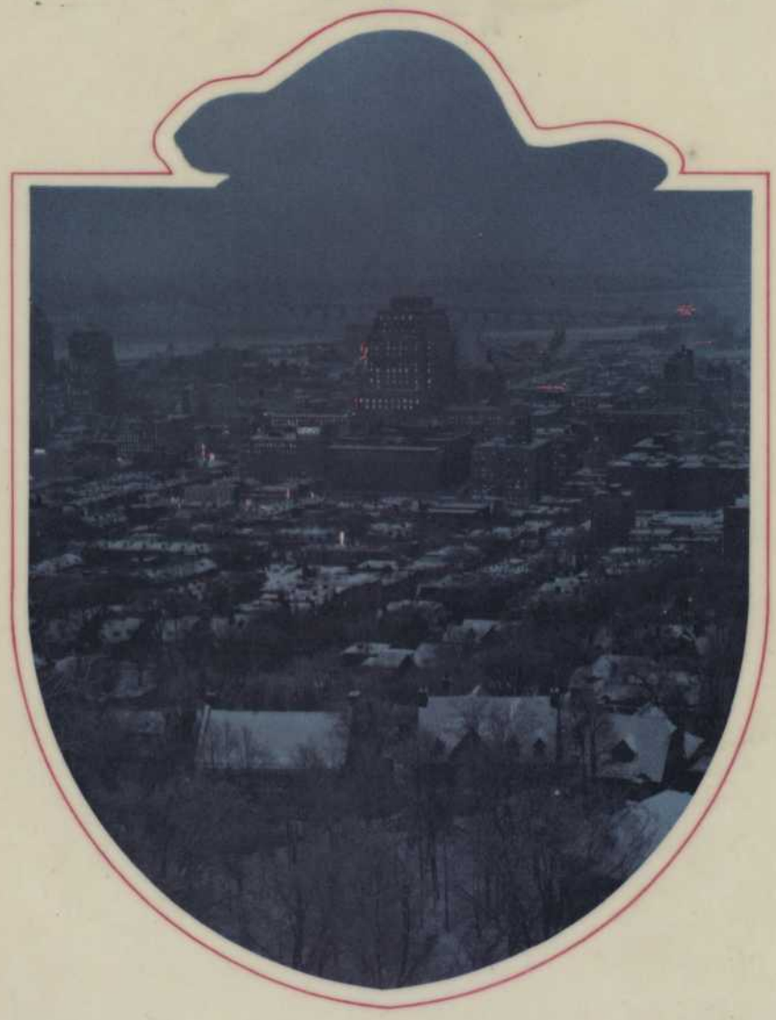
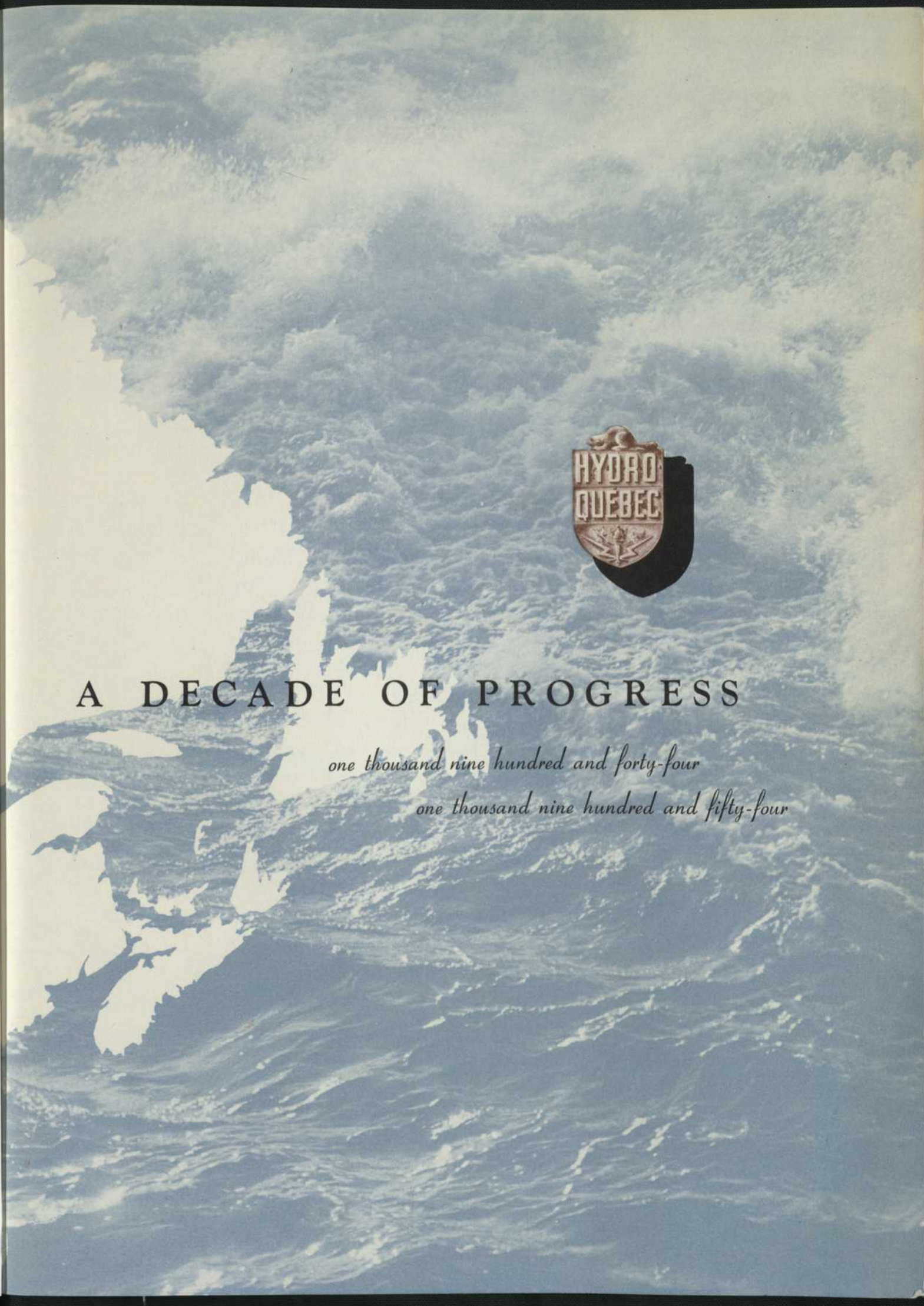


A DECADE OF PROGRESS

HYDRO QUEBEC

THE QUEBEC HYDRO-ELECTRIC COMMISSION 1944-1954



A DECADE OF PROGRESS

one thousand nine hundred and forty-four

one thousand nine hundred and fifty-four

Dedication

To the Men and Women
of Hydro-Quebec
— artisans of the pioneer successes
of our enterprise —
this volume is affectionately
and proudly dedicated.
It bespeaks the co-operation
and mutual management-employee confidence
without which the Commission
could never have achieved
its present status.

Foreword

The Government of the Province of Quebec created the Quebec Hydro-Electric Commission in 1944. Enabling legislation specified that this Commission would make power available to municipalities, industrial and commercial undertakings and the citizens of the Province at the lowest rates consistent with sound financial administration.

This illustrated ten-year report offers graphic proof of the successful efforts of the Commission towards the realization of this objective. It reviews the principal Hydro-Quebec achievements during the first decade of its lifetime — an era during which it contributed its share towards the progress and development of the City of Montreal and the Province it serves.

Execution of this mandate has been neither easy nor simple, but the Commission and its personnel feel that the accomplishments listed in these pages are fitting reward for their efforts. They bear mute testimony to the loyalty, to the competence of Hydro-Quebec engineers, accountants, technicians and all those other workmen whose devotion has made past successes possible and provides a staunch guarantee for the future of this enterprise.

The 1944-54 decade augurs well for the continued success of Hydro-Quebec — a public service owned by the people of Quebec, dedicated to their service and ever ready to help assure the destiny, maintain the leadership of this Province as one of the most richly nature-endowed areas of Canada.

To the people of the Province of Quebec, in general, to the citizens of Greater Montreal, in particular, Hydro-Quebec renews its 1944 pledge — to provide the best service humanly possible to those it has the privilege of supplying with such essential commodities as electricity and gas.

THE QUEBEC HYDRO-ELECTRIC COMMISSION

is an agency of the Crown in the right of the Province of Quebec. Created by an Act of the Legislature of the Province in April, 1944, its administration was entrusted to a President and not more than four Commissioners appointed by the Lieutenant-Governor-in-Council.

Responsible to the Government of the Province, through the intermediary of the Department of Hydraulic Resources, the Commission functions by enacting by-laws which regulate the exercise of its powers, its internal administration and the duties of its personnel.

Expropriation - Compensation

The Act establishing the Commission accorded it the right to acquire — by expropriation — the gas and electricity generation, transmission and distribution facilities owned and operated by the Montreal Light, Heat & Power Consolidated and its subsidiaries. Shares of this consolidated company were acquired by the Commission in 1947 at $25.00 per share.

Hydro-Quebec also acquired all shares of the Beauharnois Light, Heat and Power Company, which owned and operated a power plant on the South Shore of the St. Lawrence River, some 30 miles west of Montreal.

Montreal Light, Heat & Power Consolidated owned a substantial majority of the shares of the Beauharnois Light, Heat and Power Company and of the Montreal Island Power Company, which owned and operated a power plant over the Rivière-des-Prairies on the northern outskirts of Montreal.

ERRATUM

Page 5, paragraph 1, fourth line
"$4,216,026 PLUS INTEREST"
should read
"$4,216,026 INCLUDING INTEREST"

Province of Quebec Government appointed an Arbitration Board x the indemnity to be paid minority holders of the capital stock arnois Light, Heat and Power Company. It awarded an amount of lus interest, as compensation for these shares. The Commission minority shareholders of the Montreal Island Power Company ately $170,000.

sition of Montreal Light, Heat & Power Consolidated resulted ission assuming ownership of a 50% interest in the Montreal Coke turing Company, which produces all manufactured gas distributed al area. At the same time, it acquired a 51% interest in Keystone Transports Limited, which owns and operates a fleet of nine ships used in the transportation of coal.

Generating Facilities

Generating facilities for providing power to the Montreal area had reached an installed capacity of 1,250,000 kilowatts — 1,670,000 horsepower — by 1954.

Power-producing facilities at Beauharnois were more than doubled during the first ten years of the Commission. This plant now houses 26 generating units with a total installed capacity of over 1,063,050 kilowatts, or 1,425,000 horsepower, as compared with an installed capacity of 487,500 kilowatts in 1944. The Montreal System is fed also from the Cedars Rapids Power House, with an installed capacity of 153,000 kilowatts, and from the Rivière-des-Prairies plant, with an installed capacity of 45,000 kilowatts.

Generating facilities of the Northwestern Quebec System comprise two plants on the Upper Ottawa River. The plant at Rapid VII has an installed capacity of 48,000 kilowatts, while its sister plant at Rapid II has the same ultimate capacity, of which two 12,000-kilowatt units have already been installed. A network of transmission lines feeds such Commission customers as Hydro-Electric Power Commission of Ontario, Noranda Mines Limited, a number of industrial and other mining companies, municipalities and rural electricity co-operatives, as well as a private utility company.

Province-wide Interconnection

Developments during the 1944-54 period have produced a network interconnecting practically all the power-producing plants of the Province.

High-tension transmission lines connect the generating facilities of both the Commission and the Shawinigan Water & Power Company, the latter supplying the Commission's Montreal area with large amounts of power under a long-term contract.

By means of Shawinigan Company lines, the Hydro-Quebec system is interconnected also with the Saguenay system in the Lake St. John area. Other tie-ins are with the Southern Canada Power Company system, serving the South Shore of the St. Lawrence River, east of Montreal, and with the Gatineau Power Company system, supplying the western part of the Province.

The Province of Quebec Government appointed an Arbitration Board in 1953 to fix the indemnity to be paid minority holders of the capital stock of the Beauharnois Light, Heat and Power Company. It awarded an amount of $4,216,026, plus interest, as compensation for these shares. The Commission settled with minority shareholders of the Montreal Island Power Company for approximately $170,000.

Acquisition of Montreal Light, Heat & Power Consolidated resulted in the Commission assuming ownership of a 50% interest in the Montreal Coke and Manufacturing Company, which produces all manufactured gas distributed in the Montreal area. At the same time, it acquired a 51% interest in Keystone Transports Limited, which owns and operates a fleet of nine ships used in the transportation of coal.

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THE QUEBEC HYDRO-ELECTRIC

R. DUPUIS
Commissioner

J. A. SAVOIE
Vice-President

L. E. POTVIN
President

Treasury

G. FONTAINE
Treasurer

B. LACASSE
Secretary

L. O'SULLIVAN
Assistant General Manager

Electrical

Accounting Department

E. A. LEMIEUX
Comptroller

Purchasing and Stores

L. M. VIGEANT
Director

Power Development

F. ROUSSEAU
Chief Engineer

Engineering Design

D. M. FARNHAM
Chief Engineer

Budget

J. MILLER
Director

Billing Department

T. J. HALL
Manager

Collection Department

J. P. DAVEY
Manager

Personnel Department

H. L. McEVOY
Director

Medical Department

Dr. J. A. DUFRESNE
Director

Industrial Relations Department

G. MOLLEUR
Director

Publicity Department

R. THERRIEN
Director

COMMISSION

J. W. McCAMMON
General Manager

R. LATREILLE
Commissioner

Executive and Departmental Managers

C. C. PARKES
Assistant to
the President

W. E. JOHNSON
Secretary

L. ROY
Chief Engineer
Auxiliary Services

Department

Regional Operation

T. O. EVANS
Chief Engineer

Metropolitan Operation

R. N. COKE
Chief Engineer

Gas Department

T. E. CROSS
Chief Engineer

Shops and Transportation Department

J. H. WHEATLEY
Chief Engineer

Legal Department

J. ARCHAMBAULT
Chief Attorney

Claims and Taxation Department

W. R. McLEOD
Manager

Real Estate and Valuation Department

J. H. LEECH
Manager

Industrial Department

P. E. POITRAS
Director

Service Department

J. E. LIONAIS
Manager

Merchandising Department

J. E. ST-JEAN
Director

Statistical Department

J. C. ANTLIFF
Statistician
and rate research
engineer

Surplus Assets Department

R. VERNER
Manager

Bersimis Development

Every progressive organization makes plans for future requirements while filling present needs. So has it been with the Commission in its efforts to satisfy ever-increasing demands for power.

At the instance of the Government of the Province, Hydro-Quebec started development of a power site on the Bersimis River in 1952. This cascade-dotted North Shore river merges with the St. Lawrence River 200 miles northeast of Quebec City and the locale of its power plant, Labrieville, is, roughly, 400 miles from Montreal.

Main features of the Bersimis project are:

1 — Construction of two huge mountain-anchored dams — the larger astride the Bersimis River and the second spanning the neighboring Desroches River — to raise the water level in Lakes Cassé and Pipmuacan by 155 feet and 75 feet, respectively, to create a storage reservoir of 300 square miles.

2 — Excavation of a 7.6 mile tunnel of 35-foot diameter — through solid rock — to channel water down 875 feet to power house level.

3 — Excavation and construction of a mountain-enclosed power house to contain eight 112,500-kilowatt generating units for a total installed capacity of 900,000 kilowatts.

4 — Construction of a huge transformer and switching station adjacent to the power house.

5 — Development of the permanent Labrieville town site with its essential church, school and hospital facilities.

6 — Erection of 300,000-volt transmission lines to transport power to Hydro-Quebec's Montreal System and to the Shawinigan Company System via Charlesbourg, near Quebec City.

7 — Construction of such ancillary works as an 88-mile access road linking Labrieville with Forestville, nearest St. Lawrence River port, and of a new wharf at this maritime terminal.

Part of the Bersimis-produced power has been reserved for development of the mining and other resources of Gaspé Peninsula on the South Shore. Nearing completion as the Commission ended its first ten years were:

1 — The longest power-carrying submarine cables in the world — four 31½-mile units of 69,000-volt capacity.

2 — Some 140 miles of 161,000-volt transmission line, with complementary substation facilities.

