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THE NEW BRUNSWICK ELECTRIC POWER COMMISSION
ANNUAL REPORT
1972





THE COMMISSION

Chairman

HON. GEORGE E. McINERNEY, Q.C.

Vice-Chairman

LOUIS E. LANDRY

Commissioners

MRS. OWEN SMITH

EDMOND LANDRY

HUGH MORRIS

JACK P. ENSOR

WILSON WELDON

Secretary of the Commission

P. J. BURNS

EXECUTIVE OFFICERS

General Manager

A. J. O'CONNOR

Assistant General Manager

P. O. BEATON

CHIEF ENGINEER

L. J. WHALEN

DIVISIONS

Comptroller

L. M. TOTTEN

Design and Construction

G. H. D. GANONG

Distribution

R. A. TONER

Executive Assistant to the General Manager

L. D. CORBETT

Personnel

H. V. McINTYRE

Production and Planning

F. C. MacLOON

Purchasing and Supply

B. J. MacMILLAN

Solicitor

A. McF. LIMERICK

Treasurer

W. A. WILLIAMSON

AUDITORS

TOUCHE ROSS & CO.

OFFICES

Head Office:

Fredericton, New Brunswick

DISTRIBUTION AND MARKETING BRANCHES:

Northern	CHATHAM
Southern	SAINT JOHN
Eastern	MONCTON
Western	WOODSTOCK

AREA GENERATION HEADQUARTERS:

MACTAQUAC
SAINT JOHN
GRAND LAKE / CHATHAM
GRAND FALLS
DALHOUSIE

OUR COVER



The introduction of a new logo into the Commission's operations proceeded smoothly in our 50th Anniversary Year. The new logo, designed by the internationally-known Canadian artist, Chris Yaneff provides strong unmistakable identification of the Commission.

ANNUAL REPORT



June 23, 1972

To His Honour H. J. Robichaud
Lieutenant Governor of New Brunswick

May it please your Honour:

The New Brunswick Electric Power Commission begs leave to submit, in accordance with the Electric Power Act, Chapter 41, of Statutes of New Brunswick 1961-62 the following report for the twelve month period ended March 31, 1972

Your obedient Servant,

G. E. McNerney, O.C., Chairman
The New Brunswick
Electric Power Commission

CONTENTS

Annual Report	1
Chairman's Foreword	2
Finance	4
Production and Distribution	5
Sales	7
Capital Additions	9
System Map	10, 11
Planning	12
Statement of Generation and Sales	13
Balance Sheet	14
Statement of Operation and Surplus	16
Statement of Source and Application of Funds	17
Balance Sheet Schedules	18
Staff	20

THE NEW BRUNSWICK ELECTRIC POWER COMMISSION

Si vous préférez une version française, nous nous ferons un plaisir de vous la faire tenir à votre demande—Service d'Informations, Commission d'Énergie Électrique du Nouveau-Brunswick.



CHAIRMAN'S FOREWORD



This annual report marks the 51st year of service by the Commission to the people of New Brunswick. It highlights the activities, achievements and the many challenging decisions of the past year.

A large capital works program was carried on during the year to meet growing demands and to ensure reliable service in the future. These demands are increasing at a rate approximately twice the Canadian long-term average. New lines, generating stations and other facilities are being constructed to look after normal growth and the demand of customers who are rapidly turning to or stepping up to electricity as their favoured energy source.

Thus the expansion of facilities to meet the growing demands of this decade received high priority. A site for a new thermal generating station was selected on the deep tidal waters of the Bay of Fundy at Coleson Cove in the Greater Saint John area. Construction is well advanced, and orders for two 315,000 kilowatt turbine-generators, boilers and auxiliaries have been placed. In the period from the present time to early 1976, an investment of over \$120 million will be made for these initial units at Coleson Cove. The installation

of the units, three times as large as existing equipment, was made possible through the participation of a number of New England utilities, who will share in the output over a ten-year period.

Construction of the world's largest High Voltage Solid State Converter Station in northern New Brunswick neared completion at the end of the fiscal year. This station, which interconnects the Commission with Hydro Quebec, will be capable of transferring 320,000 kilowatts of electric power between the two systems. In the period to 1976, the interconnection will primarily transfer surplus Churchill Falls power via Hydro Quebec to New Brunswick.

The Commission proceeded with greater use of interconnecting facilities to give the Province a more favoured position in energy utilization and exchange. In the year under review, imports and exports of power became much more significant, favoured by our geographical position between two very large electrical systems in New England and Quebec and our strong electrical ties to each of them.

As a result of this policy of establishing major interconnections and making profitable sales and purchases, power

rates to our customers have been held constant, while substantial increases have taken place elsewhere in Canada and the U.S.A. The relative position of New Brunswick's industries has thus been improved power cost-wise and larger, more efficient generation now under construction through the benefit of the interconnection will keep New Brunswick competitive.

During the year, the Commission held both regular and special meetings to deal with rapid system expansion. These meetings were structured so as to take the Commission to various parts of the Province and to provide contact with municipal and business leaders.

I acknowledge with gratitude the support of the members of the Commission, management, and staff during the year. Their assistance in meeting objectives and maintaining operations under difficult inflationary conditions was much appreciated.

G. E. McINERNEY, Q.C.
Chairman



- 1 Miss Maine and Miss New Brunswick are shown tying ribbons symbolically linking the electric power resources of New England and New Brunswick.
- 2 Members of the colour guard from the Brunswick Naval Air Station who opened the International Interconnection Dedication ceremony. The Maine Yankee Atomic Power Project is in the background.
- 3 The Hon. Richard B. Hatfield, Premier of New Brunswick, who represented the Province, and Commission Chairman the Hon. George E. McNerney are shown with United States officials at the Bailey Point Switchyard of the Maine Yankee Atomic Plant, site of the International Interconnection Dedication ceremony.



3





SOURCES OF REVENUE

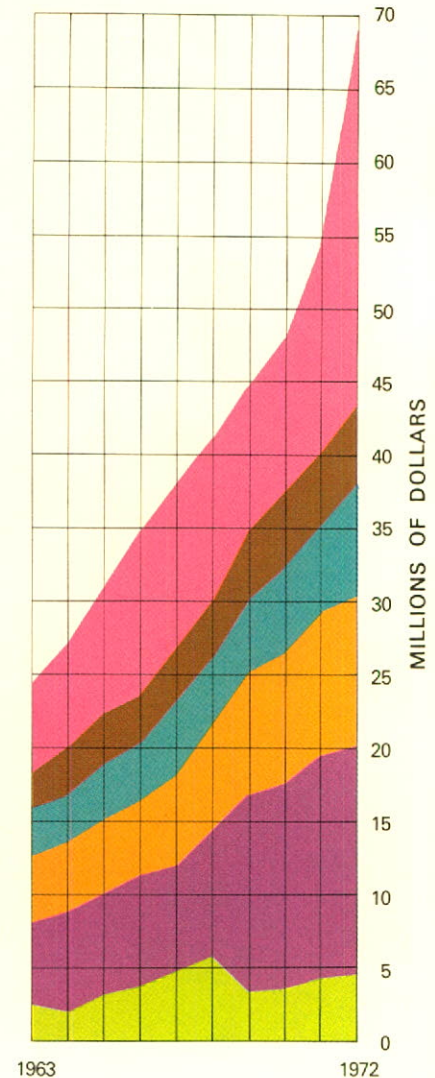
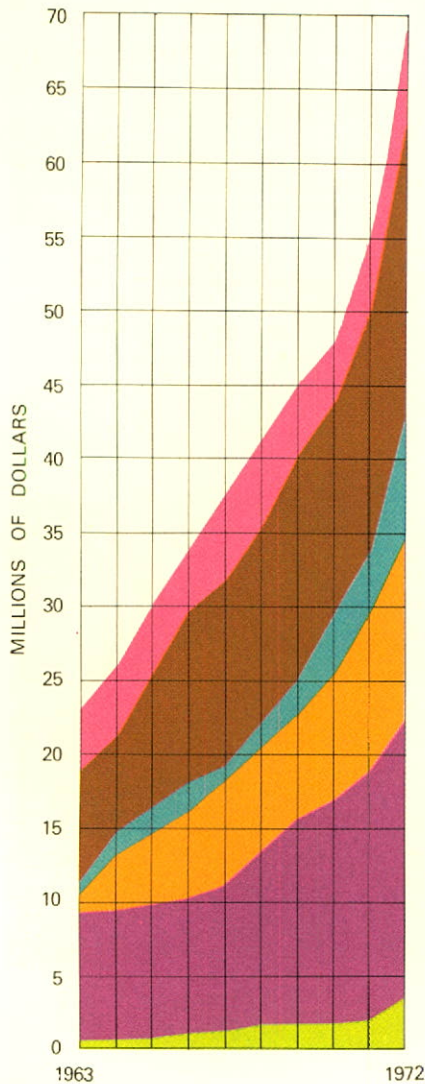
As at March 31, 1972

