



NEWFOUNDLAND AND LABRADOR HYDRO

ANNUAL REPORT 1979





## COVER PHOTO:

The cover photograph shows caribou on the Island of Newfoundland where Hydro has started construction of a hydro-electric project in the Upper Salmon region of the Bay D'Espoir watershed.

Hydro's corporate policy fully recognizes that man's relationship with nature must be carefully planned and monitored to protect the environment for present and future generations.

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The Newfoundland and Labrador Hydro Act requires Hydro's Board to submit to the Minister of Mines and Energy a report containing financial statements and an account of the activities of the Corporation setting forth such other matters as may appear to be of public interest in relation to the affairs or activities of the Corporation.



## NEWFOUNDLAND AND LABRADOR HYDRO

Head Office: St. John's, Newfoundland A1A 2X8 • Telephone (709) 737-1400 • Telex 016-4503

Honourable Leo D. Barry, Minister,  
Department of Mines and Energy,  
Confederation Building,  
St. John's, Nfld.  
A1C 5T7

April 25, 1980

Dear Mr. Barry:

On behalf of the Board of Directors of Newfoundland and Labrador Hydro, I am pleased to submit the Financial Statements of the Corporation, covering the year ended December 31, 1979, together with the report of the Board thereon.

This year the Annual Report sets out the major issues which affect the cost and availability of electrical energy in Newfoundland and Labrador, now and in the future. The Board of Directors is conscious of the need for Hydro to explain these issues in terms which can be widely understood.

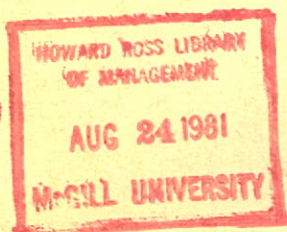
We also recognize that the Hydro Group of Companies has become an integral part of the future economic and social development of the Province. It is our determination that decisions in the field of electrical energy will be made in conjunction with maximum public understanding of the need and wisdom for such decisions.

We look forward to working with you towards our overall objectives.

Yours very truly,

A handwritten signature in blue ink, appearing to read "Victor L. Young".

Victor L. Young  
Chairman and  
Chief Executive Officer.



# ENERGY FOR THE EIGHTIES

For Newfoundland and Labrador Hydro, 1979 has been a year of immense activity, progress and achievement. Major decisions were implemented as we successfully strived to carry out our mandate to provide electrical energy to Newfoundland's domestic and industrial customers at the lowest reasonable cost.

Our annual power and energy sales reached \$172 million and our overall financial health improved as a result of a thorough presentation to the Public Utilities Board advocating higher electrical rates. In addition, the third 150 megawatt oil-fired generator at Holyrood was completed at a cost of \$73 million; the 75 megawatt hydro-electric development at Hinds Lake progressed on schedule at an estimated cost of \$80 million; construction was initiated on the 84 megawatt hydro-electric development on the Upper Salmon at an estimated cost of \$154 million; a successful borrowing program was undertaken with a U.S. \$50 million Japanese financing and a \$75 million Alberta Heritage Trust loan; and our Lower Churchill Development program progressed towards finalization of the engineering and financial recommendations necessary to make a construction start at Gull Island or Muskrat Falls.

The achievements of 1979, although significant, must be put in the perspective of the greater challenges which lie ahead in the 1980's. The Hydro Group has become big business and we are involved in construction projects which require financings in the hundreds of millions of dollars. We operate one of the largest hydro-electric plants in the world at Churchill Falls and our activities in Labrador and on the Island have become an integral part of the Province's economic and social structure. In addition, Newfoundland's industrial future is closely tied to successful Labrador power development.

The public sensitivity surrounding our operations on a daily basis has become critically important. The concerns expressed about the rising cost of electricity at the industrial and domestic consumer levels are as real as they are disturbing. Operating expenditures continue to rise, particularly as more use is made of our Holyrood thermal plant, where in 1979 oil costs alone reached \$30 million despite heavily subsidized prices by the Government of Canada. We are fully aware of our responsibilities to develop a corporate structure which is effective, efficient and cost conscious in all aspects of our operations. However, it must be clearly recognized that it is only the successful implementation of a Labrador power development strategy which can eliminate reliance on high priced foreign oil, thus allowing stabilized electricity prices in the late 1980's and beyond.

In the area of environmental protection, we are constantly striving to reach a balance between the need for hydro-electric developments and the need to leave the natural habitat of our Province undisturbed during and after the construction process. The Hinds Lake project presented few environmental problems but the Upper Salmon development, particularly with the abundance of caribou in the immediate area, has presented us with important decisions in the area of environmental mitigation. Our present and future developments will give maximum consideration to the environment and in this regard, the Lower Churchill development has been thoroughly researched and we hope it will serve as a model for future environmental activities.

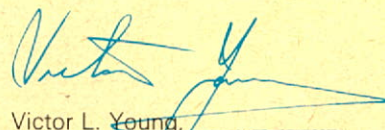


**The mighty Churchill Falls, symbol of Labrador hydro potential. Tapping the remaining 2500 megawatts of renewable energy from the Churchill River will provide the Hydro Group with its most critical challenge in providing power for the 1980's.**

Newfoundland and Labrador can consider itself fortunate in that it has some of the largest untapped hydro-electric resources on the North American continent. The Hydro Group of Companies is determined, with proper planning and bold financial initiatives, to take advantage of the opportunity to provide energy of a stable price into the 1980's at a time when much of the rest of the world will be facing horrendous price increases and even shortages of energy supply. We must be prepared to face the facts that the energy we shall produce will not be cheap. However, this energy will stabilize electricity prices which are predicted to double over the next six or seven years as a result of higher capital costs, soaring interest rates, and rising operating costs mainly related to increased oil usage.

The 1980's will be a period involving unprecedented challenges for us. A multitude of major policy decisions will have to be made especially with respect to Labrador power and these decisions involve (i) obtaining additional Churchill Falls power; (ii) altering the price of Churchill Falls power; (iii) negotiating with Quebec on joint river developments; (iv) developing the Lower Churchill sites at Gull Island or Muskrat Falls; (v) developing the Cat Arm hydro-electric potential; (vi) building a fourth thermal unit at Holyrood; and (vii) submitting further presentations to the Public Utilities Board for rate increases.

The Hydro Board of Directors is confident that we are ready to meet the challenge head on. We are determined to work hand in hand with the people of this Province to help transform our overall economic situation based on the rational development of our hydro-electric resources. I am confident that the employees within our Group of Companies are ready and willing to move forward in meeting new challenges just as they have done in such a dedicated manner for the year past.

A handwritten signature in blue ink, appearing to read "Victor L. Young".

Victor L. Young  
**Chairman and Chief Executive Officer.**

# HYDRO IN 1979

## GROUP ORGANIZATION

Newfoundland and Labrador Hydro is the Province's largest Crown Corporation, and is one of its largest industrial enterprises. The Hydro Group of Companies is comprised of the parent organization along with (i) Gull Island Power Company Limited; (ii) Churchill Falls (Labrador) Corporation Limited; and (iii) Lower Churchill Development Corporation Limited.

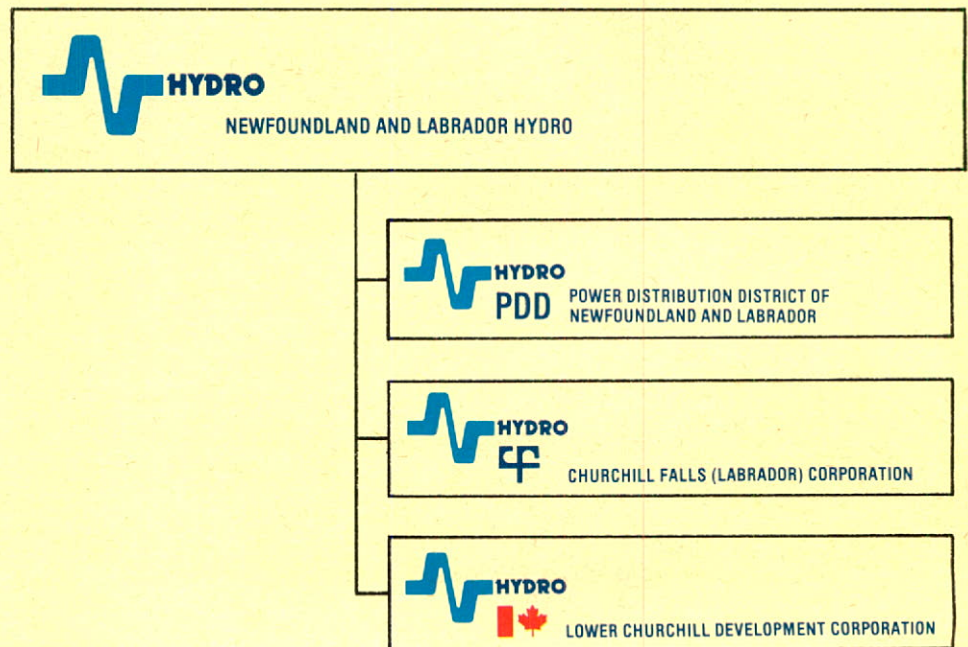
In addition, Hydro administers the activities of the Power Distribution District of Newfoundland and Labrador on behalf of the Province of Newfoundland, and CFLCo administers the activities of Twin Falls Power Corporation Limited. PDD and Twin Falls do not form part of the consolidated financial statements. However, due to Hydro's and CFLCo's direct involvement in these entities, their respective financial statistics are included in the 1979 corporate profile.