It is anticipated that the underwater cable crossing will have undergone final tests by the middle of 1955 and power made available for important mining and industrial development in this part of the Province, as well as for a local public utility and various electricity co-operatives. In the interim, until Bersimis power is available, electricity will be supplied the South Shore by a private utility operating a power plant on the North Shore.

Apart from the projects already started or scheduled for a later date, Hydro-Quebec is making power available to several important mining fields in the Chibougamau area. The principal feature of this project is the 150-mile 154,000-volt transmission line originating at St. Félicien in the Chibougamau

district. Scheduled to be completed by May, 1955, this transmission line will be fed eventually from the Bersimis power plant.

The Bersimis development and its correlated transmission network will forge a vital link in the vast interconnection chain destined to make available — without undue difficulty — the undeveloped power resources of the Province. It is estimated that, with proper water storage facilities, these untouched resources will total more than 20,000,000 kilowatts, or 26,000,000 horsepower. Included in the potential yet to be harnessed by Hydro-Quebec are the third and last section of the Beauharnois development, the Lachine Rapids on the St. Lawrence River and the Carillon Rapids on the Ottawa River.

Natural Gas

The possibility of the introduction of natural gas to the Montreal metropolitan area has been the subject of thorough investigation and study by the Commission. This gas would be brought by pipe line from Alberta's fields to Eastern Canada.

Bringing natural gas to Montreal would constitute another major undertaking by Hydro-Quebec to assist in the further development and progress of the metropolitan area. Whether it is feasible or not at this time remains to be determined and the Commission, before reaching a decision, will have explored and weighed the project from every technical and economic angle.

Conclusion

This has been a broad outline of the magnitude of the Commission's undertakings during the first decade of its regime, complemented by references to additional projects whose completion assures a promising future.

Subsequent pages will provide a detailed description of the operations of the Commission, attention being spotlighted on the more important developments of the past ten years.

Treasury

J. FIELD
Assistant Treasurer

Power Development

C. H. PIGOT
Hydraulic Engineer

F. WILLOWS
General Superintending Engineer of Construction

W. G. F. JOHNSTON
Office Engineer

Engineering Design

H. W. HABERL
Assistant Chief Engineer

Accounting Department

A. DUSSAULT
Assistant Comptroller

J. M. GAGNON
Chief Accountant

M. JEAN
Internal Auditor

M. LAFOREST
Plant Accountant

Beauharnois

C. FOREST
Special Assistant

A. ROUSSEAU
Construction Superintendent

Bersimis

J. O. PARKER
Project Co-Ordinator

L. NORMANDEAU
Assistant General Manager

Generating Stations and Substations

H. F. ABBOTT
Engineer

Transmission

R. W. FARMER
Engineer

System Planning

R. HANGO
Engineer

W. H. FONG
Assistant Engineer

A. DUFRESNE
Assistant Engineer

J. J. ARCHAMBAULT
Assistant Engineer

Billing Department

A. M. BOIRE
Assistant Manager

Collection Department

I. JASMIN
Assistant Manager

Communications

G. W. MILLICAN
Engineer

Distribution

A. BENJAMIN
Engineer

Architecture

C. CHEVALIER
Architect

M. P. GUNNING
Assistant Engineer

Industrial Department

R. E. GOHIER
Assistant Director

Publicity Department

H. A. CROCHETIÈRE
Assistant Director

Merchandising Department

J. B. FLEMMING
Assistant Director

R. L. PERRAULT
Assistant Manager

Service Department

Installation

J. D. ALTIMAS
Supervisor

Department

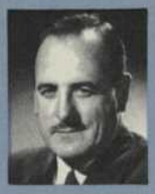
Gas Department

Metropolitan Operation

H. H. REMINE
Assistant Chief Engineer

Regional Operation

Y. De GUISE
Assistant Chief Engineer



C. LAVERDURE
Assistant Chief Engineer

Substations

R. A. BOYD
Superintending Engineer

Transmission and Distribution

R. GAUTHIER
Superintending Engineer

Maintenance

A. PRUD'HOMME
Superintending Engineer

Operating

G. PERRON
Superintending Engineer

Planning and Development

J. J. LEROUX
Design Engineer

Storage and Compressing Stations

H. C. OSLER
Superintendent

M. PARADIS
Assistant Superintending Engineer

M. ST. JACQUES
Assistant Superintending Engineer

Beauharnois Power House

J. P. MARION
Superintendent

Northwestern Quebec System

R. LALANDE
District Manager

Construction and Maintenance

W. ROBERTSON
Superintendent

R. CYR
Assistant Superintendent

A. KOKKO
Assistant Superintendent

Shops and Transportation Department

F. DUGAL
Assistant Chief Engineer

Claims and Taxation Department

J. G. NOËL
Assistant Manager

Real Estate and Valuation Department

L. LEMAY
Assistant Manager

Medical Department

Dr G. A. ROULEAU
Assistant Director

Personnel Department

H. FILIATRAULT
Assistant Director

Departmental Assistants

Consolidated BALANCE

ASSETS

Properties and Plant :		
Carried at original cost as established by independent engineers for properties expropriated April 14, 1944, plus net additions to date, at cost :		
Electric Utility Plant	$437,038,087	
Gas Utility Plant	23,324,820	
Common Plant	13,759,526	
	$474,122,433	
Less: Reserves for Depreciation and Renewal	101,865,745	$372,256,688
Construction, Operating and Sundry Equipment	$ 19,693,516	
Less: Reserve for Renewal	4,948,483	$ 14,745,033
		$387,001,721
Current Assets :		
Cash and Treasury Bills	$ 13,646,411	
Accounts Receivable	4,972,336	
Unbilled Revenue — estimate	4,574,389	
Inventories — Materials and Supplies	5,368,851	
Deferred and Prepaid Charges	962,382	$ 29,524,369
Pension Fund Assets		8,264,114
Investments :		
Government Guaranteed Bonds	$ 1,795,875	
Other Investments	866,793	
Employees' Housing Loans	2,185,446	
Balances due on Properties Sold	564,047	$ 5,412,161
Sinking Funds		491,875
		$430,694,240

Approved on behalf of the Commission :

(Signed) L. E. POTVIN, *President.*

(Signed) J. A. SAVOIE, *Vice-President.*

SHEET

AS AT DECEMBER 31, 1954

LIABILITIES

Funded Debt: (guaranteed by the Province of Quebec)		
Montreal Light, Heat & Power Consolidated Bonds	$ 13,000,000	
Quebec Hydro-Electric Commission Debentures	283,817,900	$296,817,900
Deferred Payments on Property Acquired		631,629
Current Liabilities:		
Accounts Payable	$ 7,998,164	
Accrued Liabilities (including interest on Funded Debt)	4,503,759	$ 12,501,923
Customers' Deposits		922,693
Employees' Pension Fund		8,264,114
Reserves:		
Deferred Maintenance	$ 16,136,495	
Improvements	23,068,414	
Contingencies	24,000,000	
Stabilization of Rates	17,000,000	
Amortization	30,972,394	
Investment Equalization	347,334	
Deposits, Interest and Dividends	441,556	
	111,966,193	
Less: Deficit — Northwestern Quebec System	410,212	$111,555,981
		$430,694,240

NOTE: Funded Debt includes $50,000,000 Sinking Fund debentures maturing in 1978, payable in U.S. funds.
The above figures do not take into consideration the commitments for purchases of equipment and other construction contracts, amounting to approximately $33,100,000.

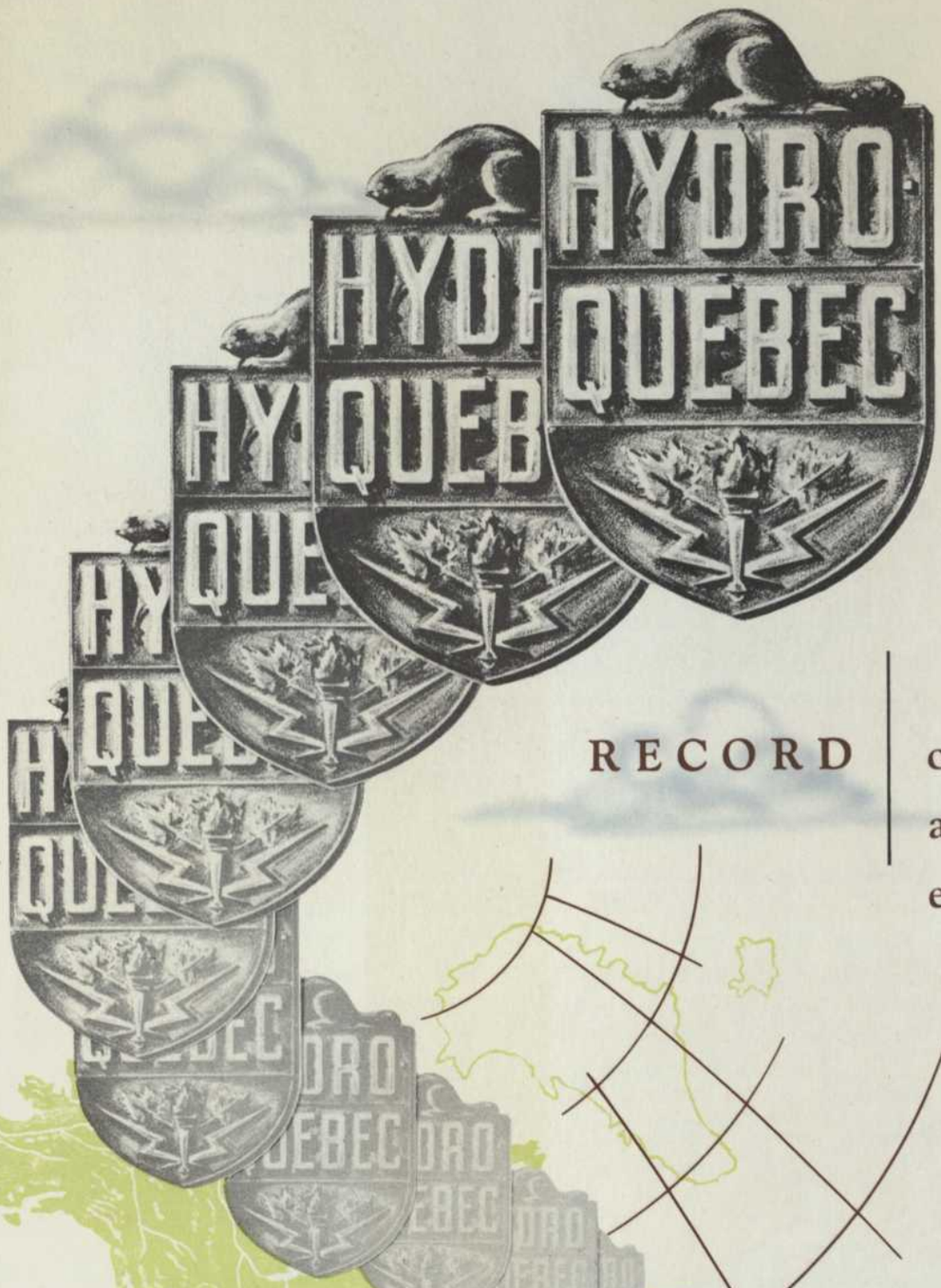
This is the balance sheet referred to in our report of even date.

(signed)

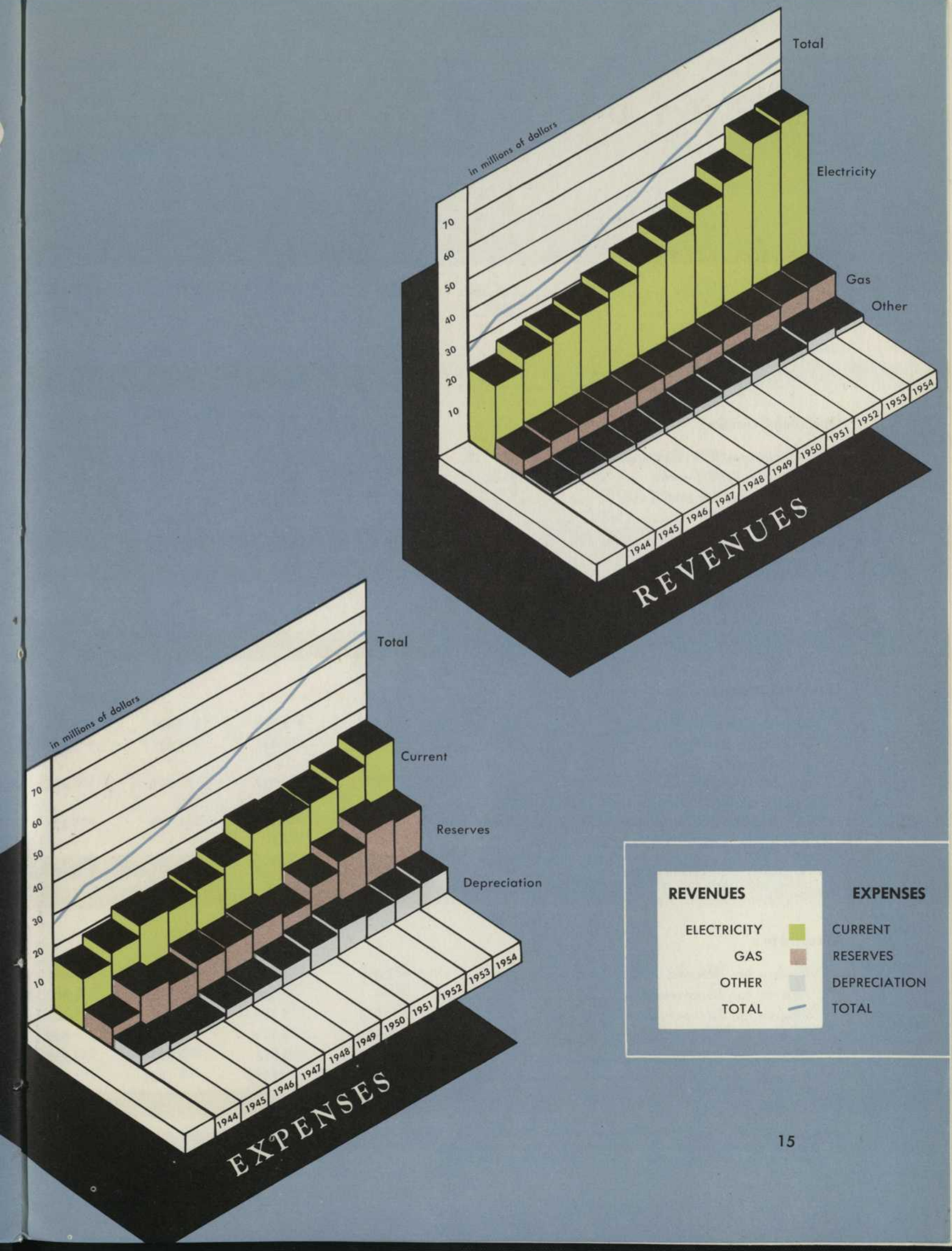
ROSAIRE COURTOIS
Chartered Accountant

McDONALD, CURRIE & CO.
Chartered Accountants

Montreal, January 15, 1955.