7.1%	Wholesale
29.6%	Industrial
13.2%	Interconnections
17.7%	Commercial & Street Lighting
27.4%	Retail
5.0%	Steam & Miscellaneous

DISTRIBUTION OF REVENUE

As at March 31, 1972

Generation & Purchases	36.7%
Transmission & Distribution	7.9%
Administration	11.2%
Depreciation	14.7%
Interest	23.1%
Transferred to Reserves & Surplus	6.4%



REVENUE DIRECTLY FROM OPERATIONS DURING THE YEAR INCREASED BY \$12,518,251 AND AMOUNTED TO A TOTAL OF \$67,619,690. THIS WAS AN INCREASE OF 22.7%. HOWEVER NET INCOME, AFTER COST OF OPERATIONS, WAS SLIGHTLY UNDER THAT OF THE PREVIOUS YEAR.

The increase in total revenue included large build-ups in commercial and large industrial load in the Province. The latter was directly due to two major expansions of existing paper mills. In addition, revenue from export sales was sizeable throughout the year from deliveries over the 345,000 volt interconnection with New England.

Water flows on the average were below normal; as a result of this and of an escalation in fuel cost, thermal generation costs increased substantially during the year. An amount of \$2,019,600 was taken from the water equalization fund and credited to operations to compensate for below normal water flow.

Income from operations totalled \$3,246,194 after making this adjustment.

During the year the Commission's first generating station, a small hydro

plant at Musquash, was sold to the Province of New Brunswick for water storage purposes. The gain on the sale of this asset was \$1,177,948.

After including this sum, the total amount remaining before appropriations was \$4,424,142, of which \$3,194,600 was added to the water equalization account, \$322,758 to the Insurance Fund and \$300,000 to Contingencies and Rate Stabilization, leaving \$606,784 to be carried forward to surplus.

During November 1971, an issue of \$20 million 7 7/8% debentures was sold in Canada with a term of 25 years and was very well received.

As a result of the large increase in revenue extra funds were available to meet, in part, our capital requirements. Along with our good bank credits, this permitted the Commission to plan for and make best use of its cash flow.

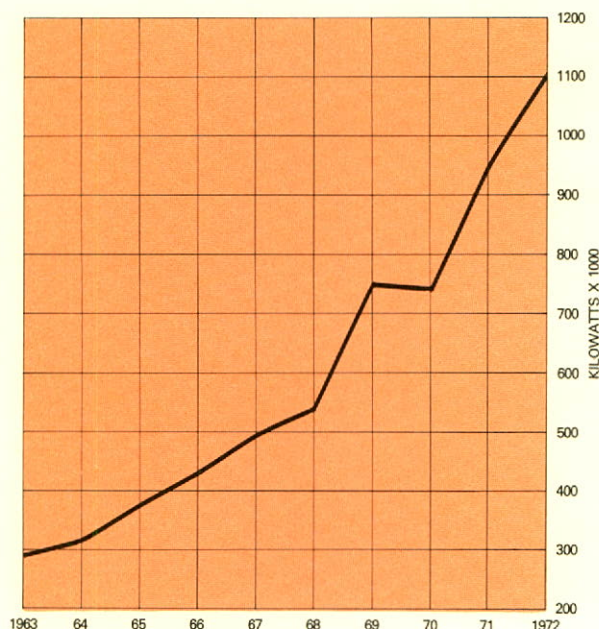
PRODUCTION AND DISTRIBUTION



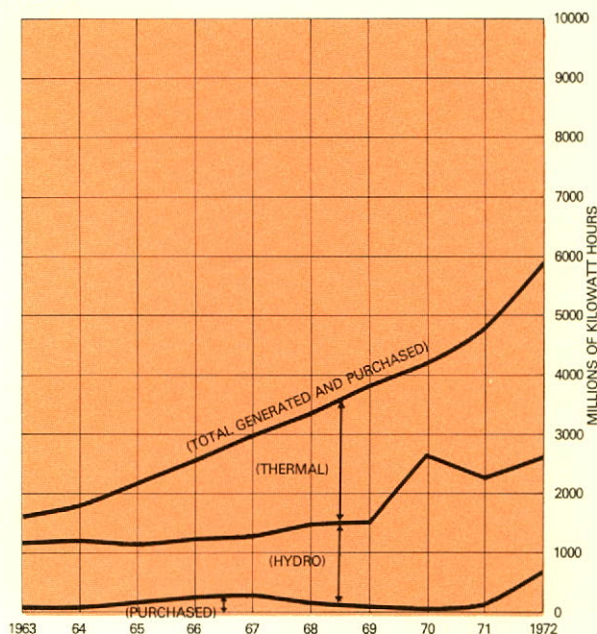
POWER REQUIREMENTS AND EQUIVALENT RATE OF GROWTH

Figures are for fiscal years ending March 31.

KILOWATT HOURS GENERATED AND PURCHASED



RATE OF GROWTH 16.1%
compounded over period shown



A gross peak of 1,109,000 kilowatts was reached on December 23, 1971, and a peak system firm demand of 729,600 kilowatts was registered on December 20, 1971.

Gross generation from all plants totalled 5,225,476,400 kilowatt hours, an increase of 12.3% over the preceding fiscal year. Thermal generation amounted to 3,273,227,600 kilowatt hours, an increase of 34.2%. Hydro generation totalled 1,944,734,900 kilowatt hours; a decrease of 11.7% from last year.

Diesel gross generation required to supply the island of Grand Manan totalled 7,513,900 kilowatt hours.

Purchases of energy showed a substantial increase over the preceding fiscal year, due largely to firm capacity and energy agreements with utilities in Nova Scotia and Quebec. The remaining purchases were from the Maine Electric Power Company and industries located in New Brunswick. Purchases totalled 668,754,458 kilowatt hours for the year.

The purchase of capacity and energy from Hydro Quebec began in November, 1971 and was radially supplied to New Brunswick from their system. A major portion of our North Shore load was transferred to Hydro Quebec while new interconnection facilities were being completed in advance of final com-

missioning tests being successfully carried out on the High Voltage Direct Current Converter station at Eel River. The Converter Station should be in commercial operation during the summer of 1972, several months ahead of the planned date.

The importance of high capacity interconnections was demonstrated this past winter, when the unit transformer at the 110.0 megawatt Dalhousie Generating Station failed and energy was required to offset the loss of generation on the system. The Saskatchewan Power Corporation kindly loaned a suitable replacement transformer until the Dalhousie transformer could be repaired, enabling the generating station to resume operation much sooner than otherwise possible.

Interconnection sales to utilities outside the Province increased 57% over the preceding fiscal year, totalling 1,300,236,585 kilowatt hours.

Energy distributed from the distribution system (excluding losses, wholesale, and transmission line sales but including Commission use in Branches) increased by 12.7% to 1,511,985,136 kilowatt hours.