It is our determination to establish a corporate organization and managerial structure which operates effectively and efficiently and earns recognition for corporate leadership and financial responsibility. In moving towards our goal, our 1979 corporate profile revealed:

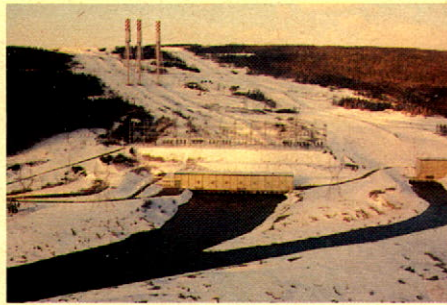
- \* A regular staff complement of 1,350 employees with an additional peak labour force of almost 1,000 employees engaged in new projects, primarily at Hinds Lake and Holyrood.

- \* Annual payroll of \$29 million.
- \* Annual power and energy sales of \$187 million.
- \* Annual energy sales of 41 billion KWH of which 35 billion KWH were exported from Churchill Falls to Quebec.
- \* Plant investments of \$1.6 billion.
- \* Generating capabilities of 6405 megawatts including:
  - The Churchill Falls hydro plant with 5225 megawatts capacity in eleven generators;
  - The Bay D'Espoir hydro plant with 580 megawatts capacity in seven generators;
  - Three oil-fired thermal units at Holyrood totalling 450 megawatts and three gas turbines totalling 110 megawatts; and
  - Fifty-one diesel plants totalling 40 megawatts required to supply over 10,000 customers in many isolated communities in Newfoundland and Labrador.

Hydro is Canada's fourth largest electric utility in terms of installed generating capacity. It is our objective to provide reliable electrical services in a manner consistent with the encouragement of growth and development in all areas of the Province.



# OPERATIONS



**Hydro-electric generating station at Bay D'Espoir with seven generating units and a total capacity of 580 megawatts.**

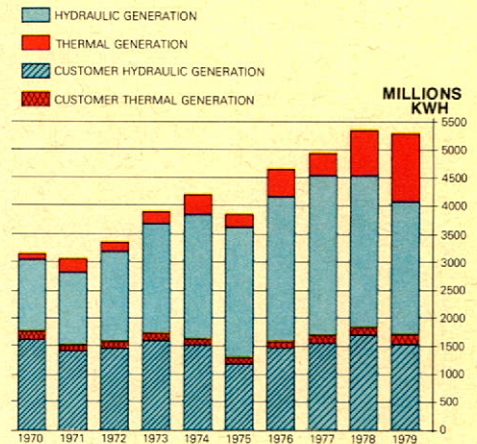
Hydro's operations are split between (i) the parent company which is directly responsible for the generation and transmission of electricity to customers in Newfoundland and Labrador, and (ii) Churchill Falls (Labrador) Corporation which sells substantially all the power it produces to Hydro-Quebec, under the terms of a long-term contract. In addition, Hydro manages the Power Distribution District of Newfoundland and Labrador on behalf of Government to provide electrification to rural areas of the Province.

Hydro operates two power stations on the Island of Newfoundland: a hydro-electric station at Bay D'Espoir with an average energy production of 2.5 billion KWH and an oil-fired thermal plant at Holyrood which has an average energy capability of 3 billion KWH.

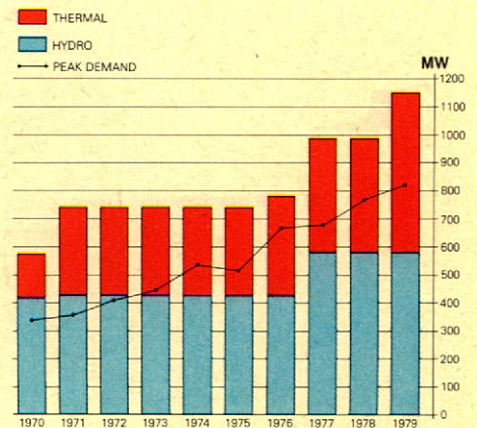
Hydro's plants on the Island produced 3,581 million KWH in 1979. For the second consecutive year, the water inflows into the Bay D'Espoir watershed were below normal, resulting in the generation of only 2,362 million KWH from hydro sources. The remaining 1,219 million KWH were produced by our thermal plants. In addition, Hydro purchased 149 million KWH from Newfoundland Light and Power Company, Bowater Power Company, and Price (Nfld.) Pulp and Paper Company for a total produced and purchased of 3,730 million KWH compared to 3,760 million KWH in 1978, or a 0.8% reduction below 1978. It is disturbing that thermal production has risen from 12% of total power produced in 1977 to 23% in 1978 and 34% in 1979.

The peak demand on Hydro's system occurred in December and was 821,000 kilowatts compared to 769,000 kilowatts in 1978 or an increase of 6.8%. Sales to the utility customers on the Island were 2,589 million KWH, an increase of 3% over 1978. Sales to industrial customers were 943 million KWH, down 11.6% below last year. In Labrador, Hydro sold 280 million KWH to the Iron Ore Company of Canada and 57 million KWH to PDD.

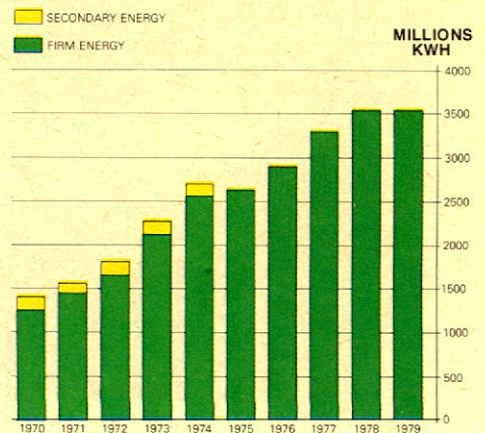
**TOTAL ISLAND GENERATION  
TOTAL GENERATION IN MILLIONS KWH**



**GENERATING CAPACITY & DEMAND**



**SALES**



# CHURCHILL FALLS (LABRADOR) CORPORATION

Our Churchill Falls operations are the backbone of industrial progress in Labrador as well as being a major cornerstone in the Quebec electrical system. In 1979 there was a continuation of above average inflows into the Smallwood Reservoir. However, as it was necessary to remove certain units from service for rewedging, generating capability was reduced and production amounted to 12.9 billion KWH for the first four months as compared to the record of 15.1 billion KWH for the same period in 1978. Generation was further interrupted by the failure of the generator winding in #6 unit and a fire in one of the main power transformers.

Although above average water inflows continued throughout the year, the generator failures adversely affected total output which amounted to 38.3 billion KWH as compared to 39.6 billion KWH in 1978. In addition, it was necessary to spill 275 billion cubic feet of water which had an energy equivalent of 6 billion KWH — or more than half the projected output of Gull Island and more than the total projected output of Muskrat Falls.