RECORD of revenues and expenses


Total
Electricity
Gas
Other
in millions of dollars
70
60
50
40
30
20
10
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
REVENUES
Total
Current
Reserves
Depreciation
in millions of dollars
70
60
50
40
30
20
10
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
EXPENSES
REVENUES
ELECTRICITY
GAS
OTHER
TOTAL
EXPENSES
CURRENT
RESERVES
DEPRECIATION
TOTAL

HYDRO-QUEBEC | *Consolidated*

	1944 * (From April 14)	1945 *	1946 *	1947 *
Operating Revenues :				
Electric	$22,116	$27,473	$28,125	$30,017
Gas	3,914	6,320	6,668	6,821
Unbilled Revenue [a]	1,279	—	—	—
General	301	447	496	402
	$27,610	$34,240	$35,289	$37,240
Operating Expenses :				
Operating and Maintenance	$ 7,503	$10,223	$10,949	$11,757
Provision for Renewals	4,414	3,350	3,016	3,752
Municipal and School Taxes	461	714	707	694
Educational Tax	—	—	2,800	2,800
	$12,378	$14,287	$17,472	$19,003
Net Operating Income :	$15,232	$19,953	$17,817	$18,237
Add : Investment and other Income less Sundry Charges (Debit)	(54)	217	(50)	649
	$15,178	$20,170	$17,767	$18,886
Less Other Expenses :				
Interest on Funded Debt	$ 5,979	$ 6,920	$ 5,991	$ 5,004
Interest on Reserves	—	414	898	1,281
Interest on Advances Northwestern Quebec System	287	383	311	287
Interest applied to Construction (credit)				
Write-off of Bond Discount, Premium and Expense	11	11	25	226
Reductions in Book Value of Investments				
	$ 6,277	$ 7,728	$ 7,225	$ 6,798
Net Income :	$ 8,901	$12,442	$10,542	$12,088
Allocated to :				
Reserve for Deferred Maintenance	$ 2,656	$ 1,406	$ 922	$ —
Reserve for Improvements	—	2,500	2,425	1,400
Reserve for Contingencies [b]	972	3,713	2,610	1,565
Reserve for Stabilization of Rates	1,500	1,455	1,910	850
Reserve for Amortization	3,940	3,552	2,699	8,239
Province of Quebec (Debit)	(167)	(184)	(24)	34
	$ 8,901	$12,442	$10,542	$12,088

[a] Adjustment for unbilled revenue years, 1949 to 1952, amounting to $1,988,587, credited to Reserve for Deferred Maintenance in 1953.
[b] This item includes the net result of Operation of Northwestern Quebec System which showed a deficit of $118,000 and $340,000 for the years 1952 and 1954, respectively, and a surplus of $48,000 for 1953.

Revenues and Expenses 1944-1954

(in thousands of dollars)

1948 *	1949 *	1950	1951	1952	1953	1954	TOTAL
$31,765	$35,288	$38,794	$43,680	$46,764	$50,981	$53,880	$408,883
6,920	7,154	7,505	7,866	7,988	8,095	8,343	77,594
708	—	—	—	—	324	274	2,585
457	458	958	1,069	951	1,072	979	7,590
$39,850	$42,900	$47,257	$52,615	$55,703	$60,472	$63,476	$496,652
$13,546	$14,833	$15,814	$16,800	$17,548	$18,636	$19,696	$157,305
3,892	5,051	5,999	7,784	6,236	6,803	7,891	58,188
708	707	707	705	719	707	718	7,547
2,800	2,800	2,800	2,800	2,800	2,800	2,800	25,200
$20,946	$23,391	$25,320	$28,089	$27,303	$28,946	$31,105	$248,240
$18,904	$19,509	$21,937	$24,526	$28,400	$31,526	$32,371	$248,412
1,242	1,184	1,453	821	1,229	1,083	1,214	8,988
$20,146	$20,693	$23,390	$25,347	$29,629	$32,609	$33,585	$257,400
$ 4,726	$ 4,825	$ 5,451	$ 5,365	$ 6,760	$ 6,693	$ 8,792	$ 66,506
1,780	2,312	2,948	3,506	3,925	3,328	4,339	24,731
287	326	—	—	—	—	—	1,881
	(272)	(814)	—	(759)	(881)	(3,567)	(6,293)
224	331	2,920	6	—	744	2,898	7,396
—	—	1,577	—	—	—	—	1,577
$ 7,017	$ 7,522	$12,082	$ 8,877	$ 9,926	$ 9,884	$12,462	$ 95,798
$13,129	$13,171	$11,308	$16,470	$19,703	$22,725	$21,123	$161,602
$ 721	$ —	$ 17	$ 45	$ 2,220	$ 583	$ 2,280	$ 10,850
754	—	279	4,587	1,014	6,500	1,375	20,834
2,594	369	979	5,877	3,131	2,048	3,054	26,912
—	1,500	928	—	2,021	3,000	1,604	14,768
8,919	11,050	9,105	5,961	11,317	10,594	12,810	88,186
141	252	—	—	—	—	—	52
$13,129	$13,171	$11,308	$16,470	$19,703	$22,725	$21,123	$161,602

(*) The operations for these years include those of the Northwestern Quebec System which was administered during these years by the Commission and was acquired from the Province as of January 1, 1950.

Consolidated Funded Debt

Funded Debt of Expropriated Companies assumed April 14, 1944 (including $48,794,800 of Beauharnois L. H. and P. Co. bonds held by the Trustee for the bondholders of Montreal L. H. & P. Cons.)		
Less : Retired		
from holdings	$ 7,841,850	
by Sinking Funds	2,323,600	$ 10,165,450
Redeemed		
by refinancing	$ 57,955,900	
from Cash held by Trustees (see above note)	51,292,540	
from Earnings (Reserves)	36,688,010	145,936,450

PURPOSE OF HYDRO-QUEBEC DEBENTURE ISSUES AND REDEMPTION THEREOF TO DECEMBER 31, 1954

	Issued	Redeemed
To provide Funds for :		
Redemption of $57,955,900 Beauharnois L. H. and P. Co. bonds including premium (Series "A", "B", "C" and "D")	$ 60,540,000	$ 7,950,000
Acquisition of Montreal L. H. & P. Cons. and Beauharnois L. H. and P. Co. shares (Series "E" and "J")	116,725,000	40,497,100
Purchase of the assets and properties of the Canadian Light & P. Co. (Series "F")	2,300,000	2,300,000
Construction of hydro-electric plants, substations, transmission and distribution facilities, and Service Centre (Series "G", "H", "I", "K" and "L")	155,000,000	—
	$334,565,000	$ 50,747,100

TOTAL OUTSTANDING DEBT — DECEMBER 31, 1954

AS AT DECEMBER 31, 1954

	Balance Outstanding
$169,101,900	
156,101,900	$ 13,000,000
Outstanding	
$ 52,590,000	
76,227,900	
—	
155,000,000	
$283,817,900	$283,817,900
	$296,817,900

The Commission assumed a total funded debt of $169,101,900 in April, 1944 (including $48,794,800 of Beauharnois Light, Heat and Power Company bonds held by trustees for Montreal Light, Heat & Power Consolidated bondholders). Of this amount, $156,101,900 was retired and redeemed, leaving an outstanding assumed debt of $13,000,000.

Debentures totalling $334,565,000 were issued by the Commission during the decade under review, as shown in statements reproduced on subsequent pages.

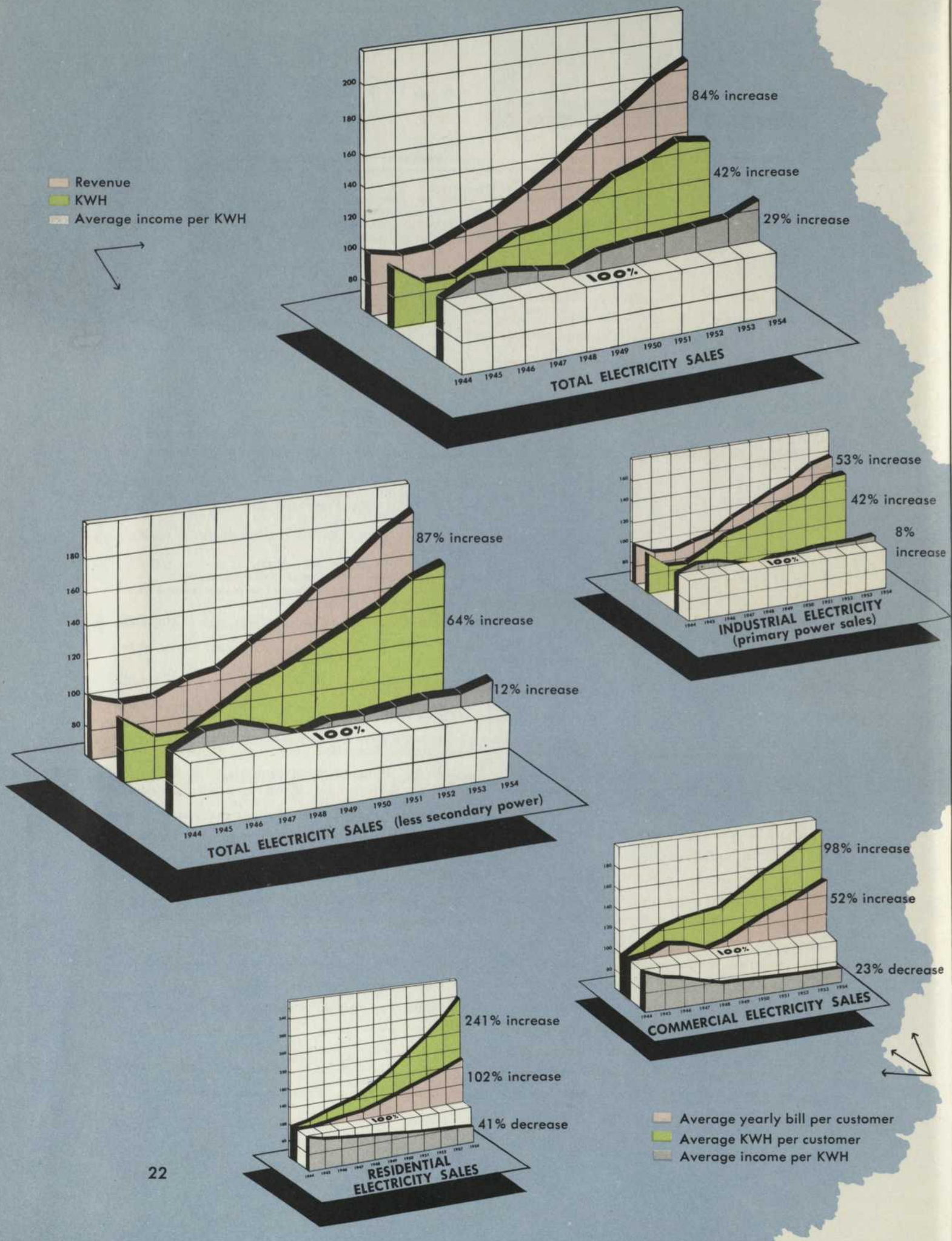
Bonds and debentures amounting to $89,758,710 had been retired up to the end of 1954 by the Commission — out of earnings and reserves — a fact worthy of mention.

The Commission has added some $317.7 millions in generating facilities since 1944, including expenditures to date for the construction of its Bersimis development, for transmission and distribution facilities and for construction of its new Service Centre.

Hydro-Quebec needed to borrow only $155 millions of new money to supply the funds necessary for such an extensive construction and expansion program. This is less than half the total amount added to its properties and plant during the period under review. Approximately $13 millions of this borrowed amount was still unspent at the end of 1954.

Series	Rate %	Date of Issue	Date of Maturity	Issued	Redeemed	Outstanding
A	2 1/8	Sep. 1/46	Sep. 1/47-53	$ 3,500,000	$ 3,500,000	$ —
B	2 3/4	Sep. 1/46	Sep. 1/54-59	4,500,000	700,000	3,800,000
C	3	Sep. 1/46	Sep. 1/60-69	10,540,000	—	10,540,000
D	1 1/2	Feb. 15/47	Feb. 15/48-49	1,000,000	1,000,000	—
	1 3/4	" "	Feb. 15/50-52	1,500,000	1,500,000	—
	2	" "	Feb. 15/53	500,000	500,000	—
	2 1/8	" "	Feb. 15/54	750,000	750,000	—
	2 1/4	" "	Feb. 15/55	750,000	—	750,000
	2 3/8	" "	Feb. 15/56	750,000	—	750,000
	2 1/2	" "	Feb. 15/57-59	2,250,000	—	2,250,000
	2 3/4	" "	Feb. 15/60-68	10,200,000	—	10,200,000
	3	" "	Feb. 15/69-73	24,300,000	—	24,300,000
E	2	Mar. 1/47	Mar. 1/57	112,225,000	39,797,100	72,427,900
F	2 1/2	Jun. 30/49	Jun. 30/53	2,300,000	2,300,000	—
G	3	Dec. 1/49	Dec. 1/60	25,000,000	—	25,000,000
H	3	Apr. 1/50	Apr. 1/65	5,000,000	—	5,000,000
I	4	Mar. 1/52	Mar. 1/62	50,000,000	—	50,000,000
J	3 1/2	May 15/53	May 15/54-60	4,500,000	700,000	3,800,000
K	3 1/2	Dec. 1/53	Dec. 1/78	50,000,000 US	—	50,000,000
L	3 1/4	May 1/54	May 1/74	25,000,000	—	25,000,000
				$334,565,000	$50,747,100	$283,817,900
M.L.H. & P. CONSOLIDATED (Assumed Debt)						
	4	Jul. 1/39	Jul. 1/69	$ 13,000,000	—	$ 13,000,000
				$347,565,000	$50,747,100	$296,817,900

Redemption	Purpose of issue and other provisions
Maturing $700,000 in 1955-56 incl. and $800,000 in 1957-59 incl.	Advanced to Beauharnois Light, Heat and Power Co. to provide funds for the redemption of its $18,000,000 — 4½% — 25-year first mortgage bonds due January 1, 1963, at 103%, which were pledged as security for the $18,000,000 M.L.H. & P. Cons. 3½% — 25-year first mortgage and collateral trust bonds due January 1, 1963. (Power bonds were redeemed July 1, 1947)
Maturing $1,000,000 in 1960-68 incl. and $1,540,000 in 1969.	Advanced to Beauharnois Light, Heat and Power Co. to provide funds for the redemption of its $39,955,900 — 4½% — 35-year first mortgage bonds due January 1, 1973, at 104%, of which $30,794,800 were pledged as security for M.L.H. & P. Consolidated bonds. (Power bonds were redeemed July 1, 1947)
Maturing $750,000 in 1957-59 incl. Maturing $900,000 in 1960-62 incl., $1,000,000 in 1963-65 incl., $1,500,000 in 1966-68 incl. Maturing $2,000,000 in 1969-72 incl. and $16,300,000 in 1973.	Callable in whole or in part on any interest date after January 1, 1969, at par and accrued interest on 30-day notice.
	To provide for acquisition of M.L.H. & P. Cons. shares. $5,685,300 redeemable for Sinking Fund purposes on March 1, 1955-56 inclusive, at par and accrued interest. Callable in whole or in part on any interest date on or after March 1, 1954, at 100.50 and accrued interest on 30-day notice.
	To provide funds for the purchase of all the assets and properties of the Canadian Light and Power Company.
	Advanced to Beauharnois Light, Heat and Power Co. to provide funds for the construction of the second section of its hydro-electric power development. Callable in whole or in part two years prior to maturity or on any subsequent interest date at par and accrued interest on 30-day notice.
	To provide necessary funds for the preservation and betterment of Hydro-Quebec properties and works. Callable in whole or in part two years prior to maturity or on any subsequent interest date at par and accrued interest on 30-day notice.
	For providing additional facilities for the production, transmission and distribution of power in the Province of Quebec. Callable in whole or in part one year prior to maturity or on any subsequent interest date at par and accrued interest on 30-day notice.
Maturing $700,000 in 1955-56 incl. and $600,000 in 1957-60 incl.	To provide funds for the expropriation and acquisition of the balance of the shares of the Beauharnois Light, Heat and Power Co.
	1) To provide in part for capital expenditure in connection with the construction of the Bersimis hydro-electric generating plant, 300,000-volt transmission lines, substations and other related equipment and the construction of a town at the plant site. 2) Construction of a 31½-mile underwater 69,000-volt cable crossing the St. Lawrence River to deliver power to the Gaspé Peninsula. Callable in whole or in part on December 1, 1958, or at any time thereafter on 30-day notice at the following rates: on or before November 30, 1962, at 103; thereafter but on or before November 30, 1966, at 102; thereafter but on or before November 30, 1970, at 101; thereafter but on or before November 30, 1974, at 100.50; thereafter at 100. In each case with accrued interest. Sinking Fund of 1% of principal amount of debentures outstanding on December 1, in each of the years 1954 to 1957 inclusive, and of 2% in each of the years 1958 to 1977 inclusive.
	To provide additional substations and distribution facilities. Callable in whole or in part three years prior to maturity or on any subsequent interest date at par and accrued interest on 30-day notice. Sinking Fund of at least 1% annually of the principal amount of all the debentures so long as any of the debentures of the issue are outstanding.
	Callable in whole or in part on 30-day notice on or after July 1, 1960, at 105 and accrued interest if redeemed prior to July 1, 1961; premium decreasing ½ of 1% per year until 1968; on or after July 1, 1968, but prior to maturity at 100.50 and accrued interest.


