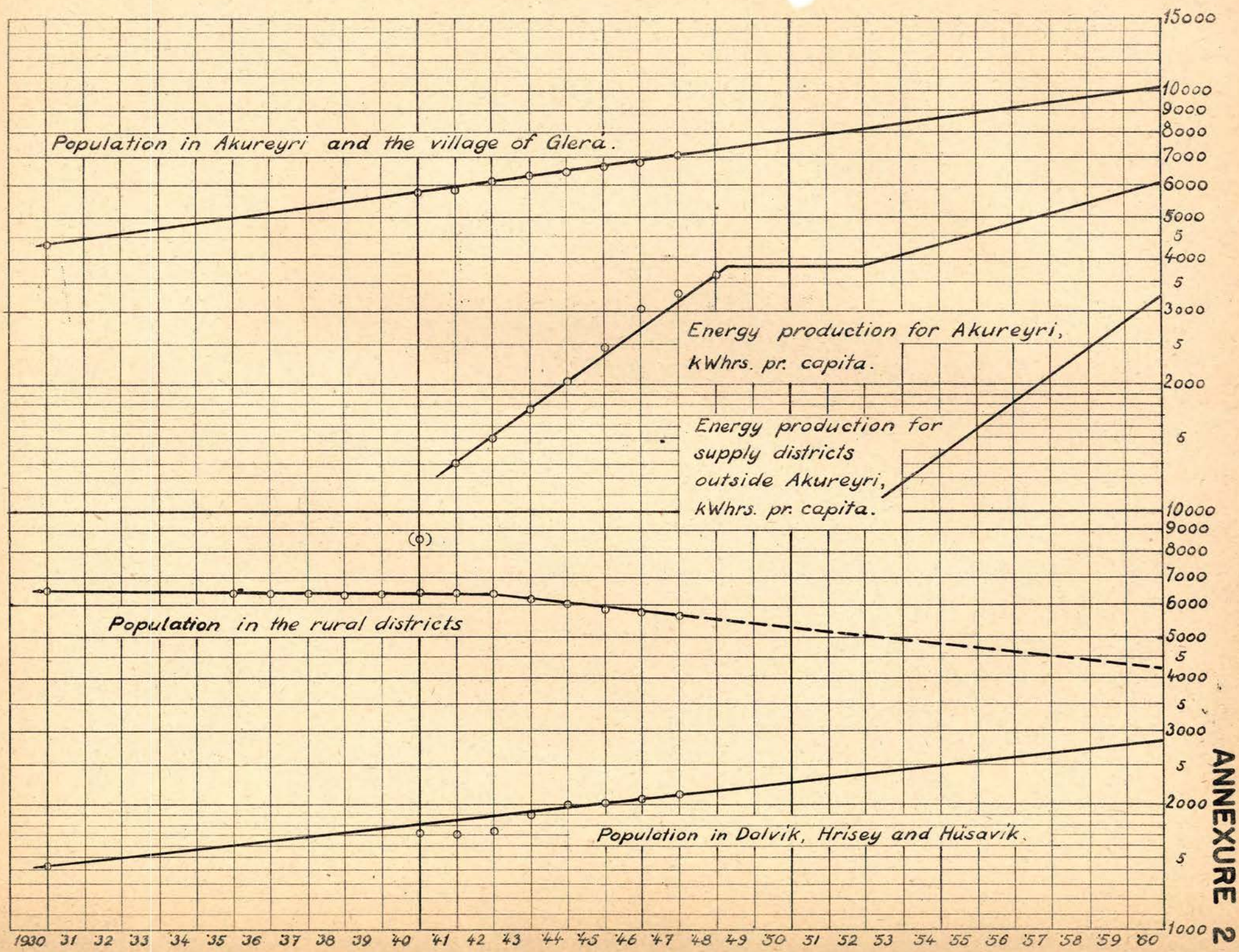
Jakob Gíslason

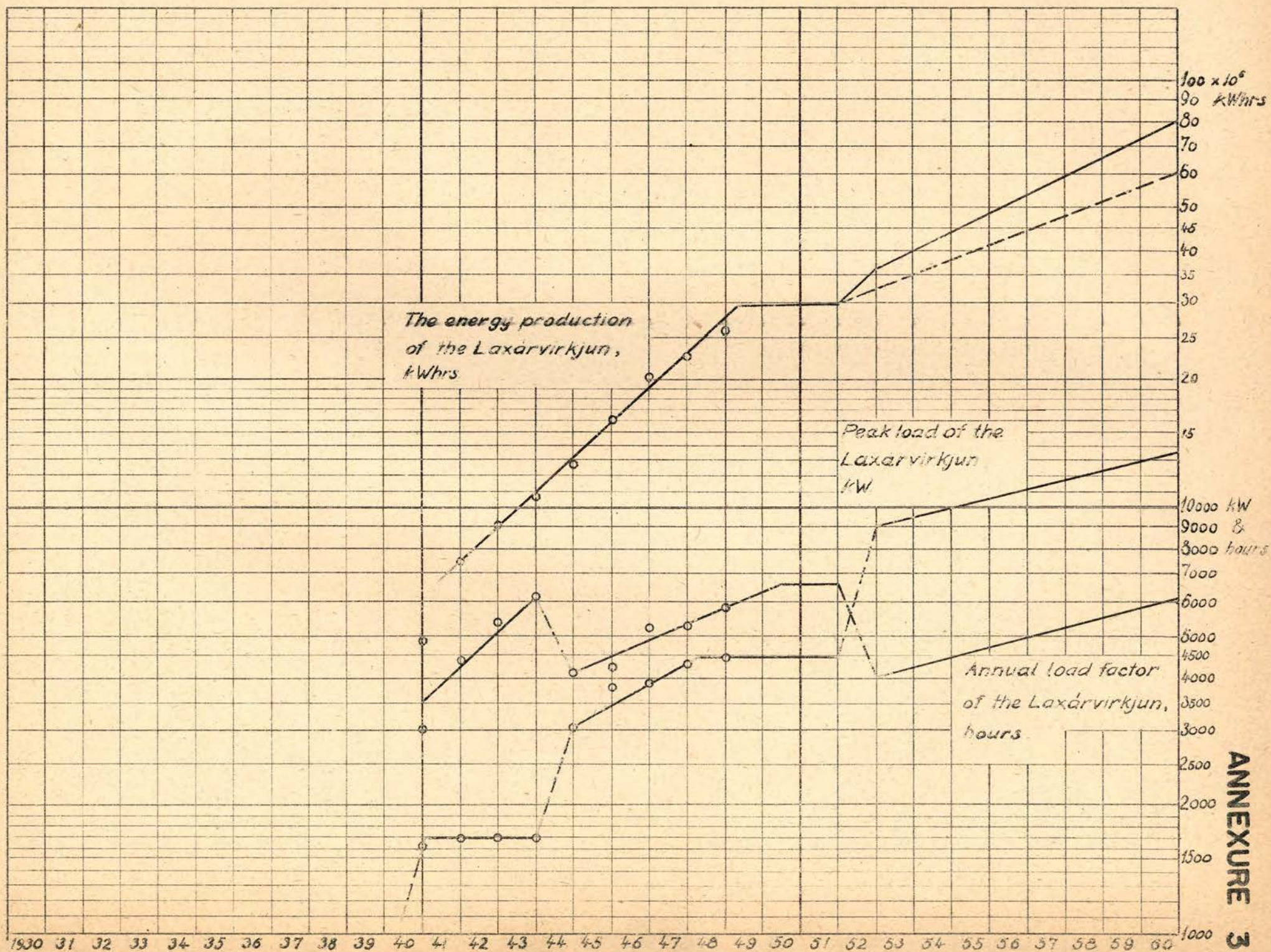
/ Páll Sigurðsson



THE DISTRIBUTION AREA OF LAXÁRVIRKJUN







ANNEXURE 4

OPERATION AND MAINTENANCE COST OF SOGSVIRKJUN AND LAXÁRVIRKJUN

THOUS. KR.