Regular maintenance was continued despite the two equipment failures and system operations were otherwise normal. All Marine Industries Limited units were rewedged and a special repair program was successfully carried out on Dyke FF-12, similar to that completed in 1978 on Dyke FF-11. Underwater inspection of major structures and the inside inspection of penstocks produced comforting results. Under the capital program six miles of

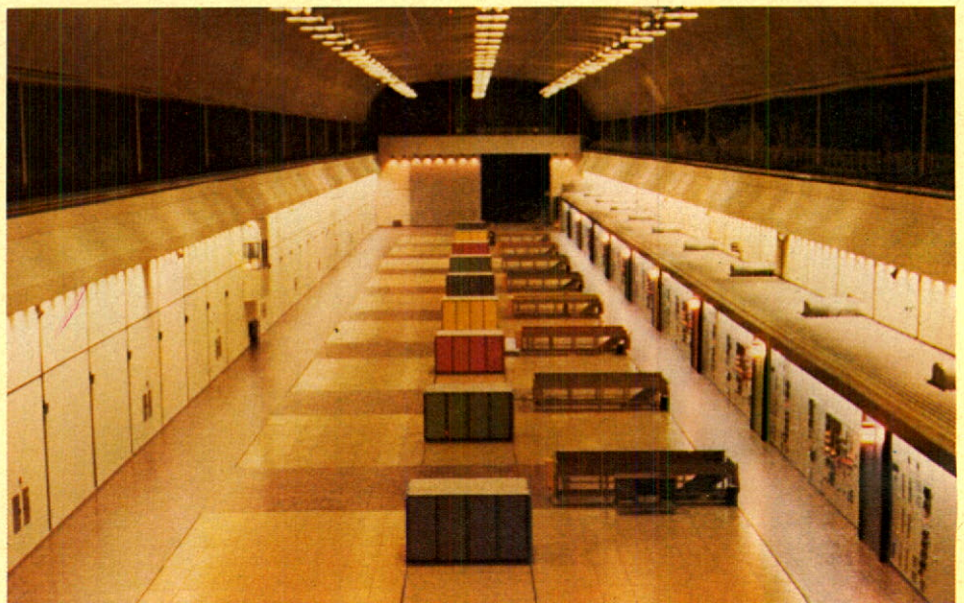
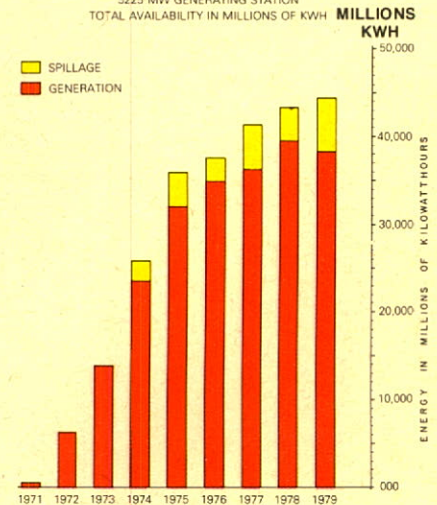
roads were paved in the community and six new family dwellings were constructed. In addition, an artificial ice plant was installed in the hockey arena as part of our continuing program of community service improvements.

The price received for energy did not change in 1979 as agreement had not been reached with Hydro-Quebec on the Final Capital Cost of the Project, which, by the power contract, sets the final applicable price. Agreement should be forthcoming in 1980 which would result in a retroactive increase in energy sales prices.

Mr. Brian C. McGrath was appointed President of the Corporation in mid-year, following the acceptance by Mr. Wallace S. Read of the position of President of Lower Churchill Development Corporation.

## CHURCHILL FALLS (LABRADOR) CORPORATION

5225 MW GENERATING STATION  
TOTAL AVAILABILITY IN MILLIONS OF KWH



Interior of the giant Churchill Falls hydro-electric generating plant at Churchill Falls, Labrador, with a capacity of 5,225 megawatts.



## RURAL POWER DISTRIBUTION

Hydro is responsible for managing and operating the rural power distribution systems through the Power Distribution District of Newfoundland and Labrador. The Provincial Government directly finances operating losses and overall capital requirements of PDD, which services approximately 22,000 customers, 50% of whom are supplied from fifty-one diesel plants with a total generating capacity of approximately 40,000 kilowatts. Capital expenditures for the fiscal year ending March 31, 1980 were estimated to be \$4 million. During the same period, the Provincial Government operating subsidy was estimated to be \$12,390,000.

During 1979, work commenced on the first phase of a cost effective program to interconnect eleven diesel plants to the main power grid. Government approved a total of \$2 million in 1979-80 to interconnect the plants at Long Island, Greenspond, Gallants, Grande le Pierre and English Harbour East. These projects

should be completed during 1980 and the diesel plants closed down. Load growth in the diesel areas, the escalating operating costs in diesel plants, and the uncertainty in the prices of diesel fuel emphasize the need for an aggressive capital program for interconnecting diesel electric systems.

A study of available small hydro sites located near the diesel systems was undertaken by Newfoundland and Labrador Hydro, in co-operation with the Federal Government. This resulted in the commencement of a \$1 million construction project for a 425 kilowatts hydro plant at Marble Brook near Roddickton, which will be operated in parallel with the diesel plant. An attractive site is also being reviewed at Dry Pond Brook to displace diesel fuel at Burgeo and Ramea.



Employees carrying out hot-line work on a PDD distribution line.

## HUMAN RESOURCES

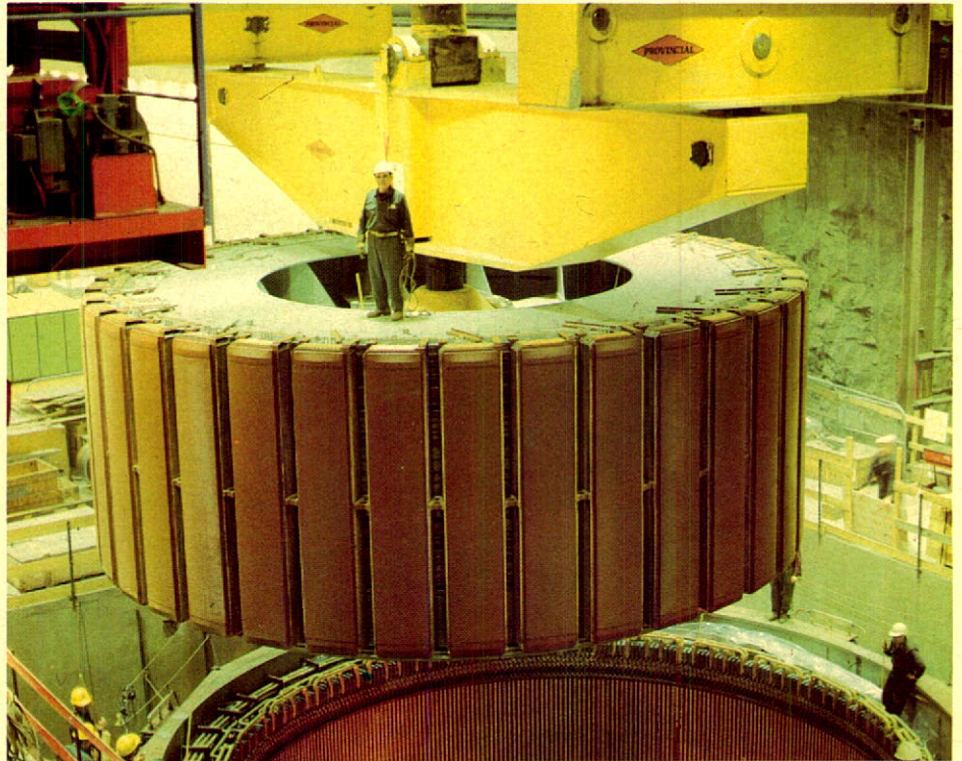
Employees in the Hydro Group are responsible for running one of the world's largest hydro-electric plants at Churchill Falls, and for supplying the present and future electrical energy requirements of the Newfoundland and Labrador economy. This entails operating the hydro-electric plants at Bay D'Espoir, the thermal plant at Holyrood, the maintenance and servicing of 2,100 miles of transmission lines, and many directly related service functions. In addition to their direct responsibilities, Hydro's employees at all levels are in the front line with the job of explaining why new generating facilities are needed and why electricity bills appear to be so high.

Hydro's management team is doing everything it can to take the public into its confidence as far as planning for the future is concerned, by attending public meetings to outline development plans, by vigorously using the forum of public hearings to convince the public of the pros and cons of alternative courses of action, and by working closely with Government. Our employees and their attitudes will be key

factors in the success of our public relations.

As a major employer, it is encouraging that labour relations have been extremely satisfactory throughout 1979 and a new collective bargaining agreement was completed with the International Brotherhood of Electrical Workers for a three-year period. The settlement provides for general wage increases of 7% in each of the first two years, and a wage reopener in the third year.

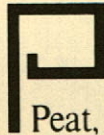
The Hydro Board is fully cognizant of the need to maintain high standards in all of its planning, building and operating roles. The backbone of these standards is the 1,350 employees who make Newfoundland and Labrador's electricity system work. We are exceptionally proud of our performance during 1979, our twenty-fifth year in operation, and hope it is an indication of what we can accomplish in the next quarter century.



**Man and machine — one of the eleven massive generators at Churchill Falls is lowered into operating position.**



## FINANCIAL STATEMENTS



Peat, Marwick, Mitchell & Co.