Revenue
KWH
Average income per KWH
84% increase
42% increase
29% increase
100%
1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954
TOTAL ELECTRICITY SALES
87% increase
64% increase
12% increase
100%
TOTAL ELECTRICITY SALES (less secondary power)
53% increase
42% increase
8% increase
100%
INDUSTRIAL ELECTRICITY (primary power sales)
98% increase
52% increase
23% decrease
100%
COMMERCIAL ELECTRICITY SALES
241% increase
102% increase
41% decrease
100%
RESIDENTIAL ELECTRICITY SALES
Average yearly bill per customer
Average KWH per customer
Average income per KWH

The story of electricity sales during the 1944-54 decade was a narrative of rate reductions and increases in power consumption — with a corresponding rise in revenues — as well as of a slight advance in the average income per kilowatthour sold.

Naturally, this trend was attributable to increases in both the number of customers served and the more varied uses made of electricity. The number of customers served by Hydro-Quebec rose from 290,513 in 1944 to 432,591 in 1954. On the other hand, residential customers used an average of 67 kilowatthours per month in 1944. They averaged 228 kilowatthours per month in 1954, an increase of 240.3%.

Total kilowatthour sales on Hydro-Quebec systems increased by 42% between 1944 and 1954 — from 5,660,501,000 to 8,052,179,000 kilowatthours. Gross revenues during this period rose by 84% — from $29,180,966 to $53,787,-192. At the same time, the gross income per kilowatthour derived by the Commission from sales of electricity increased by 29%.

The wide divergence between sales and revenue percentages of increase is all the more striking since rates were reduced for residential, commercial and industrial primary power services. The explanation is simple: higher rates for low-priced secondary power had an effect on the overall return per kilowatthour, while large blocks of energy, formerly sold at low secondary power rates, were sold eventually as primary power at higher price.

ELECTRICITY SALES

Residential Electricity Service

No less than 86% of Hydro-Quebec's electricity customers are included in this residential category — all single-family dwellings with one meter for all purposes.

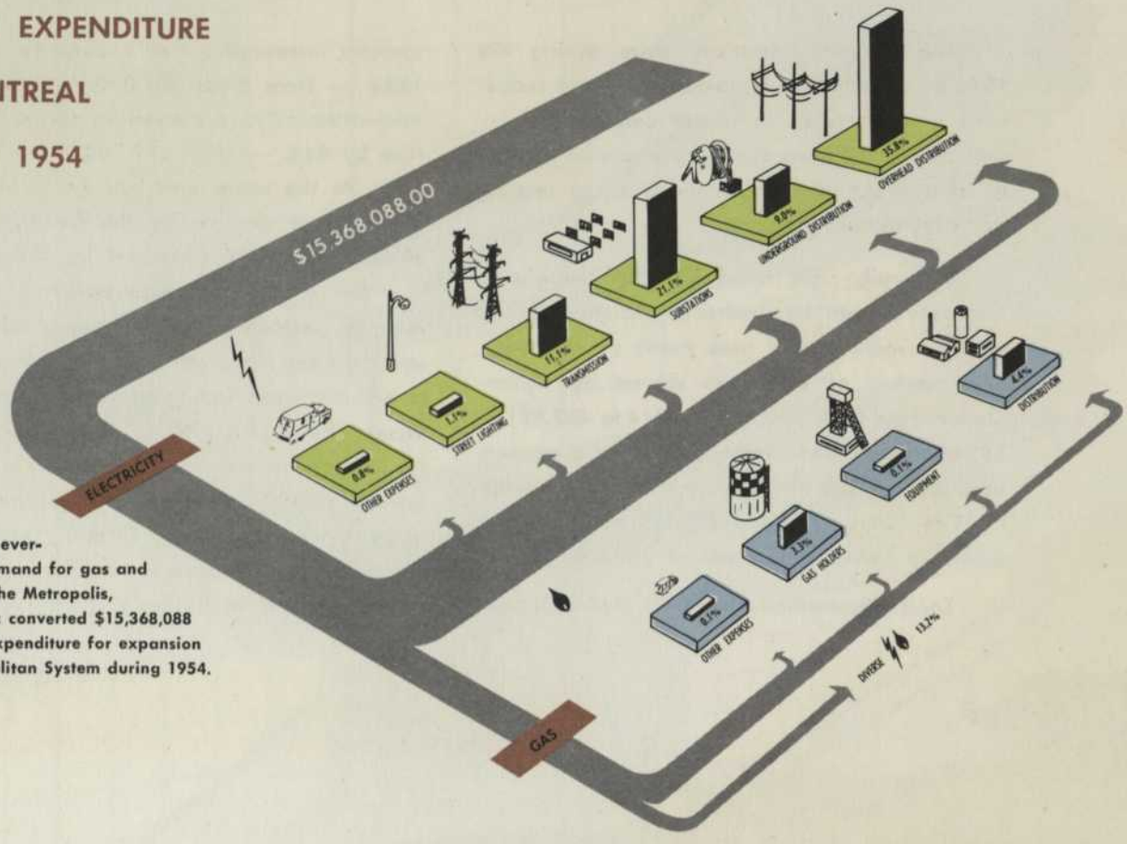
The Commission reauced its rates substantially for these customers in 1944, the decrease ranging from 10% to 22% for bi-monthly consumption between 30 and 500 kilowatthours. This reduction resulted in a decrease of $950,000 per year in the Commission's revenue from domestic users.

Reference to the Residential Chart (Page 22) reveals the sharply rising trend of consumption and, comparatively, the moderate increase in the customer's bill. These graphs establish that the average domestic customer is providing himself with additional home comforts through increased use of electricity — without adding much to the cost of his electric service.

The annual average consumption by domestic customers during the past ten years rose by 241% — from 804 to 2,742 kilowatthours. Concurrently, the yearly bill for such consumption increased only by 102.5% — from $18.97 to $38.42. Conversely, the average revenue to the Commission dropped by 41% per kilowatthour — from 2.36 to 1.40 cents. In other words, for his dollar, the residential customer now receives 69% more electricity — 71 kilowatthours in 1954 as against 42 kilowatthours in 1944.

The rate reduction granted in 1944 is responsible for the slight decline noticeable in

CAPITAL EXPENDITURE IN MONTREAL DURING 1954



To satisfy the ever-increasing demand for gas and electricity in the Metropolis, Hydro-Quebec converted $15,368,088 into capital expenditure for expansion of its Metropolitan System during 1954.

the curve for 1945 — when the average bill decreased from $18.97 in 1944 to $18.53 while consumption showed an increase from 804 to 862 kilowatthours.

Commercial Electricity Service

This classification comprises all business premises with single-phase service at voltages not exceeding 250 volts and includes institutions, churches, schools and hospitals.

These customers benefited from two rate reductions — in 1944 and in 1947. The slight depression in the curve of the average bill for 1947-48-49 reflects the temporary results of this double reduction.

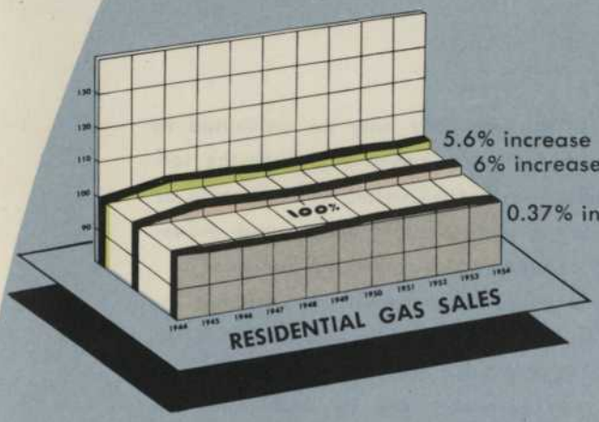
The average yearly consumption per customer in this category rose by 98.5% — from 5,937 kilowatthours in 1944 to 11,787 kilowatthours in 1954. Concurrently, the average yearly bill showed an increase of only 52.2% — from $141.72 to $215.68. These trends combined to reduce the average income per kilowatthour by 23% — from 2.38 to 1.83 cents.

Primary Power Service

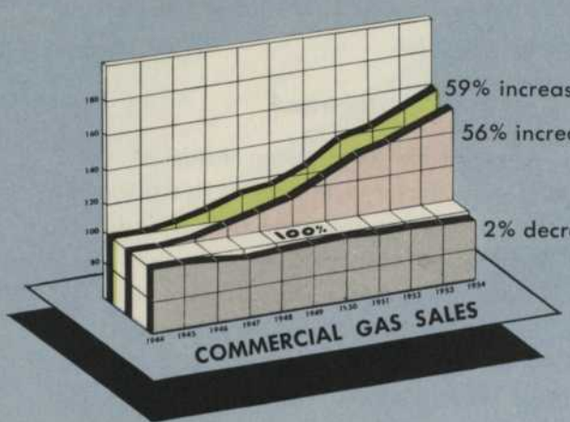
All customers supplied with low or high-voltage three-phase service — mainly industries of varied sizes — are included in this category. Power is sold to them on a firm contract basis. Included also in this classification are wholesale and export sales as well as power supplied for transportation, for general municipal purposes and for street lighting.

Discontinuation of war work in 1945 and the rate reductions in 1944 and 1947 produced lower revenues between 1945 and 1948, as indicated by the curve on the adjoining chart.

Industrial power sales, a reliable barometer of the economic condition of a community, showed steady increase after the slight initial recession. All in all, they rose 42%. Revenue increased by 53% and the average income per kilowatthour showed a slight advance of 8%.



Average M.C.F. per customer
Average yearly bill per customer
Average income per M.C.F.



Hydro-Quebec's total gas sales to the Montreal area experienced an even upward trend during the past ten years, as indicated by the accompanying charts.

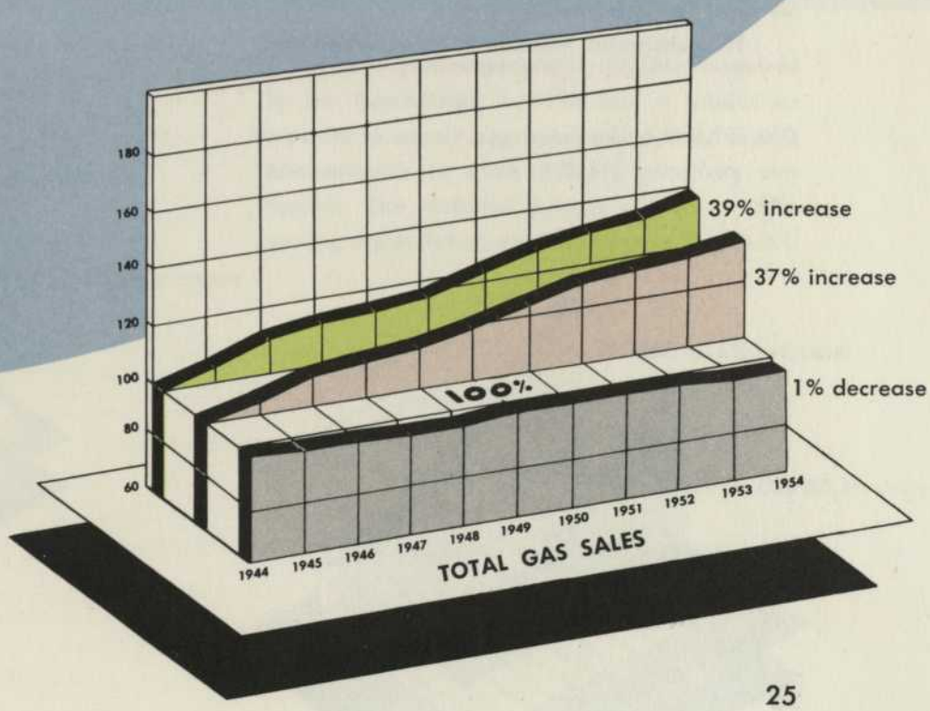
There was a two-fold reason for this year-to-year increase of nearly even proportion:

1 — The increase in the number of customers — 20% in residential customers and 6% in the commercial and industrial category.

2 — Improvement in the average consumption required by commercial and industrial customers.

Gas sales showed a 39% increase between 1944 and 1954 — from 5,837,864,000 to 8,106,-343,000 cubic feet — with revenue rising by 37% — from $6,064,136 to $8,343,348. The average return per 1,000 cubic feet showed a decline, however — from $1.039 to $1.027. This decrease was attributabie to the tendency of commercial and industrial customers towards increased usage of gas, thereby profiting from the lower steps of the sliding-scale rate.

GAS | SALES



M.C.F.
Revenue
Average income per M.C.F.

Residential Service

Use of gas tor cooking, water heating and house heating in private dwellings showed an increase of 3.08% during the ten-year period, with sales per customer increasing 5.6% — from 21,526 cubic feet in 1944 to 22,741 cubic feet in 1954. The average bill increased 6% — from $23.23 in 1944 to $24.62 ten years later.

An advance of 0.37% in revenue per 1,000 cubic feet — from $1.079 to $1.083 — is attributable to an increase in water heating and house heating rates the Commission was compelled to enforce to compensate for the continual increase in cost of coal used in the production of gas. The rate increase, while unavoidable, affected only about 2% of the residential customers.

Within the last two years of the ten-year period, widespread interest in the use of gas for cooking, water heating and house heating has been shown by builders of apartment house developments. Negotiations under way in 1954 give the assurance that at least 1,500 apartment house units will be using gas for all three services as a result of those preparations.

Commercial Gas Service

Requiring a greater volume of gas than do residential customers, commercial and industrial users benefit from the lower prices available for quantity consumption.

The substantial increase in consumption and revenue in this category may be attributed to establishment of new industries within the territory served by Hydro-Quebec, to expansion of installations already existing and to new industrial and commercical applications for gas.

The average consumption per customer increased by 59% — from 123,084 cubic feet in 1944 to 195,394 cubic feet in 1954 — and the revenue per customer rose by 56% — from $115.19 to $179.36. There was a 2% reduction — from $0.936 to $0.918 — in the average revenue per 1,000 cubic feet, a further indication of quantity consumption in the lower steps of the sliding-scale rates.

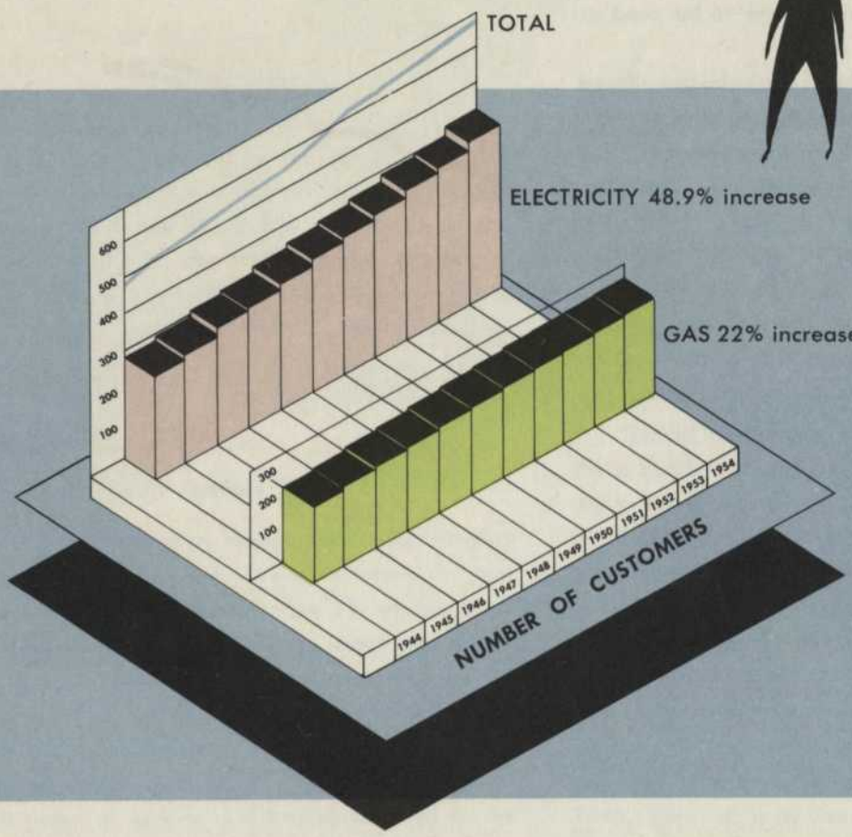
Résumé

Whereas the Metropolitan district of Montreal contains the large majority of Hydro-Quebec electricity customers, the same area embraces all the Commission's gas users.