1.000

900

800

700

600

500

400

300

200

100

0

SOGSVIRKJUN

LAXÁRVIRKJUN

'38

'39

'40

'41

'42

'43

'44

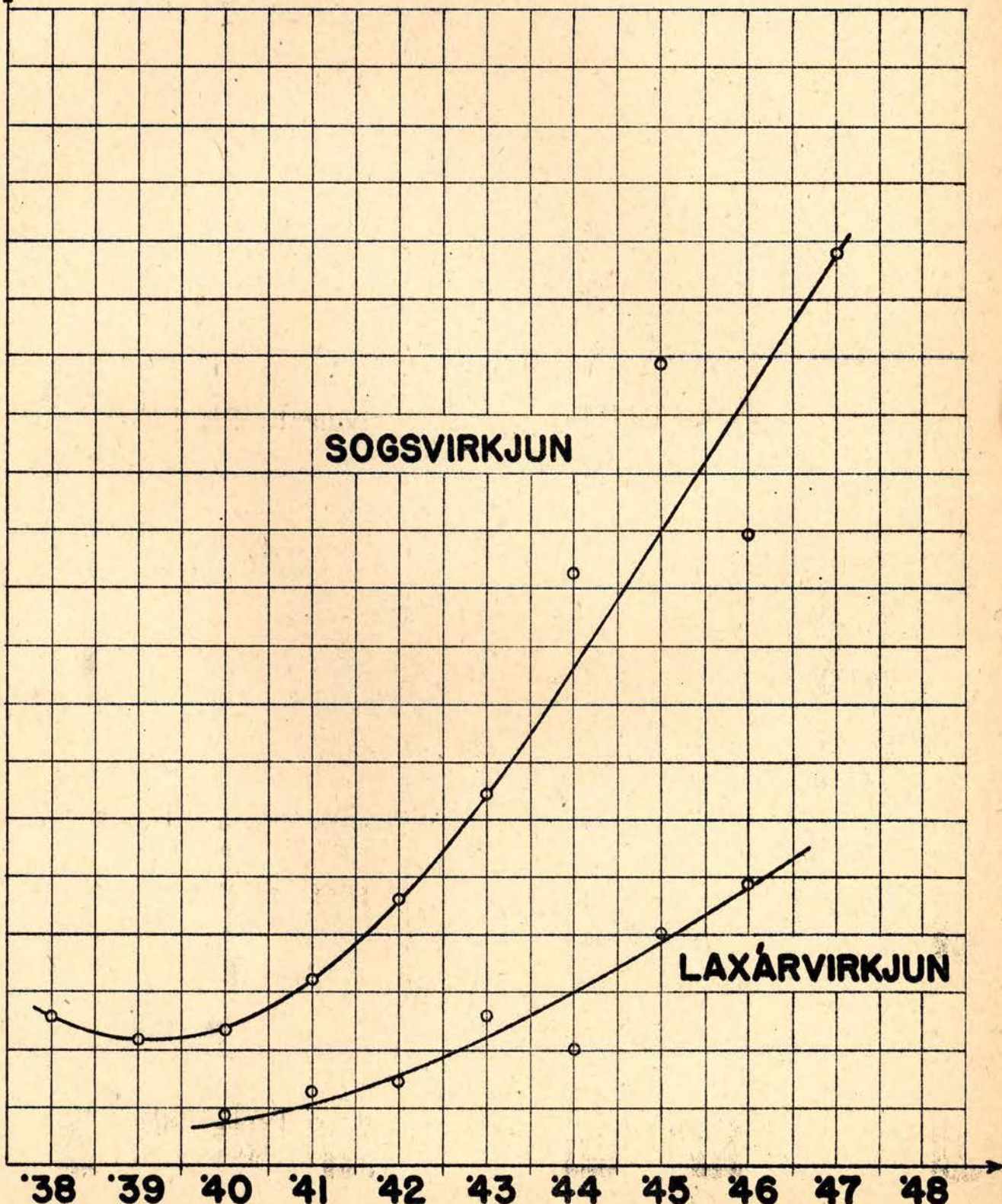