The Lieutenant-Governor in Council  
Province of Newfoundland

### AUDITORS' REPORT

We have examined the consolidated balance sheet of Newfoundland and Labrador Hydro as at December 31, 1979 and the consolidated statements of income, retained earnings and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the financial position of the Corporation as at December 31, 1979 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

*Peat, Marwick, Mitchell & Co.*

Chartered Accountants

St. John's, Newfoundland  
Canada  
March 7, 1980

# Newfoundland and Consolidated Balance

with comparati

<b>Assets</b>		1979 (000)	1978 (000)
<b>Fixed assets</b> (Note 2)			
Property, plant and equipment.....		\$1,406,957	1,335,144
<b>Current assets</b>			
Cash and term deposits.....		64,333	32,639
Receivables .....		33,799	29,863
Fuel, supplies and prepaid expenses.....		13,119	11,643
		<u>111,251</u>	<u>74,145</u>
<b>Long-term receivable</b> (Note 3).....		9,331	10,734
<b>Investment in Twin Falls Power Corporation Limited</b> (Note 4) .....		2,948	2,869
<b>Lower Churchill option</b> (Note 5).....		5,200	—
<b>Deferred charges</b> .....		17,610	13,281
		<u><u>\$1,553,297</u></u>	<u><u>1,436,173</u></u>

# Labrador Hydro

## Sheet December 31, 1979

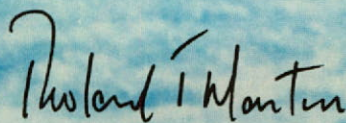
figures for 1978

### Liabilities and Shareholder's Equity

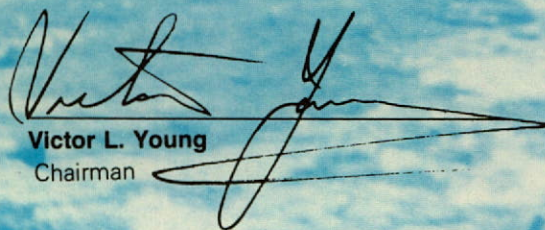
	1979 (000)	1978 (000)
<b>Long-term debt</b> (Notes 6 and 7).....	<b>\$1,296,840</b>	<b>1,203,913</b>
<b>Current liabilities</b>		
Bank loan.....	—	9,500
Accounts payable and accrued liabilities.....	33,991	28,332
Accrued interest.....	16,719	12,547
Long-term debt due within one year.....	39,970	36,773
	<u>90,680</u>	<u>87,152</u>
<b>Provision for water equalization</b> .....	<b>9,331</b>	<b>11,138</b>
<b>Minority interest in Churchill Falls (Labrador) Corporation Limited</b> .....	<b>74,989</b>	<b>73,990</b>
<b>Minority interest in Lower Churchill Development Corporation Limited</b> .....	<b>5,000</b>	—
<b>Shareholder's equity</b>		
Share capital		
Common shares of par value of \$1 each. Authorized 25,000,000 shares; issued 22,503,942 shares.....	22,504	22,504
Contributed capital — Lower Churchill Project (Note 5).....	7,800	—
Retained earnings.....	46,153	37,476
	<u>76,457</u>	<u>59,980</u>
	<u><b>\$1,553,297</b></u>	<u><b>1,436,173</b></u>

See accompanying notes

On behalf of the Board:



**Roland T. Martin**  
Director



**Victor L. Young**  
Chairman

# Newfoundland and Labrador Hydro

## Consolidated Statements

### For the Year Ended December 31, 1979

with comparative figures for 1978

## Income

	1979 (000)	1978 (000)
<b>Revenue</b>		
Energy sales .....	\$172,126	165,926
Rentals and royalties .....	5,509	5,780
Other.....	2,220	1,955
	<u>179,855</u>	<u>173,661</u>
<b>Expenses</b>		
Generation, transmission and administration.....	60,586	53,738
Depreciation.....	18,549	18,200
Interest (Note 9) .....	80,981	80,142
	<u>160,116</u>	<u>152,080</u>
<b>Net income before minority interest..</b>	19,739	21,581
<b>Minority interest.....</b>	11,062	11,982
<b>Net income for the year .....</b>	<u>\$ 8,677</u>	<u>9,599</u>

## Retained Earnings

	1979 (000)	1978 (000)
Balance at beginning of year .....	\$ 37,476	24,806
Provision for insurance .....	—	3,071
Net income for the year.....	8,677	9,599
	<u>46,153</u>	<u>37,476</u>

## Changes In Financial Position

	1979 (000)	1978 (000)
<b>Funds provided</b>		
From operations		
Net income .....	\$ 8,677	9,599
Add items not requiring working capital .....	27,442	30,109
	<u>36,119</u>	<u>39,708</u>
Funds provided by operations ..	36,119	39,708
Proceeds from long-term debt.....	132,797	76,648
Minority investment in Lower Churchill Development Corporation Limited...	5,000	—
Contributed capital — Lower Churchill Project.....	7,800	—
Current portion of long-term receivable .....	1,403	—
Dividends received from Twin Falls Power Corporation Limited.....	912	1,015
Proceeds on disposal of fixed assets.....	1,174	145
	<u>185,205</u>	<u>117,516</u>
Total funds provided .....	185,205	117,516
<b>Funds applied</b>		
Additions to fixed assets.....	91,271	69,843
Reduction in long-term debt .....	39,870	20,439
Dividends paid by a subsidiary to minority interest .....	10,063	10,036
Acquisition of Lower Churchill option .....	5,200	—
Increase in deferred charges.....	5,223	1,436
	<u>151,627</u>	<u>101,754</u>
Total funds applied .....	151,627	101,754
Increase in working capital.....	33,578	15,762
Working capital (deficiency) as at beginning of year .....	(13,007)	(28,769)
	<u>20,571</u>	<u>(13,007)</u>
Working capital (deficiency) as at end of year.....	\$ 20,571	(13,007)

See accompanying notes

# Newfoundland and Labrador Hydro

## Notes To Consolidated Financial Statements December 31, 1979

Newfoundland and Labrador Hydro ("Hydro") is incorporated under a special act of the Province of Newfoundland ("Newfoundland") as a crown corporation and its principal activity is the development, generation and sale of electrical power. Hydro and its subsidiary companies are exempt from paying income taxes under Section 149 (1) (d) of The Income Tax Act.

### 1. Summary of significant accounting policies

The accounting policies followed by Hydro and its subsidiaries are in accordance with generally accepted accounting principles in Canada.

#### Principles of consolidation

The consolidated balance sheet includes the accounts of Hydro and those of its subsidiary companies, Churchill Falls (Labrador) Corporation Limited ("CFLCo"), (65.8% owned), Gull Island Power Company Limited ("GIPCo"), (100% owned), and Lower Churchill Development Corporation Limited ("LCDC"), (51% owned).

CFLCo is incorporated under the laws of Canada and has completed and commissioned a hydro-electric generating plant and related transmission facilities situated in Labrador and having a rated capacity of 5,225 megawatts ("CFLCo Project").

The excess of cost of the investment in CFLCo over the equity in the book value of the net assets acquired is assigned to property, plant and equipment.

A portion of Hydro's shareholding in CFLCo is deposited in a voting trust pursuant to an agreement with Quebec Hydro-Electric Commission ("Hydro-Quebec").

GIPCo is incorporated under the laws of Canada and was established with the objective of developing the hydro-electric potential at Gull Island on the Lower Churchill River in Labrador, and the construction of a direct current transmission system from Labrador to the Island of Newfoundland ("Gull Island Project"), (refer to Note 5).

LCDC is incorporated under The Companies Act (Newfoundland) and was established with the objective of developing all or part of the hydro-electric potential of the Lower Churchill Basin ("Lower Churchill Project"), (refer to Note 5).

CFLCo owns voting control (66⅔%) of Twin Falls Power Corporation Limited ("Twin Falls") but only a 33⅓% equity interest, and as the principal assets and credit resources of Twin Falls cannot be transferred to CFLCo, consolidation is not considered appropriate and the investment is carried on an equity basis.

### Fixed assets and depreciation

Hydro, GIPCo and LCDC

Plant under construction includes the costs incurred in preliminary feasibility studies, engineering and design of new generation and transmission facilities. Interest is charged to plant under construction at rates equivalent to the average cost of funds borrowed.

Depreciation is calculated on hydro-electric generating plant and on transmission plant in service on the sinking fund method using interest factors ranging from 5¼% to 10¼%. Depreciation on other plant in service is calculated on the straight-line method. These methods are designed to fully amortize the cost of the facilities, after deducting grants in aid of construction, over their estimated service lives.

Estimated service lives of the major assets are as follows:

Generation	
Hydro-electric.....	50, 75 and 100 years
Thermal-electric .....	25 and 30 years
Transmission	
Lines.....	40 and 50 years
Switching stations.....	40 years

CFLCo

Depreciation is provided for at a rate of 1½% per annum on a straight-line basis.