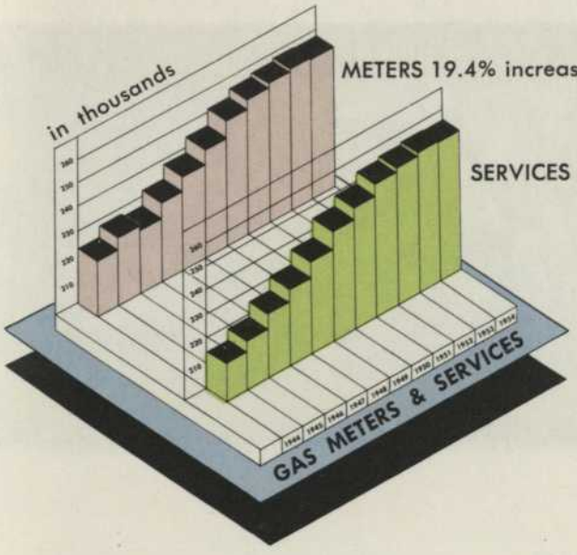
The accompanying charts reveal that the number of electricity customers increased by 48.9% during this ten-year period — from 290,-513 in 1944 to 432,591 in 1954 — while gas customers showed a rise of 22% — from 208,184 to 254,168.

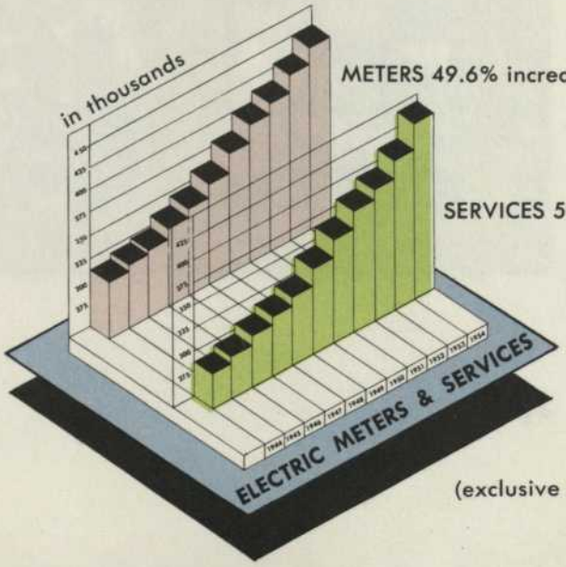
This wide difference in comparative increases between electricity and gas customers may be attributed to the very considerable amount of new housing developments of recent years in municipalities and localities beyond economic reach of the gas distribution system available.

OUR CUSTOMERS



Electric power-generating facilities acquired by the Commission in 1944 had a production capacity to supply approximately 5,660,501,000 kilowatthours to some 290,513 electricity customers. The Montreal System proper in 1954, serving a population estimated at over 1,500,000



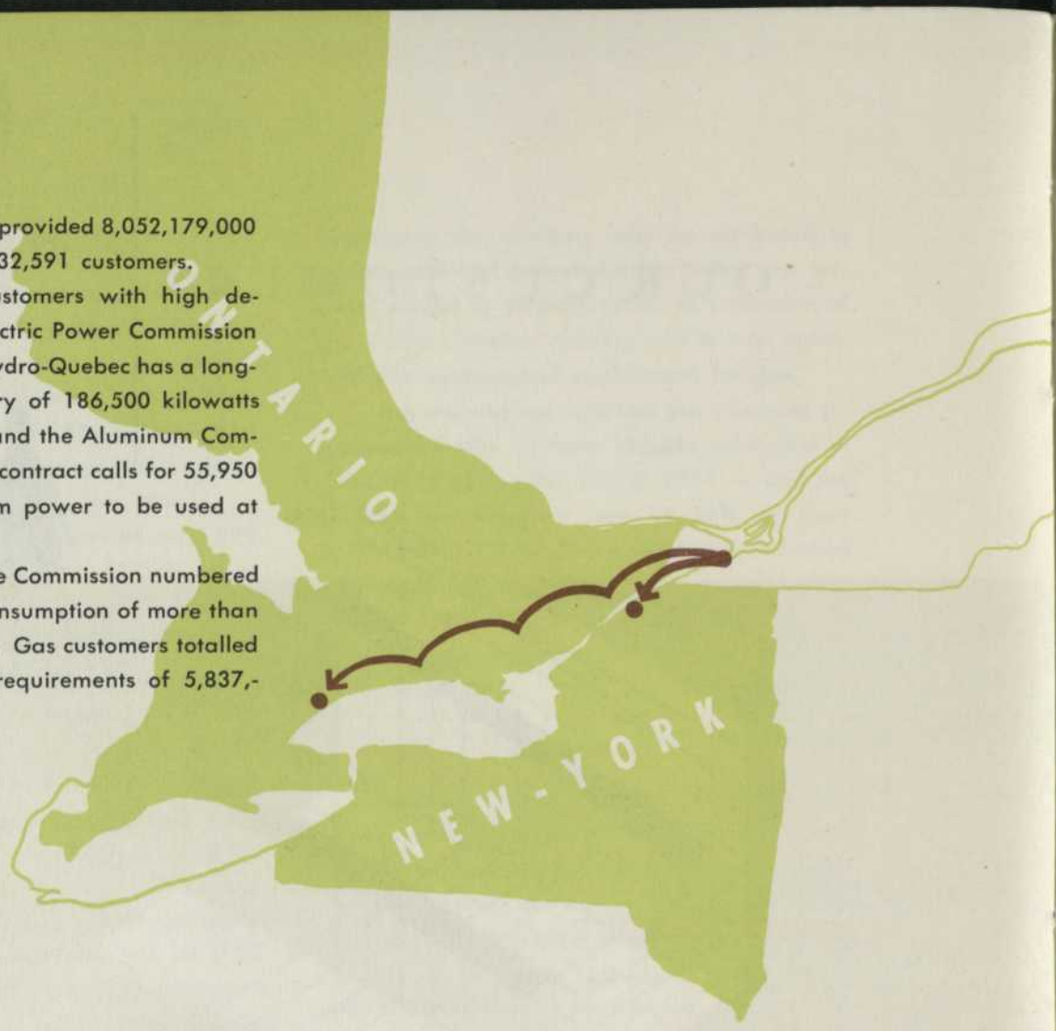


(exclusive of power customers)

in the Metropolitan area, provided 8,052,179,000 kilowatthours to some 432,591 customers.

Included among customers with high demands are the Hydro-Electric Power Commission of Ontario, with which Hydro-Quebec has a long-term contract for delivery of 186,500 kilowatts of 25-cycle firm power, and the Aluminum Company of America, whose contract calls for 55,950 kilowatts of 60-cycle firm power to be used at Massena, N.Y.

Gas customers of the Commission numbered 254,168 in 1954, with consumption of more than 8,106,343,000 cubic feet. Gas customers totalled 208,184 in 1944, with requirements of 5,837,-864,000 cubic feet.



OUR PERSONNEL

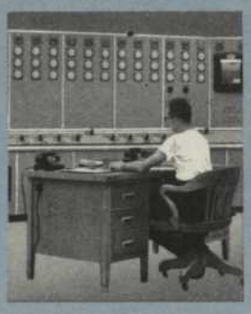
The welfare and safety of its personnel have ever been one of the principal pre-occupations of the Commission. The proof has been the many social measures Hydro-Quebec has adopted to improve salaries and working conditions, to promote education and, in the process, to develop community-spirited employees.

GENERAL BENEFITS

Pension Plan

The Commission inaugurated a contributory pension plan in 1946. Under its terms, the permanent employee contributes 3% of his basic salary, with the Commission's share set at 6%.

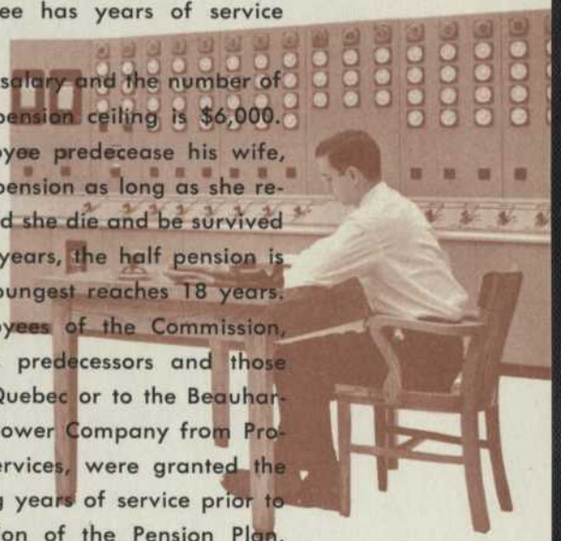
Upon attainment of pension age — 65 years in the case of male personnel and 60 years for lady employees — the employee is eligible for an annual pension provided he has at least 10 years of service and has contributed to the Pension Fund for a period of 15 years.



The pension is fixed upon the average salary or wage of an employee during the 10 highest paid years of his service. It is equivalent to as many fiftieths of such average salary or wage as the employee has years of service to his credit.

Regardless of the salary and the number of years of service, the pension ceiling is $6,000.

Should the employee predecease his wife, she is entitled to half pension as long as she remains a widow. Should she die and be survived by children under 18 years, the half pension is paid them until the youngest reaches 18 years.



Permanent employees of the Commission, including those of its predecessors and those transferred to Hydro-Quebec or to the Beauharnois Light, Heat and Power Company from Provincial Government services, were granted the privilege of redeeming years of service prior to 1946, date of inception of the Pension Plan. The majority took advantage of this opportunity.

In addition to current 6% and 3% contributions and the transfer of $1,782,808 from the Montreal Light, Heat & Power Consolidated Pension Fund, the Commission and the Beauharnois Light, Heat and Power Company made a special $1,130,000 contribution to the fund.

The Pension Fund amounted to $8,264,114 at the end of 1954.

Prior to the advent of the Commission, the employee made no contribution to the Pension Fund. The pension award, left to the discretion of management, was the equivalent of 1% per year of service, based on the average yearly earnings of the last ten years of service.

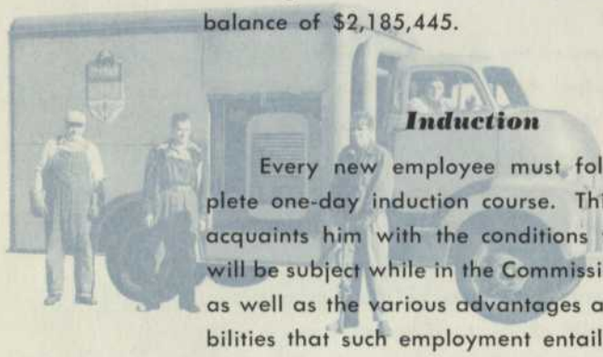
OTHER BENEFITS

Housing Loans

The Commission obtained authorization from the Province of Quebec Government in 1946 to lend money to those of its employees desirous of building or buying a home, enlarging or improving the home they owned already or reimbursing a mortgage.

Loans may be floated up to 85% of the valuation estimated by Commission experts. They bear 3% interest and are repayable in consecutive monthly payroll-deduction instalments over a 20-year period.

Of the 522 loans granted by the Commission and totalling $3,071,050, there were 428 outstanding at the end of 1954, constituting a balance of $2,185,445.



Induction

Every new employee must follow a complete one-day induction course. This procedure acquaints him with the conditions to which he will be subject while in the Commission's employ, as well as the various advantages and responsibilities that such employment entails.

Vocational Training

Construction and operating personnel must attend apprentice classes or special courses, as the case may be. Fully qualified instructors and well-equipped classrooms are provided.

Specialized Courses

A variety of subjects are taught in these specialized courses. They include First Aid, customer relations, supervisory training, summer courses for students, specialized training for junior engineers and technicians.

Job Evaluation

The importance of giving equitable relative values to occupations in different departments or in various sections of the same department resulted in the Commission instituting job evaluation throughout its system. This procedure also facilitates comparison of Hydro-Quebec salaries with the rate scales prevalent in other gas and electric utilities and in the community.

Working Conditions

Working conditions have been improved and made more attractive in many ways.

The work week has been reduced gradually from six to five days during the past decade, while a fully staffed and equipped Medical Department is maintained to protect the Commission's investment in human capital by safeguarding the health of its personnel.

Other projects for the benefit and convenience of employees include two up-to-date permanent cafeterias where full-course meals are available at nominal prices.

Accident Prevention

The Commission launched an accident prevention campaign in 1947 and adopted systematic action and prevention in 1952. Results have been encouraging and permit well-founded anticipation of the reduction of accidents to a minimum in the near future.

Personnel and Salaries

The considerable expansion of the Hydro-Quebec system, shortening of the work week and rising cost of living with resulting wage rate adjustments during the past decade have been reflected by a corresponding increase in the number of employees and in payroll aggregates. Personnel has risen by 140.5% in this period and the payroll has augmented by 272%.

Sickness Benefit Plan

Established to protect employees against the ultimate effects of a prolonged illness, the Sickness Benefit Plan provides for paid time-off for illness and for such other authorized absences as marriages and deaths in the employee's immediate family.

Under the terms of this plan, every permanent employee has a bank account into which are deposited 14 Credit Days per year. Employees with service dating back to before January

1, 1945 — when the plan went into operation — were credited with seven Credit Days per year of service. The yearly allowances are cumulative and the length of authorized absences is deducted from the current balance of Credit Days.

Upon reaching pension age, the employee continues to draw full salary until expiration of unused Credit Days, becoming eligible then for regular monthly pension payments.

Generally speaking, employees have realized the importance of this plan to the welfare of themselves and their families, with the result that absences are avoided as much as possible to protect Credit Days.

Group Life Insurance

Employee group life insurance carried by the Commission equals about twice the annual salary of male employees — with a ceiling of $30,000 — while the amount for lady employees is set at $2,000. The cost is shared by the employees and the Commission.

Statutory Holidays

All permanent employees are entitled to statutory holidays with pay. There were 11 such holidays per year during the past decade.

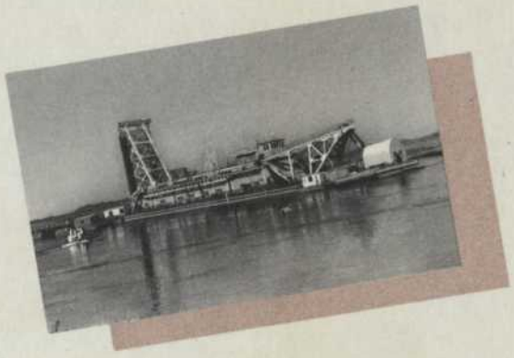
Vacations

Permanent employees are eligible for two weeks of vacation annually upon completion of one year of service.

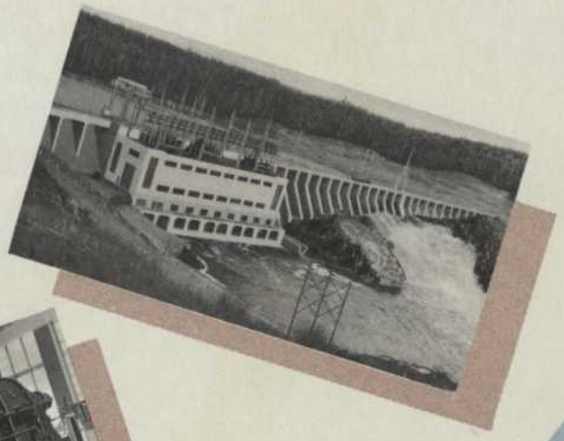
In 1947, the Commission accorded a third week of vacation annually to employees with 25 years of service or more to their credit and, in 1953, extended this same privilege to 60-year-old employees who have a minimum of 15 years of service.