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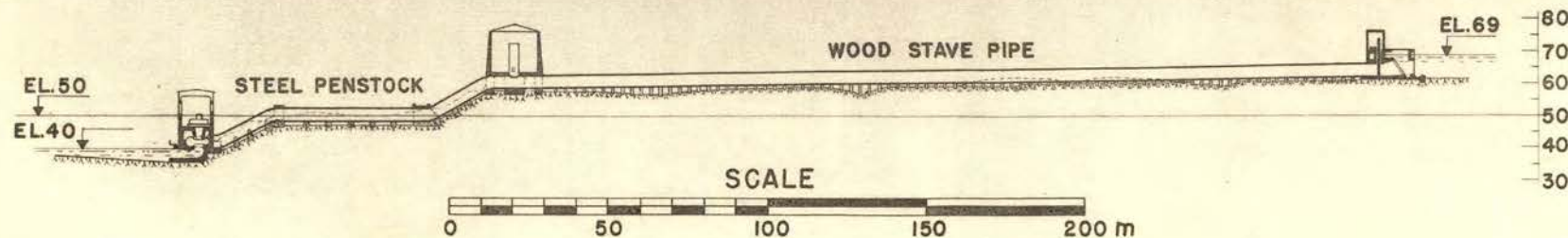
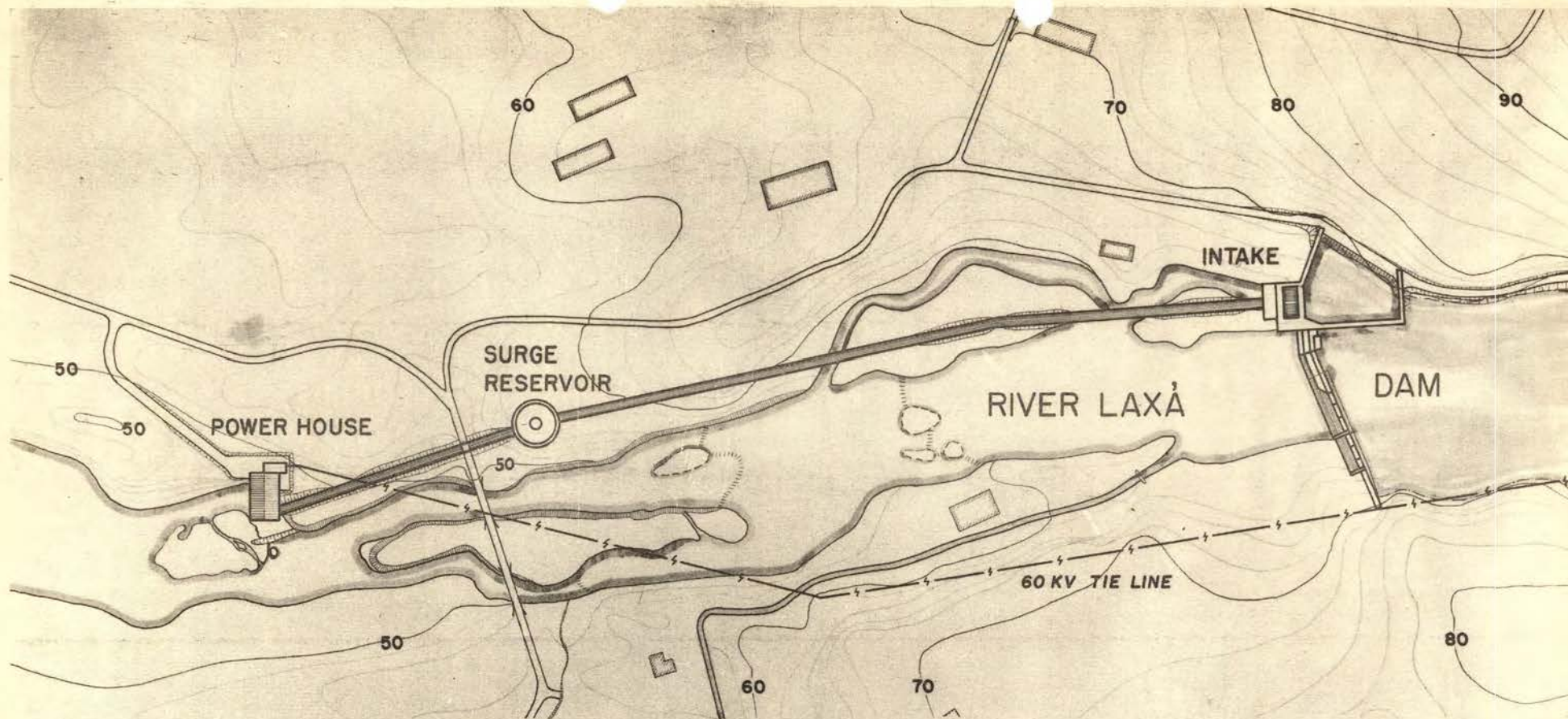
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YEAR