### Deferred charges

Deferral of major repairs

Major repairs of an extraordinary or non-recurring nature are deferred and amortized to income over a five-year period commencing in the year in which they are incurred. This practice has been recommended and approved by the Public Utilities Board (Newfoundland).

Debt discount and financing expenses

These costs are, in general, amortized on a straight-line basis over the lives of the respective issues.

### Provision for water equalization

In order to compensate for the effect of year to year variations in fuel consumption resulting from fluctuations in hydro generation, Hydro has adopted the accounting treatment of recording a provision for water equalization.

## Foreign currencies

Foreign currency accounts are stated in Canadian dollars on the following bases:

- Current assets and liabilities, exclusive of current portion of long-term debt, at the rate of exchange prevailing at the balance sheet date.
- Long-term debt at the exchange rates prevailing when the debt was incurred. No recognition is given in the accounts to unrealized gains or losses.
- All other assets and any related depreciation at rates in effect at the time of the transaction.
- Gains or losses arising on the translation of, or conversion to foreign currencies are included with interest in the statement of income.

## 2. Fixed assets

	1979 (000)	1978 (000)
<b>Hydro</b>		
Property, plant and equipment, at cost .....	\$ 418,266	346,833
Less grants in aid of construction .....	23,742	24,033
	<u>394,524</u>	<u>322,800</u>
Less accumulated depreciation...	24,793	20,984
	<u>369,731</u>	<u>301,816</u>
Plant under construction .....	59,387	63,405
	<u>429,118</u>	<u>365,221</u>
<b>GIPCo</b>		
Gull Island Project, at cost (Note 5) .....	98,522	88,989
<b>CFLCo (a)</b>		
Property, plant and equipment, at cost .....	959,413	954,920
Less accumulated depreciation...	87,891	73,986
	<u>871,522</u>	<u>880,934</u>
<b>LCDC</b>		
Capital studies (Note 5) .....	7,795	—
	<u>\$1,406,957</u>	<u>1,335,144</u>

(a) The assets of CFLCo are pledged as security for the long-term debt of that company.

## 3. Long-term receivable

This receivable represents an amount due from Newfoundland and relates to \$9,331,000 of the balance in the provision for water equalization. It will become collectible as the year-end balance in the provision falls below this amount (refer to Note 1 "Provision for water equalization").

## 4. Investment in Twin Falls

	1979 (000)	1978 (000)
Shares, at cost .....	\$ 2,500	2,500
Equity in retained earnings at beginning of year .....	369	443
Equity in net income for the year...	991	941
Dividends for the year .....	(912)	(1,015)
	<u>\$ 2,948</u>	<u>2,869</u>

## 5. Lower Churchill Project

Hydro suspended all work on the Gull Island Project in 1976, in the absence of satisfactory arrangements for the financing of the Project and the marketing of available power.

LCDC was incorporated on December 15, 1978, and as of December 31, 1979, is in the process of completing the capital studies related to the Lower Churchill Basin in Labrador. It is anticipated that, in 1980, a decision will be reached as to whether or not to proceed with the Lower Churchill Project.

Upon agreement to continue with the Lower Churchill Project, the GIPCo assets and the Water Rights will be acquired by LCDC pursuant to the provisions of the Option Agreement, dated November 24, 1978, between LCDC and Newfoundland. The Option Agreement stipulates that the purchase price in respect of the GIPCo assets will be a maximum of \$100,000,000 less the amount of \$5,200,000 representing the shares issued pursuant to the signing of the Option Agreement. As consideration for the GIPCo assets, LCDC will issue a 10% Convertible Demand Debenture in the amount of \$94,800,000. LCDC will issue 3,000 Class B common shares valued at \$30,000,000 to Newfoundland in consideration of the Water Rights and Newfoundland will transfer such shares to Hydro. It is not anticipated that there will be any loss upon sale of the GIPCo assets to LCDC. (Refer to Note 12(b)).

During 1979, Hydro, the designate for Newfoundland's shareholding in LCDC, acquired 520 Class A common shares in LCDC valued at \$5,200,000 pursuant to the signing of the Option Agreement. Newfoundland contributed \$2,600,000 capital to Hydro in 1979, and on January 17, 1980, 260 Class A common shares in LCDC were acquired by Hydro. In addition, Hydro will acquire during 1980 not less than 250 Class A common shares valued at \$2,500,000.

## 6. Long-term debt

	Hydro (000)	CFLCo (000)	GIPCo (000)	1979 Total (000)	1978 Total (000)
Summary of long-term debt					
Bonds, notes and debentures .....	\$ 459,296	614,909	—	1,074,205	965,456
Bank loan .....	51,567	—	—	51,567	64,459
Government of Canada loans .....	92,768	—	—	92,768	94,067
Newfoundland loan .....	—	—	78,300	78,300	78,300
Mortgage .....	—	—	—	—	1,631
Total long-term debt...	<u>\$ 603,631</u>	<u>614,909</u>	<u>78,300</u>	<u>1,296,840</u>	<u>1,203,913</u>

It is estimated that repayments of long-term debt over the next five years, exclusive of the \$78,300,000 Newfoundland loan, will be as follows:

	(000)
1980	\$40,000
1981	67,700
1982	39,200
1983	39,300
1984	39,500

Based on exchange rates in effect at December 31, 1979, after giving effect to foreign exchange cost sharing arrangements provided for in the contract between CFLCo and Hydro-Quebec ("Power Contract"), the approximate amount required to discharge foreign currency debt obligations recorded in the accounts in Canadian dollars as \$727,000,000 would be \$793,000,000.



Details of long-term debt are as follows:

## Hydro

Bonds, notes and debentures, redeemable at the option of Hydro at various times and at various rates, none of which exceeds 102.2% of par.

Interest Rate	Year of Maturity	1979 (000)	1978 (000)
5¼%	1990 (U.S. \$25,720,000)	\$ 27,761	29,790 (a)
7¾%	1993 (U.S. \$25,000,000)	26,773	26,773 (b)
9%	1994 (U.S. \$12,750,000)	13,706	14,190
9¾%	1986 (U.S. \$24,509,000)	24,131	24,614
8½%	1992	15,000	15,000 (b)
8½%	1999	20,000	20,000 (b)
10¾%	1995	25,000	25,000 (b)
4¼%	1981 (SW Fr. 75,000,000)	28,286	28,286
7%	1981 (£ 333,000 Sterling)	575	862
10¼%	2001	30,000	30,000 (b)
10%	2002	30,000	30,000 (b)
10% Series J	2002	35,000	35,000 (b)
10¼% Series K	2001	35,000	35,000 (b)
10% Series L	2003	40,000	40,000 (b)
9¾%	1994 (U.S. \$50,000,000)	57,797	—
11¼% Series M	1999	75,000	—
		<u>484,029</u>	<u>354,515</u>
Less sinking funds .....		16,585	11,571
		<u>467,444</u>	<u>342,944</u>
Less payments due within one year .....		8,148	6,648
		<u>\$459,296</u>	<u>336,296</u>

(a) Secured by an assignment of amounts receivable under a power contract.

(b) A sinking fund has been established for this issue.

### Swiss franc loan

Effective December 1, 1979, the interest rate on the 75,000,000 Swiss franc loan due December 1, 1981, was renegotiated and reduced from 8% to 4¼%.

### Bank loan

This loan, in the amount of \$64,459,000, (U.S. \$65,000,000) is repayable in six equal annual instalments which commenced in 1979 and currently bears interest at 15½% on the current portion and 13¾% on the outstanding balance. The current portion as at December 31, 1979 was \$12,892,000 (1978 \$12,892,000).

The interest rates are adjusted periodically based upon the London interbank offering rate. Hydro has the option of repaying the loan in whole or in part commencing in 1980.

### Government of Canada loans

These loans, in the amount of \$94,067,000 (1978 \$95,283,000), bear interest at various rates from 5¼% to 8½% and each loan is repayable commencing March 31, following the completion date of each related facility, by thirty to forty equal annual instalments including interest. The years of maturity of these loans range between 2003 and 2014, and the current portion as at December 31, 1979 was \$1,299,000 (1978 \$1,216,000).

## CFLCo

	1979 (000)	1978 (000)
First Mortgage Bonds		
7¾% Series A due December 15, 2007 (U.S. \$458,000,000).....	\$483,763	496,778
7⅞% Series B due December 15, 2007 .....	47,146	48,382
General Mortgage Bonds		
7½% due three years after latest maturity of any First Mortgage Bonds .....	100,000	100,000
	<u>630,909</u>	<u>645,160</u>
Less payments due within one year .....	16,000	16,000
	<u>\$614,909</u>	<u>629,160</u>

The First Mortgage Bonds, Series A and B, are repayable in fixed semi-annual and in contingent annual sinking fund instalments which commenced in June 1978.