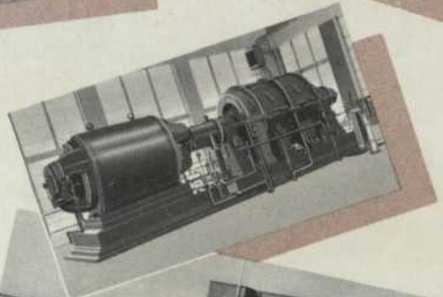
Résumé

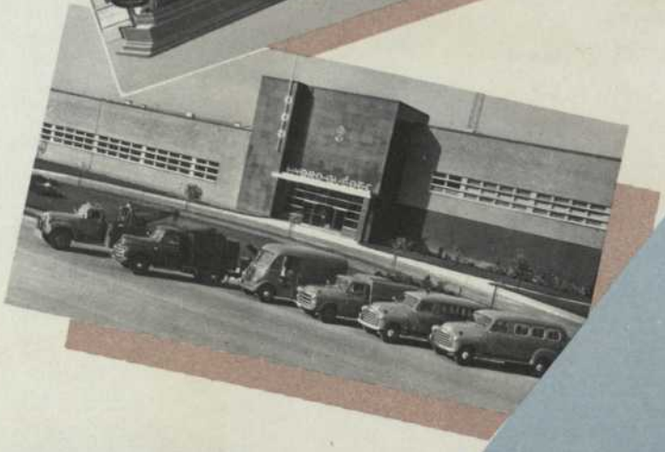
It has been established that the value of the foregoing benefits is equivalent to 24.4% of the basic salary of permanent employees. This percentage, however, does not encompass other benefits hereinafter described.



PROPERTIES AND PLANT







Commission properties and plant, acquired by expropriation in 1944, appear on its books at $177 millions — the original cost value determined by independent engineers.

This amount was reduced by $21 millions through retirements and sales during the past ten years. On the other hand, the Commission's expansion program added new properties and plant in an amount of $318 millions. Accordingly, Hydro-Quebec's total investment in properties and plant was $474 millions at the end of 1954.

These statistics establish that more than 63% of the Commission's properties were not more than ten years old and of the most modern type at the end of 1954 — a very fortunate and healthy physical condition for the necessary long-range planning of a public utility.

Statements of properties and plant are detailed on subsequent pages. Additions and improvements may be summarized as follows:

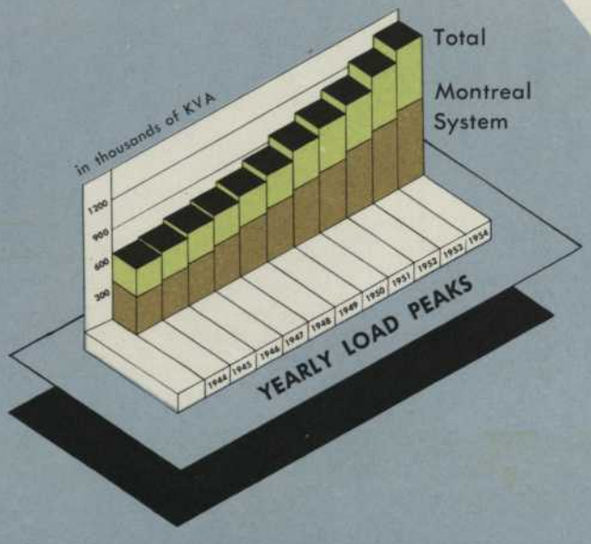
Generation

Exclusive of land and land rights, generating facilities acquired in 1944 had a net cost value of $86 millions in 1954 — after retirements and adjustments. Among retirements effected in the intervening ten years was the 50-year-old Chambly plant on the Richelieu River. The Commission also acquired and retired the St. Timothée plant on the old Beauharnois Canal and part of its equipment was pressed into service later — to supply power required for the Bersimis development.

In the interim, the Commission added $90 millions to its investment in generating facilities. This amount, added to $81 millions for work in progress on the Bersimis project, placed the Commission's total investment in generating facilities at $257 millions at the end of 1954.

Transmission

Transmission facilities, exclusive of land and rights-of-way, amounted to $7.8 millions for plant still in service. The amount had increased to $51.5 millions by the end of the ten-year period through the addition of $14.3 millions in transmission lines, $8 millions in switching stations and $21.4 millions for work in progress.



Distribution

The net value of distribution facilities, including substations, lines and equipment, is set at $23.6 millions for 1944 plant. The tremendous increase in the population of Greater Montreal and the impetus given home building during the past decade resulted in an added investment of $63.9 millions. By adding $5.9 millions for work in progress, the investment in distribution facilities had reached $93.4 millions at the end of the ten-year period.

Lake Dozois

The Commission spent $7.2 millions for the construction of a 66-billion-cubic foot storage reservoir at the foot of Lake Dozois on the Upper Ottawa River. This storage dam permits regulation of the river flow for the benefit of plants downstream belonging to the Commission and other utilities.

Water Rights, Land, Rights-of-Way (Electric)

Water rights, valued at $8.8 millions in 1944, had been reduced to $8.3 millions by 1954. However, land and rights-of-way, valued at $10.6 millions in 1944, had been increased to $14.9 millions by 1954. The total reached $23 millions at the end of 1954 by the addition of $1 million for work in progress.

Gas Properties

Valued at $16.7 millions in 1944, gas properties increased by a net amount of $6.8 millions during the following decade. Investment in gas properties totalled $23.5 millions at the end of 1954, including land and rights-of-way.

Miscellaneous

The Commission had a value of $3.5 millions on its books in 1944 for miscellaneous properties such as its Head Office building, its Uptown Store premises and other properties held for future expansion or for their disposal as surplus properties.

Miscellaneous properties, excluding land, appeared at $14.5 millions in 1954. Heading the principal additions was the modern, well equipped Service Centre, erected at a cost of $7.2 millions and strategically located at the geographic centre of the Island of Montreal.

Other additions included $3.7 millions of engineering and administration cost still to be distributed.

HYDRO-QUEBEC - PROPERTIES

	Original Cost of Properties expropriated April 14, 1944	
	Cost of Properties	Retirements and/or adjustments
ELECTRIC		
GENERATION (Ex. water rights, land and rights-of-way)		
Montreal System	$ 32,130,291	5,178,392 cr
Beauharnois System	59,555,298	266,870 cr
Northwestern Quebec System	—	—
Northeastern Quebec System	—	—
Total Generation	91,685,589	5,445,262 cr
TRANSMISSION SWITCHING STATIONS (Ex. land)		
Montreal System	1,682,660	159,463 cr
Beauharnois System	2,256,901	12,066 cr
Northwestern Quebec System	—	—
Northeastern Quebec System	—	—
Gaspé System	—	—
Total Transmission Switching Stations	3,939,561	171,529 cr
TRANSMISSION LINES (Ex. land and rights-of-way)		
Montreal System	3,445,693	459,999 cr
Beauharnois System	1,015,656	5,488 cr
Northwestern Quebec System	—	—
Northeastern Quebec System	—	—
Gaspé System	—	—
Total Transmission Lines	4,461,349	465,487 cr
DISTRIBUTION SUBSTATIONS (Ex. land)		
Montreal System	10,474,309	1,965,814 cr
Beauharnois System	9,610	—
Total Distribution Substations	10,483,919	1,965,814 cr
DISTRIBUTION LINES (Ex. land and rights-of-way)		
Montreal System	18,606,006	3,513,957 cr
Beauharnois System	6,199	—
Northwestern Quebec System	—	—
Total Distribution Lines	18,612,205	3,513,957 cr
UTILIZATION		
Montreal System	1,167,867	176,497 cr
Beauharnois System	—	—
Total Utilization	1,167,867	176,497 cr
NON-DISTRIBUTED INTEREST DURING CONSTRUCTION		
Montreal System	—	—
Beauharnois System	—	—
Northwestern Quebec System	—	—
Total Non-distributed Interest during Construction	—	—
ORGANIZATION		
Montreal System	5,307,599	5,307,599 cr
Beauharnois System	480,169	—
Total Organization	$ 5,787,768	5,307,599 cr

AND PLANT *Summary*

Balance of expropriated properties	Additions since April 14, 1944 (net)	Properties as at Dec. 31, 1954 per Plant Ledger	Work in Progress	Total Properties as at Dec. 31, 1954
26,951,899	958,455	27,910,354	7,236	27,917,590
59,288,428	63,839,751	123,128,179	28,081	123,156,260
—	25,291,038	25,291,038	12,678 cr	25,278,360
—	—	—	81,076,369	81,076,369
86,240,327	90,089,244	176,329,571	81,099,008	257,428,579
1,523,197	1,583,126	3,106,323	26,937	3,133,260
2,244,835	3,229,705	5,474,540	33,678	5,508,218
—	3,204,687	3,204,687	82,602	3,287,289
—	—	—	515,773	515,773
—	—	—	1,084,357	1,084,357
3,768,032	8,017,518	11,785,550	1,743,347	13,528,897
2,985,694	10,606,374	13,592,068	54,173	13,646,241
1,010,168	980,830	1,990,998	11,879	2,002,877
—	2,728,422	2,728,422	375,434	3,103,856
—	—	—	10,747,672	10,747,672
—	—	—	8,537,017	8,537,017
3,995,862	14,315,626	18,311,488	19,726,175	38,037,663
8,508,495	29,618,388	38,126,883	2,621,328	40,748,211
9,610	—	9,610	—	9,610
8,518,105	29,618,388	38,136,493	2,621,328	40,757,821
15,092,049	34,257,207	49,349,256	3,276,905	52,626,161
6,199	36,109	42,308	—	42,308
—	34,267	34,267	—	34,267
15,098,248	34,327,583	49,425,831	3,276,905	52,702,736
991,370	673,308	1,664,678	60,137	1,724,815
—	6,986	6,986	—	6,986
991,370	680,294	1,671,664	60,137	1,731,801
—	559,502	559,502	—	559,502
—	41,425	41,425	—	41,425
—	23,780	23,780	—	23,780
—	624,707	624,707	—	624,707
—	—	—	—	—
480,169	—	480,169	—	480,169
480,169	—	480,169	—	480,169

	Original Cost of Properties expropriated April 14, 1944	
	Cost of Properties	Retirements and/or adjustments
LAKE DOZOIS RESERVOIR (Ex. Water Rights)	—	—
Sub-total Electric	136,138,258	17,046,145 cr
WATER RIGHTS, LAND AND RIGHTS-OF-WAY (ELECTRIC)		
Water Rights		
Montreal System	1,978,400	608,292 cr
Beauharnois System	6,864,360	—
Lake Dozois	—	—
Land and Rights-of-way		
Montreal System	4,040,090	308,477 cr
Beauharnois System	6,549,262	28,181 cr
Northwestern Quebec System	—	—
Northeastern Quebec System	—	—
Gaspé System	—	—
Total Water Rights, Land and Rights-of-Way	19,432,112	944,950 cr
TOTAL ELECTRIC	155,570,370	17,991,095 cr
GAS		
Production	2,510,668	147,248 cr
Storage	2,576,987	506,552 dr
Distribution	11,502,016	809,357 cr
Organization	82,401	82,401 cr
Non-distributed Interest during Construction	—	—
" Natural Gas Studies	—	—
Sub-total Gas (Ex. Land and Rights-of-Way)	16,672,072	532,454 cr
LAND AND RIGHTS-OF-WAY (GAS)	280,563	—
TOTAL GAS	16,952,635	532,454 cr
GENERAL		
Montreal System	3,304,888	1,839,292 cr
Beauharnois System	225,037	39,597 cr
Northwestern Quebec System	—	—
Gaspé System	—	—
Sub-total General (Ex. Land and Land Rights)	3,529,925	1,878,889 cr
LAND AND LAND RIGHTS (GENERAL)		
Montreal System	633,463	133,114 cr
Beauharnois System	464,183	306,151 cr
Total Land and Land Rights	1,097,646	439,265 cr
TOTAL GENERAL	4,627,571	2,318,154 cr
Less: Contributions in Aid of Construction	—	—
GRAND TOTAL PROPERTIES AND PLANT (ALL SYSTEMS)	$177,150,576	20,841,703 cr

Balance of expropriated properties	Additions since April 14, 1944 (net)	Properties as at Dec. 31, 1954 per Plant Ledger	Work in Progress	Total Properties as at Dec. 31, 1954
—	7,176,202	7,176,202	—	7,176,202
119,092,113	184,849,562	303,941,675	108,526,900	412,468,575
1,370,108	—	1,370,108	—	1,370,108
6,864,360	—	6,864,360	—	6,864,360
—	97,200	97,200	—	97,200
3,731,613	1,938,519	5,670,132	167,455	5,837,587
6,521,081	153,917	6,674,998	—	6,674,998
—	618,816	618,816	108,108	726,924
—	676,276	676,276	—	676,276
—	136,658	136,658	804,006	940,664
18,487,162	3,621,386	22,108,548	1,079,569	23,188,117
137,579,275	188,470,948	326,050,223	109,606,469	435,656,692
2,363,420	426,391	2,789,811	—	2,789,811
3,083,539	548,301	3,631,840	—	3,631,840
10,692,659	5,644,737	16,337,396	409,498	16,746,894
—	—	—	—	—
—	30,496	30,496	—	30,496
—	62,980	62,980	—	62,980
16,139,618	6,712,905	22,852,523	409,498	23,262,021
280,563	2,886	283,449	—	283,449
16,420,181	6,715,791	23,135,972	409,498	23,545,470
1,465,596	10,782,082	12,247,678	148,531	12,396,209
185,440	1,203,591	1,389,031	17,454	1,406,485
—	484,706	484,706	238,686	723,392
—	—	—	3,385	3,385
1,651,036	12,470,379	14,121,415	408,056	14,529,471
500,349	113,890	614,239	—	614,239
158,032	50,757	208,789	—	208,789
658,381	164,647	823,028	—	823,028
2,309,417	12,635,026	14,944,443	408,056	15,352,499
—	432,228 cr	432,228 cr	—	432,228 cr
156,308,873	207,389,537	363,698,410	110,424,023	474,122,433

MONTREAL SYSTEM
Properties and Plant as at December 31, 1954
(Excluding Work in Progress) — Details