LAXÁRVIRKJUN, 11,500 H.P.
DEVELOPMENT OF THE LOWER FALLS AT BRÚAR.
PLAN VIEW AND LONGITUDINAL SECTION.

*Recd from
Laxa*

Financing Program
for the Sog and Laxa Projects
(All figures in Mill. of Kroner)
(1 krona = 6.1404 U.S. cents)
Revised ultimo April 1951.

I. Capital expenditure

<u>Sog Development</u>	End of 1950	1.half 1951	2.half 1951	1.half 1952	2.half 1952	Total
a) European Expenditure	2.70	4.50	11.00	7.06	4.40	29.66
b) Dollar Expenditure	6.60	18.50	27.89	5.00	3.70	61.69
c) Domestic Expenditure	7.50	17.50	17.60	13.90	12.10	68.60
Total:	16.80	40.50	56.49	25.96	20.20	159.95
<u>Laxa Development</u>						
a) European Expenditure	0.60	2.04	2.64	0.92	-	6.20
b) Dollar Expenditure	1.16	4.26	8.45	1.93	-	15.80
c) Domestic Expenditure	2.80	4.06	9.35	6.09	-	22.30
	4.56	10.36	20.44	8.94	-	44.30
<u>Both Developments</u>						
a) European Expenditure	3.30	6.54	13.64	7.98	4.40	35.86
b) Dollar Expenditure	7.76	22.76	36.34	6.93	3.70	77.49
c) Domestic Expenditure	10.30	21.56	26.95	19.99	12.10	90.90
	21.36	50.86	76.93	34.90	20.20	204.25

II. Financing Program

a) European Expenditure

The European Expenditure is estimated to be as follows, distributed on countries.

<u>Sog Development</u>	End of 1950	1.half 1951	2.half 1951	1.half 1952	2.half 1952	Total
Sweden	2.15	2.80	5.00	2.00	1.69	13.64
Denmark	0.35	1.00	1.50	2.50	2.17	7.52
Germany	-	0.65	2.00	0.45	-	3.10
Great Britain	-	0.05	2.50	1.65	-	4.20
Norway	0.20	-	-	0.46	0.54	1.20
	2.70	4.50	11.00	7.06	4.40	29.66

<u>Laxa Development</u>	End of 1950	1.half 1951	2.half 1951	1.half 1952	2.half 1952	Total
Sweden	0.34	0.94	0.99	0.55	-	2.82
Denmark	0.26	0.33	0.80	0.06	-	1.45
Germany	-	6.20	0.55	0.05	-	0.80
Great Britain	-	0.48	0.12	0.07	-	0.67
Norway	-	0.09	0.18	0.19	-	0.46
	0.60	2.04	2.64	0.92	-	6.20
<u>Both Developments</u>						
Sweden	2.49	3.74	5.99	2.55	1.69	16.46
Denmark	0.61	1.33	2.30	2.56	2.17	8.97
Germany	-	0.85	2.55	0.50	-	3.90
Great Britain	-	0.53	2.62	1.72	-	4.87
Norway	0.20	0.09	0.18	0.65	0.54	1.66
	3.30	6.54	13.64	7.98	4.40	55.86

The International Bank (IBRD) has been approached with a view to obtaining a long term loan to cover the European expenditure, in the above specified currencies. The European expenditure to date has been covered by temporary loans.

b) Dollar expenditure

ECA approved on May 10, 1950 the projects for ECA financing on the basis of estimated expenditure for purchases from the United States, amounting to \$3.955.000:- for the Sog Project and \$1.110.000:- for the Laxa Project. The above figure for total expenditure, 77.49 mill. kroner is slightly lower according to present estimate, which however is not final. ECA funds already authorized to the projects amount to

loan against 1949/50 allotment, \$2.000.000:- or 32.64 mill.kr.
grant " 1950/51 allotment, \$2.500.000:- or 40.80 mill.kr.

\$4.500.000:- or 73.44 mill.kr.

In this program it is assumed that estimated additional ECA funds required, 4.05 mill.kr., will be allotted on grant basis.

c) Domestic Expenditure.

The counterpart requirements for the assumed ECA grant are estimated to be 44.86 mill.kr. and the total kroner requirements for both developments as follows:

<u>Kroner Expenditure</u>	End of 1950	1. half 1951	2. half 1951	1. half 1952	2. half 1952	Total
<u>Domestic Expenditure</u>						
1. Sog Development	7.50	17.50	17.60	13.90	12.10	68.60
2. Laxá Development	2.80	4.06	9.35	6.09	-	22.30
Total:	10.30	21.56	26.95	19.99	12.10	90.90
<u>Counterpart requirements</u>						
1. Sog Development	-	-	25.77	5.00	3.70	34.47
2. Laxá Development	-	-	8.45	1.93	-	10.38
Total:	-	-	34.22	6.93	3.70	44.85
Grand Total:	10.30	21.56	61.17	26.92	15.80	135.75

It is proposed to raise the required kroner funds as follows:

Sog Development

	Municipal Contribution (Reykjavík)	Provisory Loan	Bonds Proceeds	Total
End of 1950	4.00	3.50	-	7.50
1. half 1951	2.00	-	15.50+3.50	21.00
2. half 1951	3.00	-	40.37	43.37
1. half 1952	1.00	-	17.90	18.90
2. half 1952	2.00	-	13.80	15.80
Total:	12.00	3.50	91.07	106.57
Repayment of provisory loan, 1. half 1951	-	3.50	-	3.50
Total:	12.00	-	91.07	103.07

In this table is shown a provisory loan which has been obtained, but which has to be repaid in the first half of 1951, from Bond Proceeds.