On December 31, 1971, the Commission and the New Brunswick Telephone Company completed the first five-year period of a Joint Use Agree-

ment entered into in 1967. The agreement covered joint use of pole lines and underground facilities. In 1971, the administrative practices of the agreement were reviewed and as a result, new techniques were incorporated to streamline the administration of the agreement and to keep abreast of changes in the joint use field.

It was decided to renew the present agreement for the period January 1, 1972 to December 31, 1978. At the end of this period another review will be made.

During the fiscal year, the Commission joined the Northeast Power Coordinating Council, an organization formed to promote the maximum reliability and efficiency of electric service throughout the interconnected system of the northeastern part of the North American Continent. This brought the Council's membership to 21 systems, having a total capacity of more than 52 million kilowatts, serving in excess of 36 million people. Included in the NPCC membership are the Boston Edison Company; Central Maine Power Company; the Hydro-Electric Power Commission of Ontario; Consolidated Edison Company of New York; the New England Electric System; the Power Authority of the State of New York; and the Public Service Company of New Hampshire, among others.



The rotunda of the Tantramar Regional High School, one of the many all electric schools recently constructed in the Province.



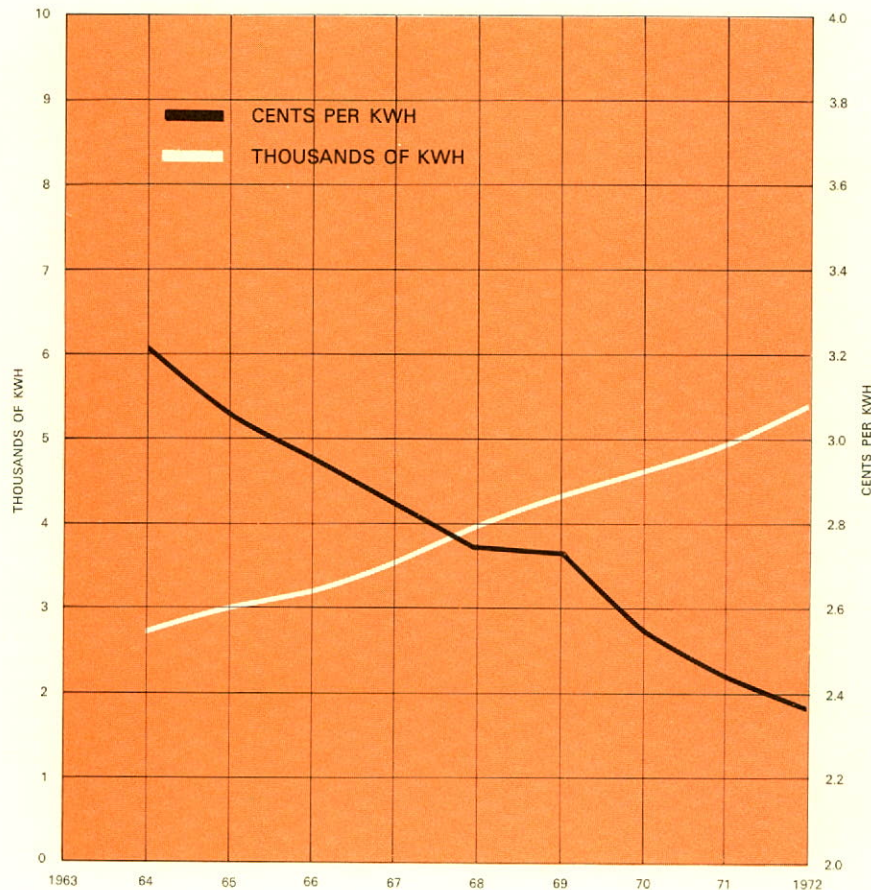
An artist's concept of the Co-operative Insurance Services Limited building now under construction in Moncton. When completed the all electric climate controlled building will house the Moncton Head Office of the company and provide office space for local businesses.

The composite picture below shows a new paper making machine recently installed by MacMillan Rothsay at the Saint John plant. The paper making industry is one of the largest users of electricity in the Province.





AVERAGE ANNUAL KWH USED AND
AVERAGE ANNUAL REVENUE PER RESIDENTIAL CUSTOMER



During the year under review, NB Power maintained vigorous marketing policies. These policies, coupled with a well-planned advertising program, enabled the Commission to exceed former annual gains in all phases of sales operations.

A particular example was the increase in single family all-electric residences, the largest increase in NB Power's history with 18% of this market going all-electric. The number of all-electric single family residences now stands at 2,520, while the total number of all-electric residential installations, including single, duplex, triplex, row-housing, cottages, mobile homes and apartment units, now stands at 3,609 units.

In industrial sales, a large increase in

demand was noted, with particular emphasis coming from the pulp and paper industries as a result of major additions of two paper mills. Commercial electric heating was also to the fore during the year with many large buildings being connected to the system. In addition, the Cooperative Insurance Services Limited building in Moncton, a five-story electrically heated and air conditioned structure, is to be completed in October 1972.

Another significant contributor to load growth was the installation of a large number of pumping and pollution control plants to serve industries and communities. With more attention being given to environmental control, the all-electric concept will, no doubt, become

still more popular in commercial and industrial enterprise.

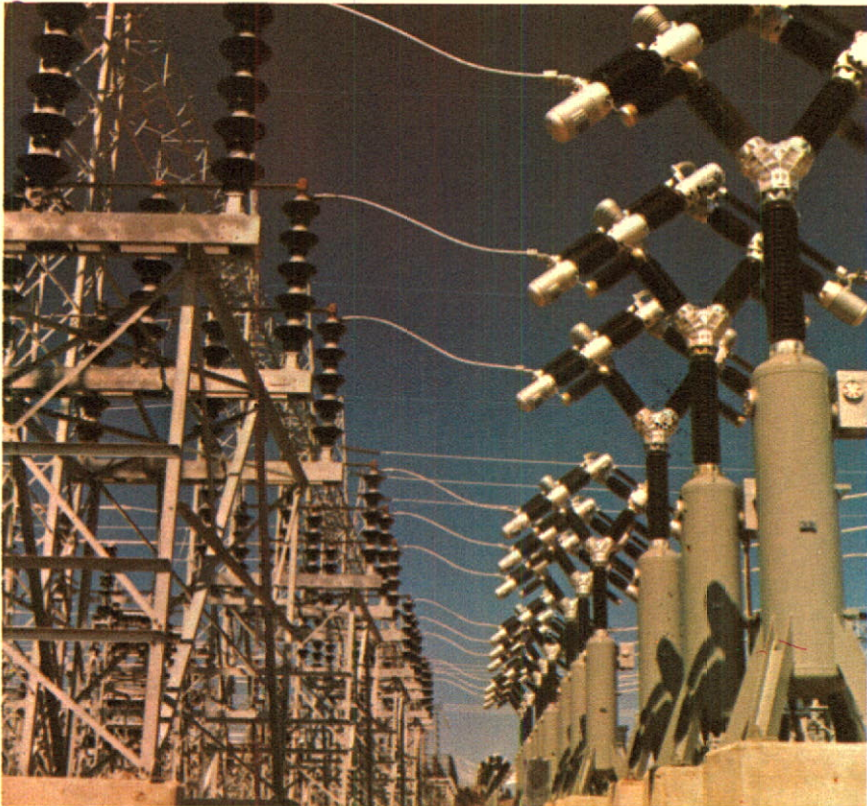
During the year under review, firm sales of electrical energy increased by 675,892,046 kilowatt hours or 22.9%. Residential sales showed an increase of 15.5% bringing the average annual consumption per customer to 5,418 kilowatt hours.

Another significant increase was noted in rentals of "Cascade" water heaters during the year, numbering 5,070 compared to 4,507 last year, a 13% increase. This brings the total number of Cascade water heaters to 32,210 on the Commission system.