		Year Built	Original Cost of Properties expropriated April 14, 1944 — Cost of properties	Retirements and/or adjustments	Balance of expropriated properties	Additions since April 14, 1944 (net)	Properties as at Dec. 31, 1954 per Plant Ledger
ELECTRIC							
ORGANIZATION							
Rivière-des-Prairies			$ 1,590	1,590 cr	—	—	—
Cedars			280,767	280,767 cr	—	—	—
Soulanges			176,262	176,262 cr	—	—	—
Quebec - New England Hydro Electric			4,848,980	4,848,980 cr	—	—	—
Total Organization			5,307,599	5,307,599 cr	—	—	—
GENERATION (Ex. Water Rights, Land and Rights-of-way)							
Rivière-des-Prairies	Des Prairies	1929	6,934,429	8,115 cr	6,926,314	11,404	6,937,718
Cedars	St. Lawrence	1914	20,143,636	121,917 cr	20,021,719	319,019	20,340,738
Chambly	Richelieu	1899	1,427,691	1,427,691 cr	—	—	—
Lachine	St. Lawrence	1897	1,337,773	1,333,908 cr	3,865	—	3,865
Soulanges	"	1907	1,019,944	1,019,943 cr	1	—	1
St. Timothée	Old Beauharnois Canal	1911	—	—	—	416,913	416,913
Ste Thérèse	Richelieu	1902	238,470	238,470 cr	—	—	—
Preliminary Studies — Carillon Development	Ottawa		—	—	—	211,119	211,119
LaSalle (Steamplant)	Ville LaSalle	1914	1,028,348	1,028,348 cr	—	—	—
Total Generation			32,130,291	5,178,392 cr	26,951,899	958,455	27,910,354
TRANSMISSION SWITCHING STATIONS							
Back River		1929	223,905	—	223,905	129,684	353,589
Beauharnois		1932	243,534	—	243,534	1,092,286	1,335,820
Cedars		1915	1,143,666	87,908 cr	1,055,758	361,156	1,416,914
Montreal East		1931	13,052	13,052 cr	—	—	—
Soulanges		1908	58,503	58,503 cr	—	—	—
Total Transmission Switching Stations			1,682,660	159,463 cr	1,523,197	1,583,126	3,106,323
TRANSMISSION LINES (Ex. Land and Rights-of-way)							
Atwater-Guy-Jeanne d'Arc	120KV	1947	—	—	—	354,347	354,347
Back River-Montreal North-Jeanne d'Arc	120KV	1911-21-52	—	—	—	656,649	656,649
Beauharnois-Saraguay-Montreal North	120KV	1953	—	—	—	3,270,400	3,270,400
Beauharnois-St. Maxime-Chambly	120KV	1950	—	—	—	1,209,592	1,209,592
Beauharnois-Valleyfield	120KV	1954	—	—	—	255,561	255,561
Cedars-Beauharnois-Atwater	120KV	1930, 1947	1,139,732	2,714 dr	1,142,446	1,434,029	2,576,475
Montreal North-Montreal East	120KV	1930-1952	62,458	3,842 dr	66,300	147,882	214,182
Rockfield-Atwater Loop	120KV	1950	—	—	—	233,969	233,969
Saraguay-Rockfield	120KV	1953	—	—	—	729,129	729,129
St. Maxime-Delorimier-Jeanne d'Arc	120KV	1952	—	—	—	1,384,636	1,384,636
Honoré Mercier-Auxiliary Tap	120KV	1940	52,436	52,436 cr	—	—	—
Back River-Beaumont	60KV	1929	196,035	—	196,035	—	196,035
Belt Line	60KV	1923 to 1929	1,068,536	28,849 cr	1,039,687	559,460	1,599,147
Cedars-Rockfield	60KV	1907-14 & 1948	547,124	5,898 cr	541,226	324,275	865,501
Pointe Claire-Ste. Geneviève	60KV	1951	—	—	—	46,445	46,445
Chambly-Central	25KV	1936	379,372	379,372 cr	—	—	—
Total Transmission Lines			$ 3,445,693	459,999 cr	2,985,694	10,606,374	13,592,068
DISTRIBUTION SUBSTATIONS (Ex. Land)							
120 KV STATIONS							
Atwater	1929 — extended in	1950	$ 1,670,040	73,736 cr	1,596,304	1,471,298	3,067,602
Central	1901 — rebuilt in	1953	799,454	190,685 cr	608,769	2,810,078	3,418,847
Delorimier		1950	—	—	—	2,654,186	2,654,186
Guy	1941 — extended in	1953	879,202	404,209 cr	474,993	1,641,105	2,116,098
Jeanne d'Arc No. 1	1938 — extended in	1952	529,697	33,225 cr	496,472	1,254,214	1,750,686
Jeanne d'Arc No. 2		1912	57,362	—	57,362	—	57,362
Jeanne d'Arc No. 3	1924 — extended in	1928	17,432	96 dr	17,528	1,921	19,449
Montreal East	1931 — extended in	1951	754,117	149,741 cr	604,376	2,105,892	2,710,268
Montreal North		1952	—	—	—	3,351,816	3,351,816
Rockfield		1948	—	—	—	2,275,830	2,275,830
St. Maxime		1950	—	—	—	1,330,503	1,330,503
Shawinigan No. 5 (retired)		1902	147,628	147,628 cr	—	—	—
Total 120 KV Stations			4,854,932	999,128 cr	3,855,804	18,896,843	22,752,647
60 KV STATIONS							
Beaumont	1923 — extended in	1938	1,192,948	14,930 cr	1,178,018	307,504	1,485,522
Dorval (new)		1951	—	—	—	495,841	495,841
Lachine (new)		1953	—	—	—	585,548	585,548
LaSalle	1932 and 1952		803,726	38,136 cr	765,590	567,522	1,333,112
Mount Royal		1949	—	—	—	2,102,803	2,102,803
Pointe Claire		1953	71,936	9,883 cr	62,053	564,251	626,304
Rosemount	1941 and 1953		375,125	26,322 dr	401,447	1,151,584	1,553,031
Ste Anne		1934	52,130	—	52,130	16,463	68,593
Vallée	1926 — extended in	1938	1,861,317	1,058 cr	1,860,259	17,555	1,877,814
Total 60 KV Stations			4,357,182	37,685 cr	4,319,497	5,809,071	10,128,568

MONTREAL SYSTEM (continued)

	Year Built	Original Cost of Properties expropriated April 14, 1944 — Cost of properties	Retirements and/or adjustments	Balance of expropriated properties	Additions since April 14, 1944 (net)	Properties as at Dec. 31, 1954 per Plant Ledger
25 KV STATIONS						
Chambly	1951	—	—	—	616,230	616,230
Laprairie	1938 and 1948	39,940	3,721 cr	36,219	51,304	87,523
Longueuil	1920 and 1951	79,042	37,655 cr	41,387	236,825	278,212
St. Lambert	1937 and 1952	63,967	19,510 cr	44,457	241,483	285,940
Chambly Power Plant (retired)	Previous to 1899	85,664	85,664 cr	—	—	—
Total 25 KV Stations		$ 268,613	146,550 cr	122,063	1,145,842	1,267,905
12 KV STATIONS						
Ahuntsic (new)	1952	—	—	—	388,509	388,509
Back River	1931 — altered in 1936	$ 15,753	734 dr	16,487	2,274	18,761
Brillant	1954	—	—	11,813	19,137	30,950
Bronx Local	1938-1947	24,081	12,268 cr	—	478,639	478,639
Cartierville	1922	100,469	29,020 cr	71,449	40,088	111,537
Champlain	1953	—	—	—	364,850	364,850
Crémazie	1952	—	—	—	339,025	339,025
Highland	1934-1948	12,942	1,387 dr	14,329	873	15,202
Iberville	1952	—	—	—	56,022	56,022
LaSalle Coke	1952	—	—	—	106,829	106,829
Laurier	1953	—	—	—	479,157	479,157
O'Brien	1948	—	—	—	311,311	311,311
Pie IX	1944	9,783	—	9,783	9,984	19,767
Roy	1953	—	—	—	497,516	497,516
St. Luc	1947	—	—	—	278,034	278,034
Somerled	1950	—	—	—	334,128	334,128
RETIRED						
Ahuntsic (old)	1930	23,668	23,668 cr	—	—	—
Allis-Chalmers Local	1928	9,662	9,662 cr	—	—	—
Côte des Neiges	1924	99,656	82,884 cr	16,772	114	16,886
Côte St. Paul	1907	99,894	99,894 cr	—	—	—
Delson	1931	3,355	3,355 cr	—	—	—
Dorval (old)	1917 — altered in 1937-1938	42,059	42,059 cr	—	—	—
Hochelaga Tramways	1927	104,738	104,738 cr	—	—	—
Lachine (old)	1922	79,603	79,603 cr	—	—	—
Lakeside	1912	19,049	19,049 cr	—	—	—
Mentana	1905 — altered in 1920	306,536	236,038 cr	70,498	142	70,640
Westmount	1953	42,334	42,334 cr	—	—	—
Total 12 KV Stations		993,582	782,451 cr	211,131	3,706,682	3,917,763
TRANSFERS IN PROGRESS		—	—	—	60,000	60,000
Total Distribution Substations		10,474,309	1,965,814 cr	8,508,495	29,618,388	38,126,883
DISTRIBUTION LINES (Ex. Land and Rights-of-Way)						
Poles, Towers and Fixtures		2,892,571	587,129 cr	2,305,442	5,495,092	7,800,534
Overhead conductors and devices		2,903,525	853,558 cr	2,049,967	7,949,749	9,999,716
Underground Conduits		982,997	21,188 dr	1,004,185	1,057,502	2,061,687
Underground Conductors and Devices		3,110,068	183,353 cr	2,926,715	4,839,061	7,765,776
Line Transformers		2,227,081	196,374 cr	2,030,707	5,305,780	7,336,487
Services		1,694,939	359,857 cr	1,335,082	2,107,369	3,442,451
Meters		4,794,825	1,354,874 cr	3,439,951	7,502,654	10,942,605
Total Distribution Lines		$18,606,006	3,513,957 cr	15,092,049	34,257,207	49,349,256

UTILIZATION

STREET LIGHTING EQUIPMENT					
Station Equipment	$ 370,214	82,173 cr	288,041	147,647	435,688
Conductors	463,812	80,462 cr	383,350	504,900	888,250
Lamps and Fixtures	220,355	13,862 cr	206,493	20,761	227,254
LEASED PROPERTY ON CUSTOMERS' PREMISES					
Electric Boilers	113,486	—	113,486	—	113,486
Total Utilization	1,167,867	176,497 cr	991,370	673,308	1,664,678
NON-DISTRIBUTED INTEREST DURING CONSTRUCTION	—	—	—	559,502	559,502
Total Electric (Ex. Land and Land Rights)	72,814,425	16,761,721 cr	56,052,704	78,256,360	134,309,064
WATER RIGHTS, LAND AND RIGHTS-OF-WAY					
Water Rights — Generation	1,978,400	608,292 cr	1,370,108	—	1,370,108
Land and Rights-of-Way					
Generation	3,197,669	276,293 cr	2,921,376	8,366	2,929,742
Transmission Lines	377,930	50,980 cr	326,950	1,189,743	1,516,693
Distribution Substations	412,154	29,259 cr	382,895	718,771	1,101,666
Distribution Lines	52,337	48,055 dr	100,392	21,639	122,031
Total Water Rights, Land and Rights-of-Way	6,018,490	916,769 cr	5,101,721	1,938,519	7,040,240
Total Electric	78,832,915	17,678,490 cr	61,154,425	80,194,879	141,349,304

MAPS
OF HYDRO-QUEBEC
ELECTRIC SYSTEMS
IN THE PROVINCE OF QUEBEC
AND IN METROPOLITAN MONTREAL

HUDSON BAY

JAMES BAY

ONTARIO

QUÉBEC

L. Abitibi

NORMÉTAL

RENEAULT

AMOS

ROUYN

PANDORA

SENNETERRE

TO ONTARIO

RAPID II

RAPID VII

L. Témiscamingue

L. Dozois Reservoir

Baskatong Reservoir

R. Gatineau

R. Coulonge

OTTAWA

Ottawa R.

L. Chibougamou

L. Mistassini

Gouin Reservoir

R. St. Maurice

Taureau

ST. FÉLICIEN

Lac St. Jean

SAGUENAY SYSTEM

R. Saguenay

L. Pipmuacan

L. Cassé

BERSIMIS

R. Manicouagan

Seven Islands

Baie-Comeau

ST. LAWRENCE RIVER

FORESTVILLE

STE. ANNE DES MONTS

COPPER MOUNTAIN

LES BOULES

RIMOUSKI

GASPÉ

SHAWINIGAN SYSTEM

QUÉBEC

LÉVIS

R. Chaudière

TROIS-RIVIÈRES

SOREL

R. St. François

R. Richelieu

MONTRÉAL

TO ONTARIO

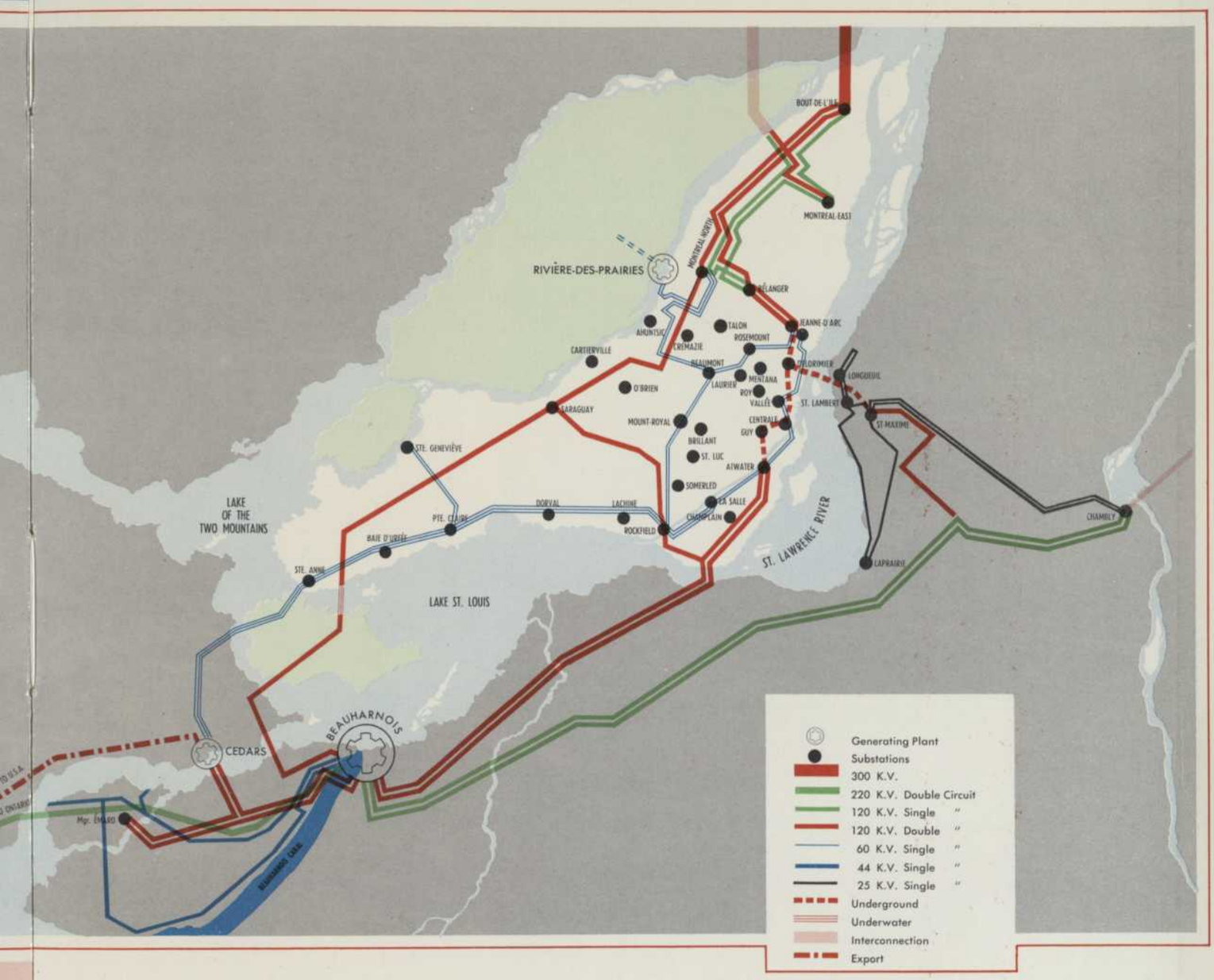
TO U.S.A.

L. Champlain

L. ONTARIO

NEW BRUNSWICK

U. S. A.



This map of metropolitan Montreal indicates
the extensive substation network
required by a city with a population of more than 1,600,000.

This map of the Province shows the interconnecting network,
which will eventually link 95% of all power plants in Québec.