The Deed of Trust and Mortgage securing the General Mortgage Bonds provides for semi-annual sinking fund payments commencing in June 1980. Each payment will be an amount equal to 1% of the aggregate principal amount outstanding on January 1, preceding each payment date. The General Mortgage Bonds are subordinate to the First Mortgage Bonds.

## GIPCo

### Newfoundland loan

The terms of the \$78,300,000 Newfoundland loan, bearing interest at 10%, previously provided for repayment on or before December 31, 1979 or for forgiveness if the Gull Island Project was not reactivated by December, 1980.

In February, 1980, when the Gull Island Project costs reached \$100,000,000, the maximum value at which these assets may be acquired by LCDC, the Newfoundland loan was forgiven by way of a capital contribution (refer to Note 5).

### 7. Guarantees by Newfoundland

Newfoundland has unconditionally guaranteed the principal and interest on the long-term debt, but not the debt of CFLCo.

### 8. Sales of power, CFLCo

The Power Contract provides for the sale of substantially all of the power from the CFLCo Project for an initial period of approximately 40 years with a renewal for a further period of 25 years. Sales of power under the Power Contract have been recorded at mill rates based on an estimate of the final capital cost of the CFLCo Project, as defined, and are subject to adjustment when such cost is determined. It is not anticipated that such adjustment will result in a decrease in recorded sales.

## 9. Interest expense

	1979 (000)	1978 (000)
Gross interest.....	\$113,132	105,694
Amortization of debt discount and financing expenses.....	894	760
Exchange loss on sinking fund transactions and retirement of debt.....	2,637	2,102
	<u>116,663</u>	<u>108,556</u>
Less:		
Recovered from		
Hydro-Quebec (a).....	19,110	19,080
Interest capitalized.....	9,723	3,417
Interest earned.....	6,849	5,917
	<u>\$ 80,981</u>	<u>80,142</u>

- (a) Under the terms of the Power Contract, CFLCo recovers the difference between interest calculated at the rates prescribed in the Power Contract and interest paid on the long-term debt of CFLCo.

## 10. Dividend restrictions, CFLCo

Under the terms of the debt instruments, CFLCo may pay cash dividends only out of earnings, as defined, accumulated from September 1, 1976. As at December 31, 1979, the amount of retained earnings available for cash dividends was \$3,494,000, of which \$1,300,000 has been appropriated for self insurance.

Subsequent to December 31, 1979, the Board of Directors declared a dividend on common shares amounting to \$3,241,000, of which \$1,108,000 will be paid to minority interest.

## 11. Commitments and contingent liabilities

- (a) Proceedings have been instituted by CFLCo against contractors for damages resulting from the reduction in revenue due to premature failure of certain generating units. Settlement of this matter is currently under negotiation.
- (b) CFLCo (together with Hydro-Quebec) is defending a legal action in connection with a request by Newfoundland for the supply by CFLCo of 800 megawatts of power commencing in 1983. It is not possible at this time to indicate the outcome of this legal proceeding.
- (c) Proceedings have been instituted by CFLCo against its Insurers for damages to the Lobstick Control Structure. It is not possible at this time to indicate the outcome of these legal proceedings.
- (d) Under the terms of a sublease with Twin Falls, expiring December 31, 1989, with a 25-year renewal option under certain conditions, CFLCo is required to deliver to Twin Falls, at an agreed price, horsepower equivalent to the installed horsepower of the Twin Falls plant and to maintain in good working order, Twin Falls' plant and equipment.
- (e) Hydro is defending claims instituted by various companies with respect to construction costs, outages and plant shut-downs. In aggregate, these claims amount to approximately \$2,800,000. It is not possible at this time to indicate the outcome of these claims.
- (f) Contractual commitments as at December 31, 1979 total approximately \$28,000,000 (1978 \$51,000,000). The total cost of major capital projects presently under construction and to be completed by 1980 is estimated to be \$94,000,000.

## 12. Subsequent events

- (a) The Public Utilities Board (Newfoundland), in a decision dated February 28, 1980, confirmed as final an interim rate increase to utility customers which had been in effect since October 18, 1979, and recommended a further increase to become effective April 1, 1980. The compound effect of these increases on Hydro's rates will be about 39%, or the equivalent of a 20% increase at consumer level. These increases include the estimated effects of higher fuel costs, which are passed on directly to Hydro's customers.
- (b) In February 1980, Newfoundland contributed \$100,000,000 capital to GIPCo by way of forgiveness of the \$78,300,000 loan previously made to GIPCo (refer to Note 6), and a \$21,700,000 cash investment (refer to Note 5).

## 13. Comparative figures

Certain comparative figures have been reclassified to conform with the current year's presentation.

## Financial Objectives

Hydro is required by law to charge rates to its customers which recover the cost of service and provide a margin of profit sufficient to achieve and maintain a sound financial position and a respectable credit rating in the capital markets of the world.

The Corporation has set for itself a target of achieving and maintaining an interest coverage of not less than 1.2 times gross interest and a debt:equity ratio no less favourable than 90:10, and considers these financial objectives critical given that:

- i) the overall debt capacity of the Province and Hydro is favourably affected to the extent that prudent interest coverage is earned and reasonable financial leverage is maintained;
- ii) an improved financial position will mean that Hydro would be able to finance more of its capital expenditures from internally generated funds; and
- iii) an improved capital structure should, in the longer term, lead to comparatively lower borrowing costs, both for the Province and for Hydro and hence, lower costs to consumers.

The achievement of a responsible and sound financial position is essential if a Labrador infeed is to be achieved or if other less desirable sources of energy have to be found. Even with substantial financial support from the Government of Canada for the financing of construction of the Lower Churchill Development, a key element in any LCDC financial proposal will be the power contract with Hydro. Lenders will look extremely carefully at the financial position of Hydro as the principal customer and financial backer to the Muskrat Falls or Gull Island projects.

## 1979 Financial Performance

Hydro's consolidated revenues totalled \$179.9 million, an increase of \$6.2 million over 1978. This increase resulted primarily from a 0.6% Hydro load growth (versus 3.5% in 1978), the full year's effect of the 1978 rate increase to utility customers, the interim increase awarded in October 1979, and the higher rates in respect of industrial customers. Consolidated expenses in 1979 were \$160.1 million, an increase of \$8.0 million or 5.3% mainly due to increased fuel consumption and higher fuel prices.

## COST OF INVESTMENT IN FIXED ASSETS

Newfoundland and Labrador Hydro	Capacity Megawatts	Cost Million	In-Service Dates
Hydro Development			
Bay D'Espoir Stage 1 .....	580	\$ 61.1	15/05/67
Bay D'Espoir Stage 2 .....		148.5	01/04/70
Bay D'Espoir Stage 3 .....		38.4	09/12/77
Hinds Lake.....	75	80.5	31/10/80
Upper Salmon.....	84	153.9	31/12/82
	<u>739</u>	<u>482.4</u>	
Thermal Generation			
Holyrood Unit 1 .....	150	25.5	01/04/71
Holyrood Unit 2 .....	150	25.5	01/04/71
Holyrood Unit 3 .....	150	72.8	31/12/79
Gas Turbines .....	110	17.1	1971-77
	<u>560</u>	<u>140.9</u>	
Other Assets .....		4.7	
		<u>628.0</u>	
Less — costs not yet incurred .....		174.1	
		<u>453.9</u>	
TOTAL INVESTMENT IN FIXED ASSETS (December 31, 1979).....		<u>\$ 453.9</u>	

## CFLCo

Hydro Development — Upper Churchill River	5225	\$ 959.4	1971-77
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## FINANCIAL

Hydro's fuel consumption in 1979 was 2.2 million barrels (1978 — 1.4 million barrels) at a cost of \$30.0 million (1978 — \$17.1 million). Forecasts for future years fuel costs, leaving aside any question of interruption of supply, underscore the need for Hydro to reverse the trend towards increasing reliance on thermal generation and magnify the need for a Labrador interconnection.

Consolidated net income for 1979 was \$8.7 million, compared to \$9.6 million in 1978. The income from Hydro's own operations was \$2.2 million (1978 — \$1.3 million) while \$6.5 million (1978 — \$8.3 million) came from Hydro's investment in CFLCo. Hydro's income from CFLCo is made up of its share of CFLCo earnings of \$22.8 million (1978 — \$21.9 million), and rentals and royalties assigned to Hydro of \$5.5 million (1978 — \$5.7 million). These amounts are reduced by the cost of the interest on debt relating to the CFLCo share purchase of \$21.8 million (1978 — \$19.3 million).

### Rates and Regulations

Hydro stressed the importance of its financial objectives at its public hearings on rate increases in the fall of 1979. Higher rates were requested from Newfoundland Light and Power Company Limited and the Power Distribution District of Newfoundland and Labrador in July, 1979. The resultant hearing terminated in December following an interim price award which became effective in October, 1979.