Dusk-to-Dawn light rentals numbered 1,514 bringing the total to 8,801 units on the Commission system.



The capacity of the Mactaquac Hydro Generating Station will be increased to 400,000 kilowatts by the installation of a fourth 100,000 kilowatt turbine generator. The unit is shown being assembled at the plant.



A series of 230,000 volt air blast circuit breakers at the Eel River High Voltage Direct Current Converter Station are shown being readied for testing.



New Brunswick abounds with beautiful scenery. The view (below) of the headpond of the Mactaquac Dam is visible from the Trans Canada Highway between Fredericton and Woodstock.



The rocky coast of Coleson Cove in southern New Brunswick, site of the Commission's new thermal generating station destined to be in operation by 1975. The Canaport super-tanker and storage terminal is shown in the right background.

The Commission's 320,000 kilowatt High Voltage Direct Current converter station at Eel River in northern New Brunswick is nearing completion ahead of its scheduled date of November 1972. The station is the first commercial installation in the world to use entirely solid state valves and is heralding a new era in system interconnection and electric power transmission.

The HVDC Station has already drawn world-wide attention and electrical engineers and utility representatives of many countries will be watching its performance in interconnecting Hydro Quebec and NB Power under operating conditions.

Erection of the fourth unit of the Mactaquac Generating Station had also progressed to the point where at year-end the unit was only days away from completion in time to add its 100,000 kilowatts to the system during the annual peak runoff period of the St. John River.

The 25,000 KVA gas turbine synchronous condenser installed at the

Moncton Terminal Station during the summer of 1971 provided valuable assistance in peaking power to the area and to the system during the fall and winter months.

Major transmission work completed included two 230,000 volt lines from the HVDC Station to Hydro Quebec plus an additional 230,000 volt line from the Eel River Terminal to the Bathurst Terminal, totalling in all 165 circuit miles.

New substations were constructed at Bay du Vin, Shippegan, Neguac, Chartersville and Newcastle.

Transformer capacity was increased for the industrial substations at Canadian Industries Ltd. at Dalhousie, and the Irving Refinery and the Dry Dock at Saint John.

Transformer capacity was also increased at the feeder substations at Plaster Rock, Dalhousie, Sackville, Wilbur Street—Moncton, Westfield, West Bathurst, Gordon Road in Chatham, Doak in Fredericton, Renous, Caraquet and Rogersville.

General uprating of fuses, fencing, grading, grounding and miscellaneous work was carried out at Lutz Mountain, Scoudouc and Allardville substations.

Design work was commenced to increase capacity at the St. Quentin substation and for a new feeder substation at Commercial Street in Moncton. New industrial substations were also started at Iroquois and the Canadian Broadcasting Corporation transmitter Station near Sackville.

With the inclusion of contract work at the Eel River HVDC converter station and the beginning of construction of the 600,000 kilowatt thermal generating station at Coleson Cove, a joint capital works program for the year amounting to over \$51 million was carried out in all areas of the province.

Following a period of negotiations with the Town of Grand Falls, an agreement was reached on the acquisition of the distribution system of the Town. The transfer took place on July 1, 1971 and 946 power accounts of all classifications were added to the system.

QUEBEC

CAMPBELLTON

DALHOUSIE

BATHURST

EDMUNDSTON

SISSON

CHATHAM

GRAND FALLS

TOBIQUE

BEECHWOOD

MAINE
(U.S.A.)