The sales of Bonds Proceeds for Sogsvirkjun have returned to date 4.5 mill. kr. less prepaid interest of 0.8 mill. kr. and it is intended to continue the sale indefinitely.

Laxá Development

	Municipal Contribution (Akureyri)	Provisory Loan	Bonds Proceeds	Total
End of 1950	1.40	1.40	-	2.80
1. half 1951	0.40	-	3.66+1.00	5.06
2. half 1951	0.70	-	17.10+0.40	18.20
1. half 1952	0.70	-	7.32	8.02
<u>Total</u>	<u>3.20</u>	<u>1.40</u>	<u>29.48</u>	<u>34.08</u>
Repayment of pro- visory loan, 1. half 1951	-	1.40	-	1.40
<u>Total</u>	<u>3.20</u>	<u>-</u>	<u>29.48</u>	<u>32.68</u>

In this table is shown a provisory loan which has been obtained, but which has to be repaid in the first half of 1951, from Bond Proceeds.

The sales of Bonds Proceeds for Laxárvirkjun have returned to date 1.3 mill. kr. less prepaid interest of 0.23 mill. kr. and it is intended to continue the sale indefinitely.

Both Developments

	Municipal Contribution	Provisory Loan	Bonds Proceeds	Total
End of 1950	5.40	4.90	-	10.30
1. half 1951	2.40	-	19.16+4.50	26.06
2. half 1951	3.70	-	57.47+0.40	61.57
1. half 1952	1.70	-	25.22	26.92
2. half 1952	2.00	-	13.80	15.80
<u>Total:</u>	<u>15.20</u>	<u>4.90</u>	<u>120.55</u>	<u>140.65</u>
Repayment of provis- ory loan, 1. half 1951	-	4.90	-	4.90
<u>Total:</u>	<u>15.20</u>	<u>-</u>	<u>120.55</u>	<u>135.75</u>

It is assumed that the contributions from the Municipalities, Reykjavík and Akureyri, will be in the form of long term loans. It is further assumed that the developments will sell bonds in order to cover the kroner expenditure in excess of municipal contributions.

Kāinga Mā



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The State Electric Authority
118 Laugaveg
Reykjavik
Iceland

cc: Gen. Wheeler
Mr. Cope
Mr. Paterson
Mr. Cavanaugh

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

STAFF LOAN COMMITTEE

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Minutes of Meeting of Staff Loan Committee held 11:00 A.M., Wednesday, April 18, 1951.

1. There were present:

Mr. W.A.B. Iliff
Mr. L. B. Rist
Mr. H. W. Riley
Mr. A. Broches
Mr. M. L. Lejeune, Secretary

In attendance:

Mr. E. H. Clark
Mr. S. R. Cope
Mr. R. H. Demuth
Mr. W. Hill
Mr. N. Paterson
Mr. H. Robinson
Mr. A. D. Spottswood

2. Iceland

The Committee considered the Acting Loan Director's Memorandum on Iceland - Electric Power Development SLC/O/317, and the Economic Department's Report No. E-148, The Economic Position of Iceland, and

(a) CONCURRED in:

The recommendations of the Acting Loan Director.

(b) AGREED:

- (i) That a brief memorandum should be prepared for submission to the Executive Directors stating the Bank's intention to enter into negotiations with the Government of Iceland on the Sog and Laxa hydroelectric projects and including a note on Iceland's creditworthiness and an appraisal of the projects to be financed;
- (ii) That thereafter the Bank invite the Icelandic Government to begin negotiations in Washington as soon as formal confirmation of French approval of the use of 18% French currency for the two projects is received.

3. The Committee took note of Mr. E. Harrison Clark's Report No. E-149 "Summary Report of the Technical Assistance Mission to Iceland", and

AGREED:

- (i) That the Working Party should consider Mr. Clark's Report to the Government of Iceland before it is distributed to the Executive Directors or transmitted to the Government of Iceland;