A final award became effective in April 1980. The result of the increases awarded meant an increase in Hydro's revenue from utility customers of 39% equivalent to an increase at consumer level of about 20%. This increase includes the effect of higher fuel costs which are passed on directly to all customers.

It is felt that, as a result of the publicity generated by the public hearing, there is now a better understanding and appreciation of Hydro's tasks, and that the Corporation's public image has improved as a result. However, make no mistake, there are difficult and challenging times ahead for all public utilities across Canada.

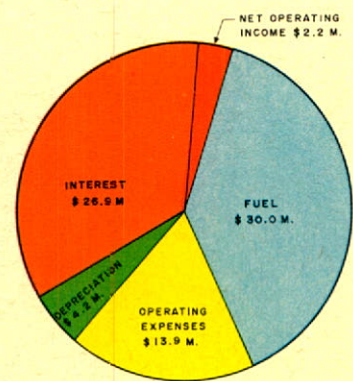
### Borrowings

Hydro arranged two borrowings in 1979. The first was for U.S. \$50 million for fifteen years at 9 $\frac{7}{8}$ % per annum from a group of Japanese banks and the second was for \$75 million from the Alberta Heritage Trust Fund, for a twenty year term at 11 $\frac{1}{4}$ % per annum. Also, the terms of Hydro's 75

million Swiss Franc Loan were renegotiated to reduce the interest rate from 8% to 4 $\frac{1}{4}$ %. The appreciation of the Swiss Franc against all major currencies since 1975 and the weakness of the Canadian dollar present a serious problem to Hydro in the form of unrealized foreign exchange losses. On the basis of March 18, 1980 exchange rates, a \$22 million loss may be realized when this loan becomes repayable.

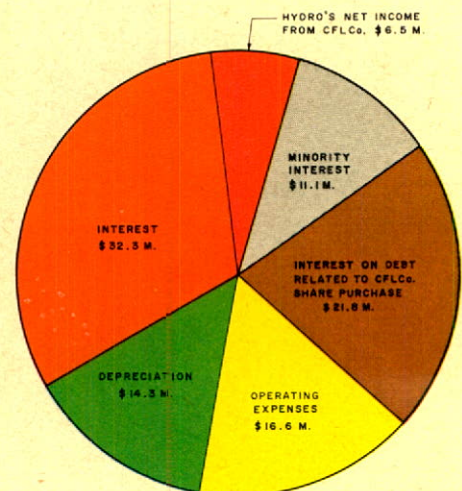
The Corporation's operations and capital program continue to be sensitive to increased borrowing costs. After fuel costs, interest represents the largest category of Hydro's expenses, together accounting for 76% of 1979 costs.

HYDRO'S OWN OPERATIONS -  
COST BREAKDOWN



TOTAL REVENUE \$ 77.2 MILLION

HYDRO'S INCOME FROM CFLCo -  
COST BREAKDOWN



TOTAL REVENUE \$ 102.6 MILLION

## CAPITAL PROGRAM

Hydro's capital expenditure program is carried out to meet the forecast demands for electricity. The 1979 program continued at an accelerated rate with additions to property, plant and equipment amounting to \$69 million as compared to \$57 million for 1978. The major expenditures for the year were associated with completing the third unit at Holyrood and continuing the Hinds Lake development.

The third 150 megawatt unit at the Holyrood thermal plant was completed and became operational at the end of 1979. This addition has increased the capability of this generating plant to 450 megawatts.

The major generation projects under construction or completed in 1979 included:

	Capital Cost Millions	Megawatts	Completion Date
Holyrood - thermal	\$ 73	150	December 1979
Hinds Lake - hydro	80	75	November 1980
Upper Salmon - hydro	154	84	December 1982
<b>TOTALS</b>	<b>\$ 307</b>	<b>309</b>	

During the latter part of 1979, the Upper Salmon hydro-electric project was approved and immediate measures were implemented to initiate construction, despite understandable concerns expressed by environmental, wildlife and native groups. Hydro has been presented with the major challenge of alleviating a multitude of environmental problems and has included the necessary measures in the construction of this project to mitigate any major adverse effects, especially on the caribou population.



Hydro's 450 megawatt thermal generating station at Holyrood.



Intake and penstock construction for the hydro-electric generating plant at Hinds Lake with a capacity of 75 megawatts, scheduled to commence production in November of 1980.

## ENVIRONMENTAL PROTECTION

Newfoundland and Labrador Hydro is proud of the importance it attributes to proper environmental management. We have a policy that the electrical energy needs of the Province will be met while according due regard to the protection of the environment. By adopting and implementing this policy, we are continually working with federal and provincial government agencies responsible for resource management to develop resources in a safe yet effectively balanced manner.

Hydro's commitment to environmental protection is real. For instance, the environmental impact statement on Hinds Lake is considered by many as a model approach. All potential developments are carefully reviewed and assessed by Hydro's environmental staff to determine the effects of possible projects on the environment. The environmental assessments resulting from these studies are the basis for deciding whether or not to proceed with proposed generation sources.

If a project is considered acceptable, then, from the time of initiation and the drawing up of tender specifications to the

completion of the job, controls are built into the process to ensure that any possible harm to the environment is mitigated. This might mean changes in tender documents for project modifications; the provision of changes to tailrace configurations to minimize flooding; the provision of spillage to maintain fish life; the rerouting of access roads and transmission lines; the postponement of blasting while wildlife is in the proximity or the gentle sloping of roads to aid caribou migration as is the case in the Upper Salmon development. Project plans and construction are also carefully checked and monitored by Hydro, Provincial Wildlife and Environmental officials and Environment Canada.

Hydro's permanent environmental team costs approximately \$100,000 per annum, and it has spent about \$700,000 to date on environmental studies of present and future projects. The Lower Churchill environmental program alone, when completed, is expected to cost \$500,000.

Our message and commitment is that the environment has become a significant and accepted part of our overall development process. We are proud of our progress in this area.



Biologists examine stream for fish population and migration as part of Hydro's ongoing plan for protection of the environment.

# PLANNING FOR THE FUTURE

To fully understand the background of today's electrical energy situation in Newfoundland, and to have a full appreciation of the future, it is necessary to consider the main areas which are at the heart of the problem of meeting energy requirements into the 1980's. The Churchill Falls power contract, the possibilities of new hydro-electric developments on the Lower Churchill and the alternatives open to Newfoundland if no such developments take place must all be put in the context of the world oil situation and the forecast demand for electricity in the Province.

## CHURCHILL FALLS POWER

CFLCo sells virtually all of the power it generates to Hydro-Quebec under a power contract made in 1969. This contract has a potential duration of 65 years at a price which by today's standards is unreasonably low. The price of 3 mills per KWH was mainly due to the attractiveness of the site and the comparatively low interest rates then prevailing. Its inevitable unfavourable results for Newfoundland have been magnified by the changing energy situation in the world.

The unconscionable inequities associated with the contract are directly related to the low energy recall provisions for Newfoundland (300 megawatts) and the total non-recognition of any escalation; indeed, the mill rate drops to something under 3 mills for the last 24 years of the contract. In essence, we sell Quebec the equivalent of 55 million barrels of oil annually at a price of \$1.80 per barrel. Fortunately, the Upper Churchill lease provided that Newfoundland consumers would receive priority for Churchill Falls power.

The transmission of Churchill Falls power to the Island portion of Newfoundland is by far the most attractive of the generation options open to the Province. The gaining of access to Churchill Falls power is a matter of the highest priority to the people of Newfoundland and Labrador, who are all too conscious of the unacceptability of the existing power contract.

Court action has been initiated by the Government in this regard. In addition, a special Legal Task Force started work in 1979 to explore all possible means of expediting a successful conclusion to Newfoundland's claims for a more equitable economic return from the contract.

## ENERGY OPTIONS

Although Newfoundland exports 90% of the hydro-electric power generated within the Province, thereby supplying roughly one-third of the electricity requirements of the Province of Quebec, it is in the increasingly difficult position of having to meet more and more of its generation requirements from oil-fired generation. The simple truth of the matter is that the Island of Newfoundland's increasing requirements for electricity are outstripping the availability of economically attractive potential hydro-electric sites on the Island, and hence the additional electricity is coming from imported oil.

It is not possible to forecast the future price of oil with any degree of confidence. In fact, it is not possible to predict that oil would always be available unless, of course, the very favourable results of offshore oil exploration reach a successful conclusion. The chart shows the actual and expected cost of fuel to Hydro from 1978 to 1981. The size of the Island's electrical system is such that it is impractical to contemplate construction of a nuclear plant to generate electricity in the near future and the lack of locally available supplies of coal make this generation source very expensive even though it will probably be preferable to oil in the long run.