GRAND LAKE

FREDERICTON

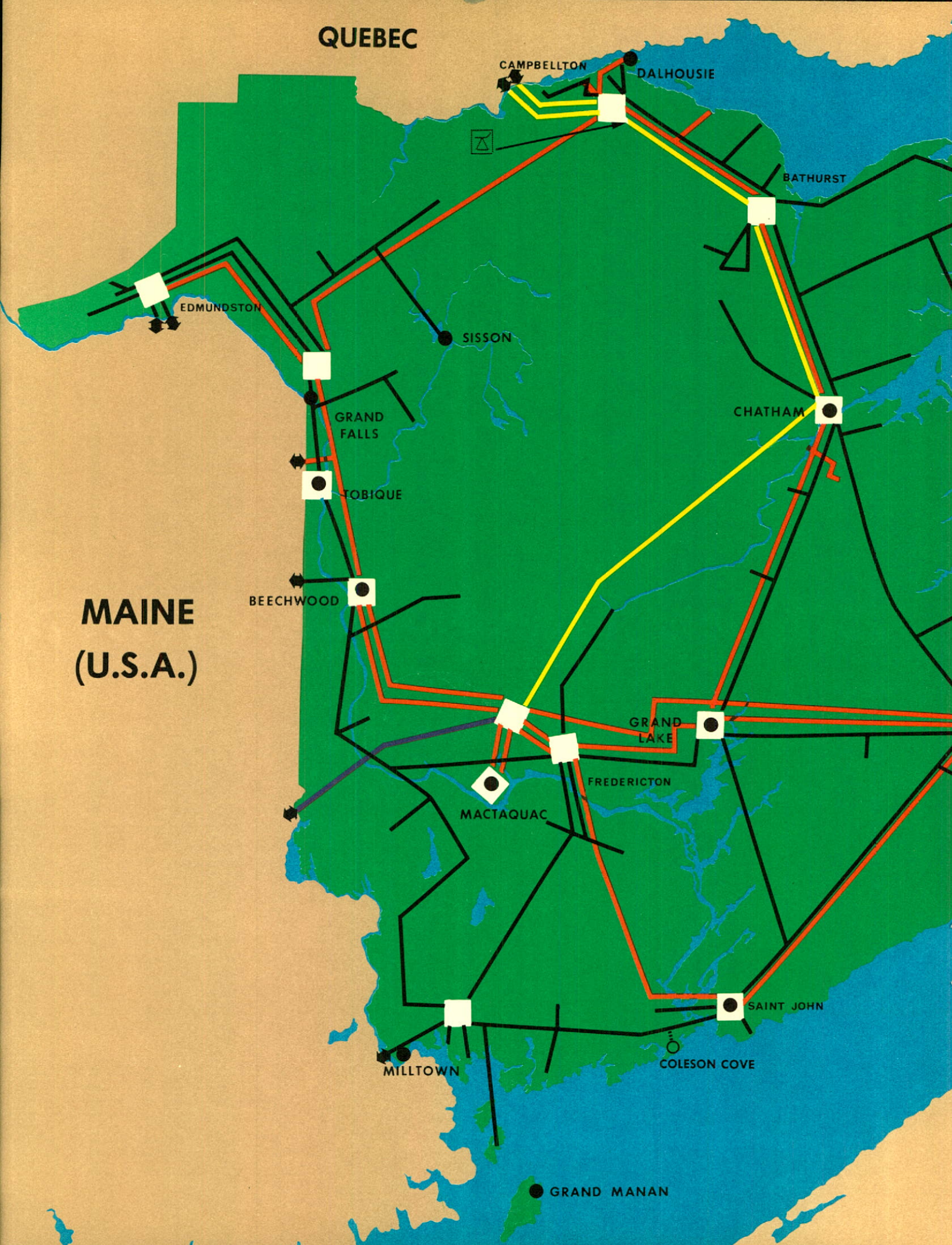
MACTAQUAC

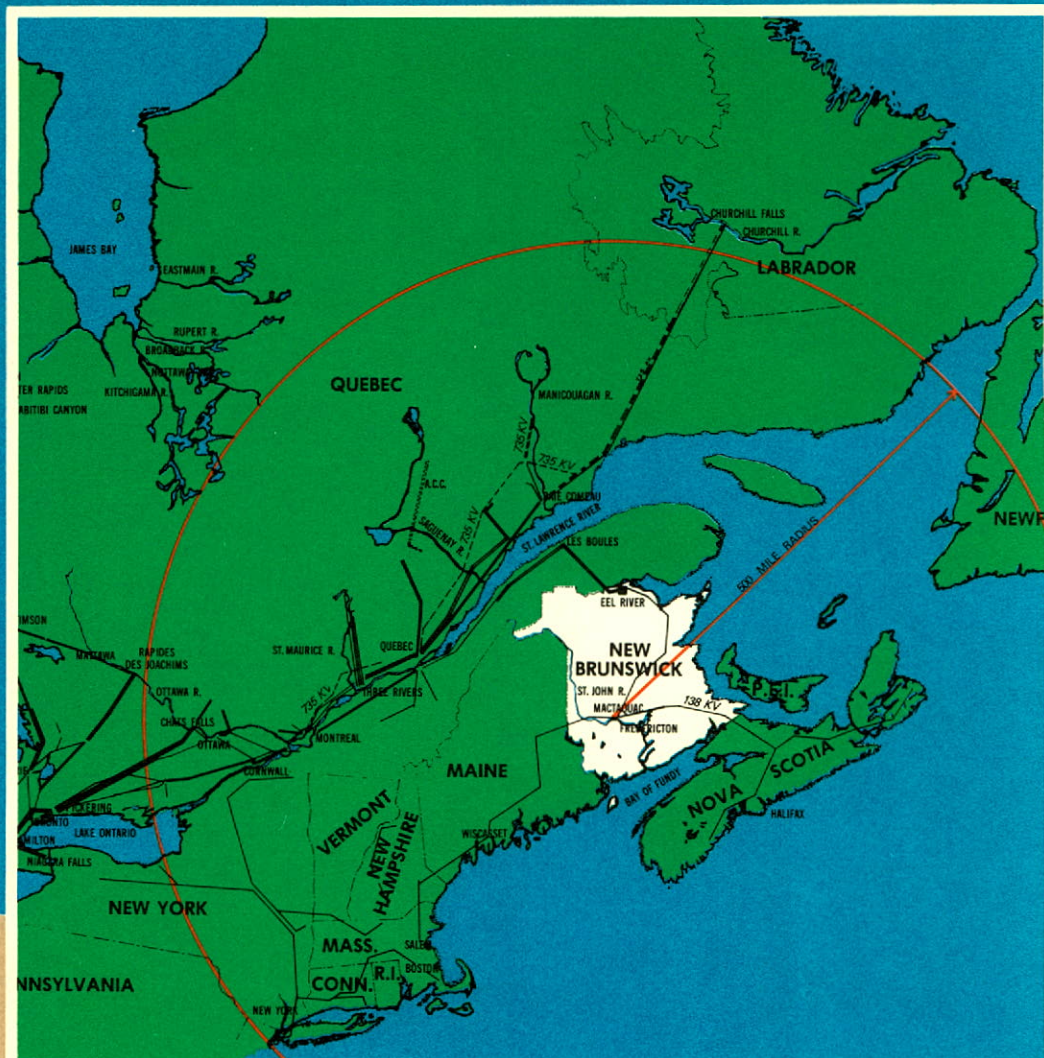
SAINT JOHN

MILLTOWN

COLESON COVE

GRAND MANAN





P.E.I.

MONCTON

NOVA SCOTIA

THE NEW BRUNSWICK ELECTRIC POWER COMMISSION SYSTEM MAP

LEGEND

GENERATING STATIONS

- IN SERVICE
- UNDER CONSTRUCTION
- ◆ TIE TO EASTERN CANADA AND U.S. GRID

TRANSMISSION LINES

- 69 KV
- 138 KV
- 230 KV
- 345 KV

UNDER CONSTRUCTION

- HVDC CONVERTER STATION

GENERATING STATION DATA

	NO. OF UNITS	NAME PLATE CAPACITY K.W.
HYDRO		
Tobique	2	20,000
Beechwood	3	115,000
Milltown	7	3,900
Grand Falls	4	63,000
Sisson	1	10,000
Mactaquac	3	300,000
TOTAL HYDRO		511,900
THERMAL		
Grand Lake 1	2	13,750
Grand Lake 2	4	85,000
Chatham	2	32,500
Dock Street	2	16,000
Courtenay Bay	4	263,365
Dalhousie	1	100,000
Moncton Gas Turbine / sync. Cond.	1	25,000
TOTAL THERMAL		535,615
DIESEL		
Grand Manan		2,811
TOTAL DIESEL		2,811
GRAND TOTAL		1,050,326



NB Power's strategic position between two large power systems, Hydro Quebec and New England, has presented opportunities to dramatically improve the power picture in the Province over the next decade. In the early years, New Brunswick had a relatively small power base but a rapidly growing capacity installation and load growth pattern are improving its position.

System load increases during the early part of the decade are being met with base power purchased over the Hydro Quebec interconnection and with peaking power from Mactaquac.

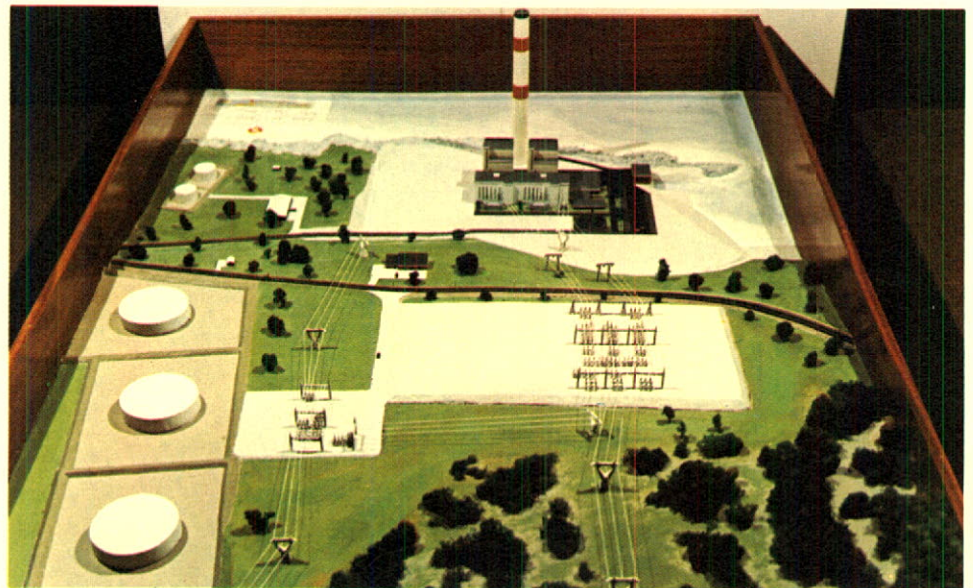
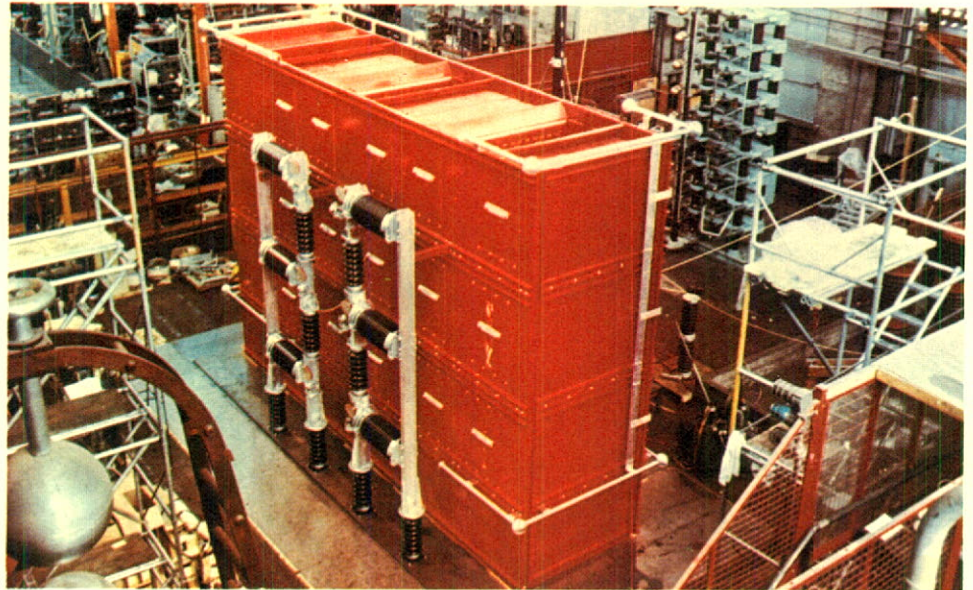
Two 315,000 kilowatt units of the Coleson Cove Thermal Generating Station will come on line in 1976, replacing part of the Hydro Quebec purchase. In addition, options for the third thermal unit at Coleson Cove are already under consideration. Further purchases may be negotiated from other systems to supplement additional peaking generation which can be installed at the Mactaquac Generating Station.