Hydro is projecting an energy shortfall on the Island by late 1982 which will be met when the Upper Salmon project is brought on stream in the fall of that year. Despite its capital cost of \$154 million, Upper Salmon is a relatively small hydro development — 84 megawatts and 415,000 KWH, and increased load will result in the need for a new energy source by 1985. This energy source will have to be (i) a power infeed from Labrador using either power from Churchill Falls, Gull Island or Muskrat Falls; (ii) an additional oil or coal fired unit at Holyrood; or (iii) a hydro development at Cat Arm.

The 120 megawatt hydro-electric development at Cat Arm has a high capital cost of \$250 million compared to a 150 megawatt thermal alternative which costs less than \$100 million. However, the subsequent open-ended commitment for oil purchases is highly undesirable. For this reason, if prospects for a Labrador infeed become uncertain, it is likely that Hydro will wish to pursue the Cat Arm project, keeping in mind the environmental sensitivity which may result.

A decision on the next generation source will have to be made in early 1981, but only after it is clear as to how we stand with regard to a Labrador interconnection. A major factor in favour of Labrador power

development is the elimination of the tremendous cost of imported oil consumption which by 1987 will be supplying up to 4 billion KWH of energy, the equivalent of almost 7 million barrels of oil annually.

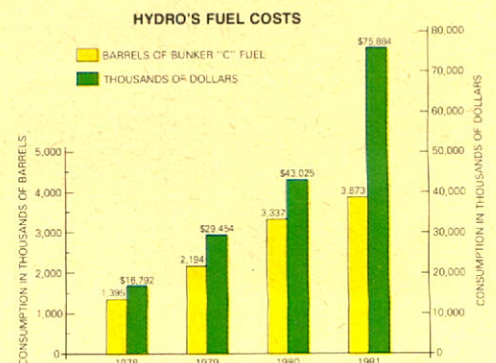
The three major hydro sources in Labrador, which can be used to supply the Island portion of the Province until further access is achieved to Churchill Falls power are:

Energy Source	Capacity in Megawatts	Energy	
		in Billions of KWH	Annual Oil Equivalent*
Gull Island	1,700	11.5	19
Muskrat Falls	600	4.3	7
Churchill unused recall	175	1.5	2
	<u>2,475</u>	<u>17.3</u>	<u>28</u>

\*in millions of barrels

Churchill Falls recall power is the unused portion of the power produced by CFLCo which is available in an undisputed manner to Newfoundland and Labrador Hydro under the power contract. The basic options available in the 1980's involve bringing a single transmission line into the Island carrying energy from the Upper Churchill or some combination of energy from these sources shown in the table above.

The costs of generating and accessing this power to the Island will not be finalized until the Lower Churchill Development Corporation makes its final recommendations in the summer of 1980. It is certain, however, that although these Labrador generation and transmission costs will not be considered cheap in terms of historic costs, they will be more attractive when viewed in the context of their fixed and stable nature.





## **LOWER CHURCHILL DEVELOPMENT CORPORATION**

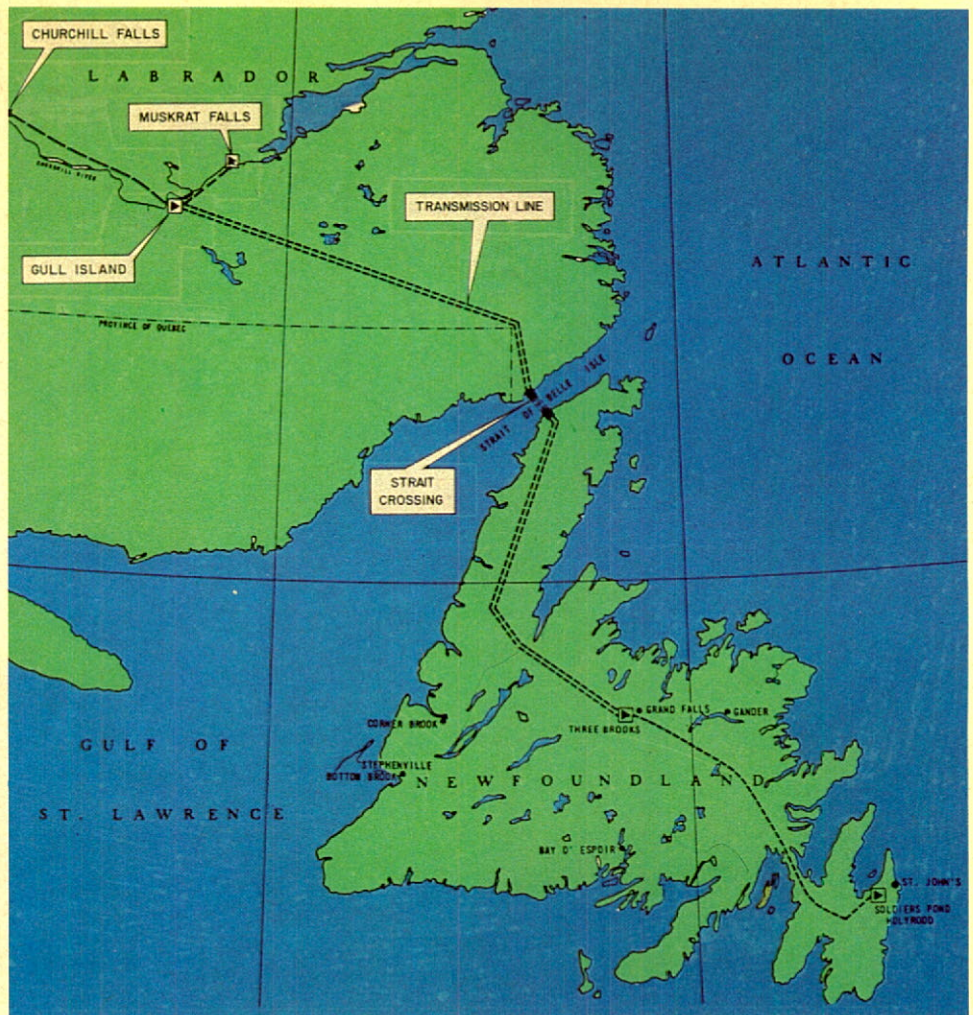
The Lower Churchill Development Corporation was set up in late 1978 to carry out a \$15 million work program leading to further development of Labrador hydro-electric resources. The work program includes the finalization of definitive estimates of capital cost, the presentation of a financial and power marketing plan, and the development of a full environmental protection plan for both the Gull Island and Muskrat Falls sites.

LCDC is financed by equity investments from its two shareholders, Newfoundland and Labrador Hydro representing the 51% Newfoundland ownership, and the Government of Canada 49%. LCDC has signed an Option Agreement to purchase the assets of the Gull Island Power Company for \$100 million when the decision is taken to proceed with a Labrador development. The Gull Island assets are shown in the accounts of Hydro at this valuation and permanent financing has been obtained from the Province of Newfoundland for all expenditures to date on the project, thereby recognizing the permanent nature of Government's investment in Labrador development.

LCDC's studies of the two Labrador hydro-electric sites at Gull Island and Muskrat Falls were well underway during 1979 and the field programs were completed in the Strait of Belle Isle and at Muskrat Falls. During the summer of 1980, final recommendations will be made to both Canada and Newfoundland and a determination of the most feasible hydro development in Labrador should be made by late 1980. The costs of the studies being carried out by LCDC are being met by capital contributions from the two shareholders. LCDC's current studies, together with the investigations carried out previously during the 1970's mean that an amount in excess of \$75 million will have been spent examining the overall feasibility of delivering Lower Churchill power.

It is almost axiomatic to use the term "multi-billion dollar" when discussing Labrador power development. The Gull Island project is expected to cost in excess of \$4 billion, while the Muskrat Falls project costs will substantially exceed \$2 billion.

# LABRADOR POWER DEVELOPMENT



The map above shows the proposed transmission interconnection between the proposed hydro-electric development in Labrador and the Island portion of the Province. This interconnection is a key element in the Labrador power development strategy which also encompasses a complex package of issues amongst which are (i) Newfoundland's long-term need for stably priced electrical energy, (ii) the obvious unfairness associated with the CFLCo power contract, (iii) the development of Gull Island and Muskrat Falls and (iv) the newest element, the anticipated success of offshore oil development.

The Board of Newfoundland and Labrador Hydro commits all of its efforts to making a significant contribution to the successful implementation of an energy strategy which will help bring about the better future which is anticipated by all Newfoundlanders.

April 25, 1980

*Janet Gardiner*

Janet C. Gardiner,  
Director.

*Victor L. Young*

Victor L. Young,  
Chairman and Chief Executive Officer.



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