The interconnection developments that have just been completed have facilitated the construction of large conventional oil-fired generating stations such as that being built at Coleson Cove. The siting of this station on deep ocean water gives direct access to world oil supplies by means of the largest oil tankers. This station will also have the versatility of burning crude oil as well as heavy fuels.

The hydro resources of the Province are not large compared to our present and future needs. Consequently, they are more economically employed in providing large blocks of power for short periods of time to meet the peak loads of our Province and the system.

Thus hydro projects now being considered provide either increased generating capacity or augment the water storage capability of the St. John River. The largest potential storage for the St. John River is located in the State of Maine but smaller hydro developments combining these features along with attractive recreational possibilities are under study for the north-western part of the Province.

In view of the Province's extreme dependency on foreign fuel sources,



both from an availability and cost point of view, consideration of nuclear power becomes very important in studies to provide security for the load demands of the future. In addition, increasing acceptance of nuclear power as an ecologically "clean" source of generation demands its consideration for the long term growth. The minimum sized nuclear power generating unit offering power costs competitive with present conventional thermal units is in the 500 to 600 megawatt range. This is too large a unit to fit in the NB Power system alone at this time and it can only be considered on a shared basis with some or all of the large neighboring

utilities in Canada or the U.S.A. Active consideration is being given to methods of realizing a nuclear generating station on the system at the earliest date practical.

The in-province transmission grid overlay is now rapidly developing into a 230,000 volt system from the previous 138,000 volt level. Conversion of the 138,000 volt circuit between the Keswick and Moncton terminals to 230,000 volts is planned for 1974. The installation of the 315,000 kilowatt units will necessitate 345,000 volt transmission between the Coleson Cove Generating Station and the Keswick Terminal.



STATEMENT OF GENERATION AND SALES FOR THE FISCAL YEAR ENDED 31 MARCH 1972

	1972 Kilowatt Hours	1971 Kilowatt Hours	Difference Kilowatt Hours	%
GENERATION				
Hydro	1,944,734,900	2,203,940,500	- 259,205,600	- 11.7
Thermal	3,273,227,600	2,439,835,600	+ 833,392,000	+ 34.2
Diesel	7,513,900	7,396,536	+ 117,364	+ 1.6
Purchases	668,754,458	96,640,963	+ 572,113,495	+ 592.0
Gross Generation and Purchases	5,894,230,858	4,747,813,599	+ 1,146,417,259	+ 24.1
Station Service	190,802,066	141,106,255	+ 49,695,811	+ 35.2
Net Generation and Purchases	5,703,428,792	4,606,707,344	+ 1,096,721,448	+ 23.8
Losses—Transformer and Transmission	221,668,266	228,337,189	- 6,668,923	- 2.9
Losses—% of Net Generation and Purchases	4%	5%		
Total Energy Distribution	5,481,760,526	4,378,370,155	+ 1,103,390,371	+ 25.2
SALES				
Wholesale	362,272,076	335,878,098	+ 26,393,978	+ 7.9
Interconnections	1,300,236,585	824,993,548	+ 475,243,037	+ 57.6
Industrial Power	2,365,241,090	1,965,618,738	+ 399,622,352	+ 20.3
Commercial (11,495 Customers)	509,884,840	435,764,564	+ 74,120,276	+ 17.0
Residential (138,213 Customers)	785,458,370	679,778,600	+ 105,679,770	+ 15.5
Average Revenue Per Commercial KWH	2.06¢	2.09¢		
Average Revenue per Residential KWH	2.37¢	2.44¢		
KWH Per Residential Customer	5,418	4,918	+ 500	
Street Lights	24,961,506	22,547,346	+ 2,414,160	+ 10.7
Total Sales	5,348,054,467	4,264,580,894	+ 1,083,473,573	+ 25.4
Station and Internal Use	193,375,425	174,419,278	+ 18,956,147	+ 10.9
Total Losses	352,800,966	308,813,427	+ 43,987,539	+ 14.2
Gross Generation and Purchases	5,894,230,858	4,747,813,599	+ 1,146,417,259	+ 24.1

ERRATA THIS PAGE

under SALES

Commercial Customers should read 11,786
Residential Customers should read 144,974

Solid state thyristor bank for the HVDC Station at Eel River shown being tested at the Canadian General Electric plant prior to shipment to New Brunswick.

A model of the Coleson Cove Generating Station now under construction on the rocky coast of southern New Brunswick. The plant when completed will use either bunker "C" and/or crude oil.

TOUCHE ROSS & CO.

BRUNSWICK HOUSE
44 PRINCE WILLIAM STREET
P.O. BOX 549, SAINT JOHN, N.B.

AUDITORS' REPORT

The Honourable Richard B. Hatfield,
Premier of the Province of New Brunswick,
Fredericton, N.B.

Sir:

We have examined the balance sheet of The New Brunswick Electric Power Commission as at 31 March 1972 and the related statements of operations and surplus and source and application of funds for the year then ended. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the Commission as at 31 March 1972 and the results of its operations and the source and application of its funds for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Saint John, N.B.
June 16, 1972.

Touche Ross & Co.

Chartered Accountants.



THE NEW BRUNSWICK ELECTRIC POWER COMMISSION
BALANCE SHEET AS AT 31 MARCH 1972

ASSETS

	1972	1971
FIXED ASSETS		
Land, buildings, plant and equipment at cost, less accumulated depreciation (Schedule 1)	\$366,507,533	\$326,572,946
CURRENT ASSETS		
Cash and short-term investments	\$8,946,126	\$12,236,798
Accounts receivable	8,805,303	10,052,239
Material, supplies and fuel, at cost	3,113,785	2,841,733
Prepaid expenses	<u>150,070</u>	<u>269,722</u>
	21,015,284	25,400,492
MORTGAGES AND DEFERRED ACCOUNTS RECEIVABLE	455,880	524,443
DEFERRED CHARGES		
Debenture discount and issue expenses, . . . less amounts amortized	4,487,288	4,440,264
Survey and engineering expense in connection with expansion of facilities	801,251	840,948
Other	<u>141,810</u>	<u>85,703</u>
	5,430,349	5,366,915
FUNDS HELD FOR SPECIFIED PURPOSES		
Acquisition of H.V.D.C. facilities	2,667,093	—
Insurance Fund	<u>1,575,319</u>	<u>1,452,561</u>
	4,242,412	1,452,561
	<u>\$397,651,458</u>	<u>\$359,317,357</u>

ON BEHALF OF THE NEW BRUNSWICK ELECTRIC POWER COMMISSION:

G. E. McINERNEY, Chairman

LOUIS E. LANDRY, Vice-Chairman



LIABILITIES

	1972	1971
FUNDED DEBT		
Debentures issued by the Commission guaranteed by the Province of New Brunswick (Schedule 2)	\$230,612,472	\$214,651,564
Loans from the Province of New Brunswick (Schedule 3)	26,191,280	28,406,690
Loans from Northern Canada Power Commission		
For capital expenditures on approved projects as provided under the Atlantic Provinces Power Development Act (Schedule 4)	60,921,288	61,709,140
Other Loans	<u>23,003,060</u>	<u>—</u>
	340,728,100	304,767,394
CURRENT LIABILITIES		
Accounts payable and accruals	\$13,563,960	\$14,665,835
Accrued interest on debentures issued by the Commission Province of New Brunswick—Accrued interest	4,810,054	4,280,426
—Other	392,280	446,260
—Other	5,383	13,552
Holdbacks on contracts in progress	964,537	430,457
Service deposits	<u>423,584</u>	<u>370,406</u>
	20,159,798	20,206,936
DEFERRED—Contributions from customers in aid of construction, repayable over a period of years in accordance with terms of agreements	542,951	506,441
RESERVES (Schedule 5)	29,757,961	27,980,722
SURPLUS	<u>6,462,648</u>	<u>5,855,864</u>
	<u>\$397,651,458</u>	<u>\$359,317,357</u>

NOTES TO FINANCIAL STATEMENTS AS AT 31 MARCH, 1972

1. The Commission received a claim in February 1968 from Mactaquac Constructors (a joint venture) for additional costs in the provisional total of \$8,315,026 in connection with the Mactaquac Hydro Electric Development project. The amount was subsequently increased on 8 April 1969 to \$10,276,844 after submission of the claim by the Contractor to arbitration under the contract. The hearings before the arbitrators were commenced on 21 April, 1969. On 8 May, 1969 a further amendment to the claim was received which increased the amount to \$16,871,548. After detailed studies by engineering consultants to the Commission and the Engineer under the contract, it appears that some part of the original claim may be valid but the Commission is of opinion that the major part of the claim and particularly the latter revision upward in the quantum of claim are not only inflated, but have little

or no merit. An amount has been recorded in the accounts which the Commission considers will be sufficient to provide for any settlement resulting from arbitration.

2. The unexpended balance of approved capital expenditures at 31 March, 1972 amounted to approximately \$9,748,136.

The Commission is constructing an oil-fired generating station on deep tidal water in the Greater Saint John area. The first two units, totalling 600,000 kilowatts, are estimated to cost approximately \$120,000,000. An agreement for the sale of 400,000 kilowatts from this station for a period of ten years has been completed with the Maine Electric Power Company.



THE NEW BRUNSWICK ELECTRIC POWER COMMISSION
STATEMENT OF OPERATIONS AND SURPLUS
For the Year Ended 31 March 1972

	1972	1971
Sales of power, less discounts		
Wholesale	\$ 4,890,645	\$ 4,507,277
Industrial	20,364,837	16,657,877
Interconnections	9,063,304	4,629,764
Street lighting	1,660,594	1,418,622
Commercial	10,521,665	9,135,193
Retail	<u>18,819,692</u>	<u>16,767,287</u>
	65,320,737	53,116,020
Sales of steam	1,566,022	1,015,903
Miscellaneous income	<u>732,931</u>	<u>969,516</u>
	\$67,619,690	\$55,101,439
Expenditure		
Purchased power	\$ 6,157,584	\$ 752,614
Operating and maintenance expenses		
Generation	21,154,611	14,325,978
Transmission	666,106	537,605
Distribution	<u>4,772,092</u>	<u>4,313,515</u>
	32,750,393	19,929,712
Administrative and other expenses, less amounts capitalized	7,675,825	6,368,458
Interest, exchange and amortization of debenture discount and expenses . .	19,589,192	18,344,347
Less income from sinking fund assets	<u>1,428,281</u>	<u>1,375,745</u>
	18,160,911	16,968,602
Less amounts capitalized	<u>2,285,022</u>	<u>1,831,594</u>
	15,875,889	15,137,008
Provision for depreciation of buildings, plant and equipment	<u>10,090,989</u>	<u>9,967,405</u>
	66,393,096	51,402,583
Income before adjustment for water equalization	1,226,594	3,698,856
Adjustment to equalize generation costs due to fluctuation in water flows . .	<u>2,019,600</u>	<u>616,500</u>
Income from operations for the year . . .	3,246,194	4,315,356
Gain on Sale of Musquash plant	<u>1,177,948</u>	<u> </u>
Net income for the year	4,424,142	4,315,356
Appropriations of surplus to reserves for		
Water equalization	3,194,600	2,976,500
Insurance	322,758	283,310
Contingencies and rate stabilization . .	<u>300,000</u>	<u>500,000</u>
	3,817,358	3,759,810
Balance added to surplus account	606,784	555,546
Surplus at beginning of year	<u>5,855,864</u>	<u>5,300,318</u>
Surplus at end of year	<u>\$ 6,462,648</u>	<u>\$ 5,855,864</u>



THE NEW BRUNSWICK ELECTRIC POWER COMMISSION
STATEMENT OF SOURCE AND APPLICATION OF FUNDS
For the Year Ended 31 March 1972

	1972	1971
SOURCE OF FUNDS		
From operations		
Net Income for the year	\$ 4,424,142	\$ 4,315,356
Amounts charged against operations but not requiring outlay of funds:		
Gain on disposal of Musquash plant	(1,177,948)	
Provision for		
Depreciation of buildings, plant and equipment	10,090,989	9,967,405
Vehicle depreciation	536,910	546,437
Amortization of debenture discount and expenses	391,451	383,859
Adjustment to equalize generation costs due to fluctuation in water flows	(2,019,600)	(616,500)
Survey and engineering expenses written off	108,516	66,645
	<u>12,354,460</u>	<u>14,663,202</u>
Proceeds from debentures issued less discount and expenses	19,561,525	9,827,569
Loans from Northern Canada Power Commission	—	1,496,769
Other Loans	23,003,060	
Proceeds from sale of Musquash plant	1,900,000	
Repayment of mortgages and deferred accounts receivable—net	68,563	—
Contributions from customers in aid of construction—net	36,510	114,277
Decrease in working capital	4,338,070	962,831
	<u>\$61,262,188</u>	<u>\$ 27,064,648</u>
APPLICATION OF FUNDS		
Expenditure on fixed assets	\$51,284,537	\$ 16,853,294
Redemption of N.B.E.P.C. debentures	1,472,000	1,121,000
Net change in Sinking Funds	1,840,502	(634,514)
Reduction in loans from		
Province of New Brunswick	2,942,000	8,386,000
Northern Canada Power Commission	787,852	729,108
Premium on debentures redeemed in United States dollars	20,520	67,945
Deferred survey and engineering expenses	68,819	118,297
Increase in insurance fund	122,758	155,583
Increase in mortgages and deferred accounts—net	—	118,093
Fund for acquisition of H.V.D.C. facilities	2,667,093	—
Increase in other deferred charges	56,107	—
Expenditures charged to reserves		
Loss on disposal insurance fund investments	—	77,727
Self-insured damages	—	50,000
Miscellaneous	—	22,115
	<u>\$61,262,188</u>	<u>\$ 27,064,648</u>



THE NEW BRUNSWICK ELECTRIC POWER COMMISSION

BALANCE SHEET SCHEDULES

As at 31 March 1972

SCHEDULE 1—FIXED ASSETS—AT COST

	1972	1971
Land, buildings, plant and equipment		
Power generating stations	\$263,222,046	\$ 261,344,582
Transmission system	51,204,747	49,955,172
Substations	34,565,001	32,685,787
Distribution system	65,271,649	60,307,786
Other properties	4,507,523	4,513,135
Communications equipment	647,236	671,767
Motor vehicles and miscellaneous equipment	5,503,986	5,111,817
	<u>424,922,188</u>	<u>414,590,046</u>
Construction in progress	49,975,328	13,032,229
	<u>474,897,516</u>	<u>427,622,275</u>
Less grants from Government of Canada	22,500,000	22,500,000
	<u>452,397,516</u>	<u>405,122,275</u>
Less accumulated depreciation	85,889,983	78,549,329
	<u>\$366,507,533</u>	<u>\$ 326,572,946</u>

SCHEDULE 2—SINKING FUND DEBENTURES ISSUED BY THE COMMISSION

	1972	1971
Principal and interest payable in Canadian funds		
8½% maturing 15 October 1974	\$ 8,000,000	\$ 8,000,000
(exchangeable at the option of the holder to 15 April 1974 for 8½% debentures maturing 15 October 1989)		
9 % maturing 1 August 1975	10,000,000	10,000,000
(exchangeable at the option of the holder to 1 August 1975 for 9% debentures maturing 1 August 1990)		
5½% maturing 15 March 1987	2,650,000	2,650,000
5½% maturing 1 November 1988	2,000,000	2,000,000
5½% maturing 1 July 1991	5,000,000	5,000,000
5½% maturing 15 March 1992	7,350,000	7,350,000
5½% maturing 1 November 1993	6,000,000	6,000,000
5½% maturing 15 June 1994	10,000,000	10,000,000
5½% maturing 31 December 1994	3,790,000	3,790,000
6¼% maturing 1 May 1995	15,000,000	15,000,000
5¾% maturing 15 October 1995	7,500,000	7,500,000
6 % maturing 1 January 1996	13,800,000	13,800,000
6 % maturing 1 March 1996	4,000,000	4,000,000
6½% maturing 1 October 1996	6,100,000	6,100,000
7¼% maturing 15 November 1996	20,000,000	—
5½% maturing 31 December 1999	8,210,000	8,210,000
	<u>129,400,000</u>	<u>109,400,000</u>
Less sinking fund assets held in trust by the Province of New Brunswick . . .	12,669,528	10,102,436
	<u>116,730,472</u>	<u>99,297,564</u>
Principal and interest payable in United States funds		
7¼% maturing 1 February 1974	5,000,000	5,000,000
5¼% maturing 2 January 1986	10,535,000	11,091,000
5¼% maturing 1 November 1986	4,547,000	4,763,000
5¼% maturing 1 September 1987	6,692,000	7,000,000
5 % maturing 15 April 1990	14,608,000	15,000,000
5½% maturing 1 May 1991	15,000,000	15,000,000
6 % maturing 15 November 1991	17,500,000	17,500,000
6½% maturing 15 October 1992	15,000,000	15,000,000
6¼% maturing 15 February 1993	15,000,000	15,000,000
7¼% maturing 1 February 1994	10,000,000	10,000,000
	<u>113,882,000</u>	<u>115,354,000</u>
	<u>\$230,612,472</u>	<u>\$ 214,651,564</u>



SCHEDULE 3—LOANS FROM THE PROVINCE OF NEW BRUNSWICK

1972

1971

For which debentures have been issued by the Province to provide funds
for the Commission (payable in United States funds
1972—\$13,240,000; 1971—\$13,982,000)

\$36,988,500

\$ 39,930,500

Less sinking fund assets held by the Province relating to such debentures. . .

10,797,220

11,523,810

\$26,191,280

\$ 28,406,690

SCHEDULE 4—LOANS FROM NORTHERN CANADA POWER COMMISSION FOR CAPITAL EXPENDITURES ON APPROVED PROJECTS AS PROVIDED UNDER THE ATLANTIC PROVINCES POWER DEVELOPMENT ACT

Repayable in annual instalments at principal plus interest at rates ranging
from 4½% to 8½% to the year 2010

\$60,921,288

\$ 61,709,140

SCHEDULE 5—RESERVES

Insurance
Exchange in funded debt payable in United States dollars
Contingencies and rate stabilization
Water equalization

\$1,775,319

\$ 1,452,561

21,907,642

8,141,236

6,075,000

13,486,925

\$29,757,961

\$ 27,980,722

* Now included in reserve for contingencies and rate stabilization.

COMPARATIVE STATEMENT OF OPERATING AND PHYSICAL STATISTICS

	March 31 1962	31 March 1964	31 March 1967	31 March 1971	31 March 1972
Plant Name Plate Capacity kw	307,886	406,636	530,961	1,032,286	1,050,326
Gross Generation—Purchases kwh	1,425,489,140	1,797,928,340	3,013,532,860	4,747,813,599	5,894,230,858
Total Energy Distributed	1,324,200,410	1,656,768,900	2,740,322,630	4,378,370,155	5,481,760,526
Total Revenue	\$ 20,309,856	\$ 24,650,853	\$ 37,601,262	\$ 55,101,439	\$ 68,797,638
Total Expenditure and Appropriations	\$ 19,998,795	\$ 24,222,115	\$ 36,768,208	\$ 54,545,893	\$ 68,190,854
Fixed Assets, including Work in Progress	\$ 151,481,819	\$ 184,956,439	\$ 291,563,329	\$ 405,122,275	\$ 452,397,516
Current Assets	\$ 13,119,539	\$ 10,988,963	\$ 22,568,177	\$ 25,400,492	\$ 21,015,284
Current Liabilities	\$ 5,525,005	\$ 6,336,013	\$ 16,881,328	\$ 20,206,936	\$ 20,159,798
Inventories	\$ 1,677,147	\$ 1,505,507	\$ 2,531,868	\$ 2,841,733	\$ 3,113,785
Long Term Debt—Net	\$ 132,802,130	\$ 147,622,243	\$ 231,788,724	\$ 304,767,394	\$ 340,728,100
Sinking Fund Assets	\$ 13,206,259	\$ 15,220,609	\$ 17,667,316	\$ 21,626,246	\$ 23,466,748
Accumulated Depreciation	\$ 25,933,537	\$ 34,267,534	\$ 49,386,725	\$ 78,549,329	\$ 85,889,983
Other Reserves	\$ 6,216,882	\$ 10,282,300	\$ 18,467,886	\$ 27,980,722	\$ 29,757,961
Reserves and Accumulated Depreciation	\$ 32,150,419	\$ 44,549,834	\$ 67,854,611	\$ 106,530,051	\$ 115,647,944
Total Reserves—Percentage Fixed Assets	21.2	24.1	23.3	26.3	25.5
Circuit Miles Transmission Lines	1,744	1,947	2,315	2,601	2,766
Miles Distribution Circuits	7,996	8,447	8,664	8,872	8,967
Number Retail Customers	104,946	107,948	112,097	138,213	144,974
Number Industrial Customers	2,469	2,552	2,651	786	801
Number Commercial Customers	—	7,943	10,005	11,495	11,786
Number Street Light Customers	—	—	—	1,495	1,547

In 1964 a Commercial Rate was established and transfers to and from the other classifications have since been made following an analysis of each service. Manufacturing and processing industries are now included as Industrial Customers.

30w31
73

997
15246
838
11771
1613



STAFF

Negotiations between the Commission and Local 1733 IBEW, representing approximately 700 non-supervisory employees, that opened in November 1970, were concluded in August 1971 and resulted in an agreement extending to December 31, 1972.

In July 1971, the Public Service Labor Relations Board certified Local 2309 IBEW as bargaining agent for approximately 175 technical nonsupervisory employees. Negotiations between the Commission and the Local began in September and an agreement extending to December 31, 1973, was signed on January 27, 1972.

The Commission's job evaluation program covering all non-unionized employees was intensified during the year to cope with rapidly changing staff requirements.

As of March 31, 1972, regular and temporary staff numbered 1,550 compared to 1,478 on March 31, 1971. The

increase is largely due to the provision of trained staff to facilitate the near doubling of power generating capability over the next four years.

G. E. McINERNEY, Q.C.
Chairman

A. J. O'CONNOR
General Manager

20

View of the cooling water intake area of the Dalhousie Generating Station on the Bay of Chaleur.



During a visit to the Eagle Fisheries Plant in Shippegan, Commission Chairman, the Hon. George E. McInerney, and commissioners watch workers canning crab meat. The canning of crab meat, new to New Brunswick, is providing additional income to the area.



The Chairman and Commissioners are shown with municipal and business leaders following a meeting in the northeast area of the Province.