MONTREAL SYSTEM (continued)

	Year Built	Original Cost of Properties expropriated April 14, 1944: Cost of Properties	Retirements and/or adjustments	Balance of expropriated properties	Additions since April 14, 1944 (net)	Properties as at Dec. 31, 1954 per Plant Ledger
GAS						
ORGANIZATION		82,401	82,401 cr	—	—	—
PRODUCTION (Ex. Land)						
LaSalle	1914	2,510,668	147,248 cr	2,363,420	426,391	2,789,811
STORAGE (Ex. Land)						
Beaumont	1912	181,841	100,892 dr	282,733	43,807	326,540
Hochelaga	1908-1931	1,301,465	83,769 dr	1,385,234	449,632	1,834,866
LaSalle	1914-1924	1,093,681	321,891 dr	1,415,572	54,862	1,470,434
Total Storage		2,576,987	506,552 dr	3,083,539	548,301	3,631,840
DISTRIBUTION (Ex. Land and Rights-of-Way)						
Structures and Improvements		20,728	20,728 cr	—	—	—
Mains		7,978,583	99,419 cr	7,879,164	2,864,757	10,743,921
Canal and Aqueduct Crossings		76,117	—	76,117	—	76,117
Regulating Equipment		281,484	203,412 cr	78,072	224,069	302,141
Services		1,252,517	139,467 cr	1,113,050	1,381,188	2,494,238
Other Distribution Equipment		—	1,523 dr	1,523	603	2,106
Service Installations — Credits		—	—	—	591,413 cr	591,413 cr
Meters		1,892,587	347,854 cr	1,544,733	1,765,533	3,310,266
Total Distribution		$11,502,016	809,357 cr	10,692,659	5,644,737	16,337,396
NON-DISTRIBUTED INTEREST DURING CONSTRUCTION		—	—	—	30,496	30,496
PRELIMINARY STUDIES — NATURAL GAS		—	—	—	62,980	62,980
Total Gas (Ex. Land and Rights-of-Way)		$16,672,072	532,454 cr	16,139,618	6,712,905	22,852,523
LAND AND RIGHTS-OF-WAY		280,563	—	280,563	2,886	283,449
Total Gas		16,952,635	532,454 cr	16,420,181	6,715,791	23,135,972
GENERAL						
STRUCTURES AND IMPROVEMENTS						
Service Centre	1951	—	—	—	7,289,257	7,289,257
Pointe Claire Depot	1951	—	—	—	38,981	38,981
Power Building	built 1906 enlarged in 1925 (1 floor) annex built in 1913	901,680	—	901,680	273,879	1,175,559
Uptown Building	purchased 1917	82,706	—	82,706	—	82,706
Hochelaga Stores	1953	—	—	—	29,891	29,891
MISCELLANEOUS						
Stores and Service Buildings		465,485	465,485 cr	—	—	—
Terminal Station	1911	180,481	—	180,481	—	180,481
Ann Street	1880 — altered in 1900	442,236	442,236 cr	—	—	—
Chenneville Steam Heating Plant	1902 — altered in 1927	160,090	—	160,090	31,323	191,413
Communication Equipment		130,443	3,075 dr	133,518	464,465	597,983
Miscellaneous Equipment		1,059,919	1,052,798 cr	7,121	54,459	61,580
Non-distributed Expenses						
Engineering		—	—	—	2,598,559	2,598,559
Interest during Construction		—	—	—	8,752	8,752
Contributions in Aid of Construction — Electric		118,152 cr	118,152 dr	—	—	—
Retirement Work in Progress		—	—	—	7,484 cr	7,484 cr
Total General (Ex. Land and Land Rights)		3,304,888	1,839,292 cr	1,465,596	10,782,082	12,247,678
LAND AND LAND RIGHTS		633,463	133,114 cr	500,349	113,890	614,239
TOTAL GENERAL		3,938,351	1,972,406 cr	1,965,945	10,895,972	12,861,917
TOTAL PROPERTIES AND PLANT — MONTREAL SYSTEM		$99,723,901	20,183,350 cr	79,540,551	97,806,642	177,347,193

BEAUHARNOIS SYSTEM
Properties and Plant as at December 31, 1954
(Excluding Work in Progress) — Details

	Year Built	Original Cost of Properties expropriated April 14, 1944: Cost of properties	Retirements and/or adjustments	Balance of expropriated properties	Additions since April 14, 1944 (net)	Properties as at Dec. 31, 1954 per Plant Ledger
ORGANIZATION		$ 480,169	—	480,169	—	480,169
GENERATION						
Power House # 1	1932	$59,555,298	266,870 cr	59,288,428	20,497,964	79,786,392
Power House # 2	1951	—	—	—	43,341,787	43,341,787
Total Generation		59,555,298	266,870 cr	59,288,428	63,839,751	123,128,179
TRANSMISSION SWITCHING STATIONS						
220 KV Station	1932 to 1934	1,343,817	11,766 cr	1,332,051	129,599	1,461,650
110 KV Stations	1932, 1942 and 1950	520,233	300 cr	519,933	2,354,353	2,874,286
44 KV Stations	1933 to 1936 and 1953	392,851	—	392,851	267,760	660,611
Other Stations	1944 to 1949	—	—	—	477,993	477,993
Total Transmission Switching Stations		2,256,901	12,066 cr	2,244,835	3,229,705	5,474,540
TRANSMISSION LINES						
220 KV Line	1932-33 and 1940-1941	852,796	—	852,796	921,599	1,774,395

44 KV Lines	1933 to 1936	162,860	5,488 cr	157,372	55,681	213,053
Other Lines	1944 to 1949	—	—	—	3,550	3,550
Total Transmission Lines		1,015,656	5,488 cr	1,010,168	980,830	1,990,998
DISTRIBUTION SUBSTATION		9,610	—	9,610	—	9,610
UTILIZATION		—	—	—	6,986	6,986
DISTRIBUTION LINES						
Poles, Towers and Fixtures		—	—	—	9,012	9,012
Overhead Conductors and Devices		—	—	—	2,819	2,819
Meters		6,199	—	6,199	23,339	29,538
Line Transformers		—	—	—	939	939
Total Distribution Lines		6,199	—	6,199	36,109	42,308
GENERAL		225,037	39,597 cr	185,440	66,013	251,453
NON-DISTRIBUTED						
Interest during Construction		—	—	—	41,425	41,425
Engineering and Administration		—	—	—	1,137,578	1,137,578
Total Non-distributed		—	—	—	1,179,003	1,179,003
Sub-total (Ex. Water Rights, Land and Rights-of-Way)		63,548,870	324,021 cr	63,224,849	69,338,397	132,563,246
WATER RIGHTS, LAND AND RIGHTS-OF-WAY						
Water Rights		6,864,360	—	6,864,360	—	6,864,360
Land and Rights-of-Way		7,013,445	334,332 cr	6,679,113	204,674	6,883,787
Total Water Rights, Land and Rights-of-Way		13,877,805	334,332 cr	13,543,473	204,674	13,748,147
TOTAL PROPERTIES AND PLANT — BEAUHARNOIS SYSTEM		$77,426,675	658,353 cr	76,768,322	69,543,071	146,311,393

NORTHWESTERN QUEBEC
Properties and Plant as at December 31, 1954
(Excluding Work in Progress) — Details

	Year Built	Cost of Properties acquired from the Quebec Government Jan. 1, 1950	Additions since Jan. 1, 1950 (net)	Properties as at Dec. 31, 1954 per Plant Ledger
GENERATION				
Rapid VII Plant	1939-1941	$ 7,825,791	825,009	8,650,800
Rapid II Plant	1952-1954	—	16,640,238	16,640,238
Total Generation		7,825,791	17,465,247	25,291,038
TRANSMISSION SWITCHING STATIONS				
Amos	1949	113,662	2,016	115,678
Barraute	1949-1952	20,356	30,308	50,664
Barvue	1952	—	146,729	146,729
Normetal	1949	73,175	503	73,678
Pandora	1947-1952	123,595	937,323	1,060,918
120 KV — Rapid VII	1953	—	179,417	179,417
Renault	1949-1952	733,453	181,618	915,071
Rouyn	1949	534,794	7,379 cr	527,415
Senneterre	1951-1952	220	134,897	135,117
Landrienne		—	—	—
Total Transmission Switching Stations		1,599,255	1,605,432	3,204,687
TRANSMISSION LINES				
Amos to Senneterre — 115 KV — 60 cycle	1951-1952	—	448,969	448,969
Pandora to Amos — 115 KV — 60 cycle	1949	333,780	20,628 cr	313,152
Rapid VII to Renault — 115 KV — 25 cycle	1949	1,512,274	48,163	1,560,437
Renault to Normetal — 115 KV — 60 cycle	1949	405,864	—	405,864
Total Transmission Lines		2,251,918	476,504	2,728,422
DISTRIBUTION LINES				
Poles, Towers and Fixtures		550	12,692	13,242
Overhead Conductors and Devices		3,584	16,672	20,256
Meters		—	769	769
Total Distribution Lines		4,134	30,133	34,267
GENERAL		1,433,336	948,630 cr	484,706
NON-DISTRIBUTED				
Interest during Construction		—	23,780	23,780
Total (Ex. Water Rights, Land and Rights-of-Way		13,114,434	18,652,466	31,766,900
WATER RIGHTS, LAND AND RIGHTS-OF-WAY				
Water Rights		—	—	—
Land and Rights-of-Way		522,264	96,552	618,816
Total Water Rights, Land and Rights-of-Way		522,264	96,552	618,816
Sub-total		13,636,698	18,749,018	32,385,716
LAKE DOZOIS				
Reservoir		7,176,202	—	7,176,202
Water Rights		97,200	—	97,200
Total Lake Dozois		7,273,402	—	7,273,402
TOTAL PROPERTIES AND PLANT — NORTH WESTERN QUEBEC SYSTEM		$20,910,100	18,749,018	39,659,118

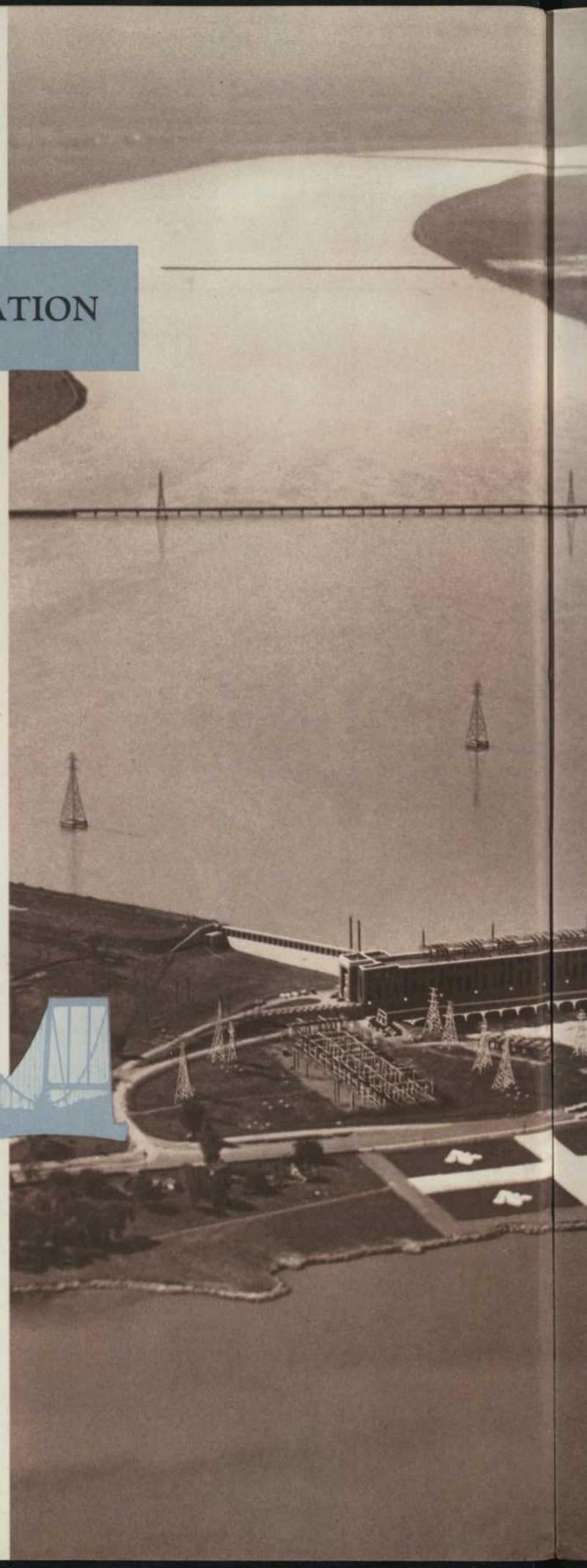
ELECTRICITY | GENERATION

The Commission found itself faced with a two-pronged generation challenge during its initial ten years — an ever-increasing number of customers in the Metropolitan area and a sharp increase in the use of electricity by domestic users as well as by commercial and industrial customers.

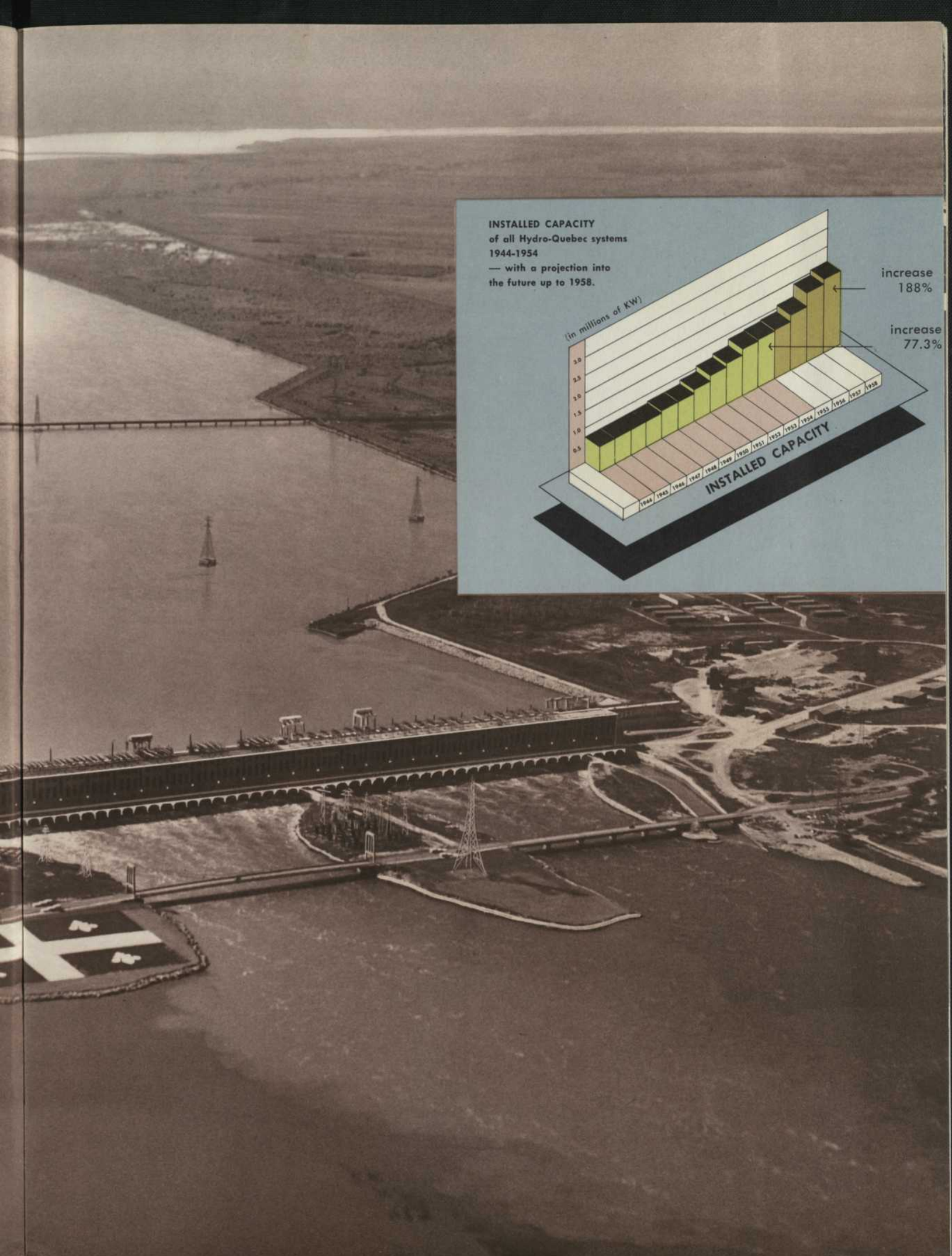
The answer to the challenge was a 81.9% increase in the installed capacity of generating plants serving Greater Montreal — from 686,875 to 1,250,000 kilowatts — all the more remarkable when one considers that it was accomplished in less than a decade.

BEAUHARNOIS POWER DEVELOPMENT

Already in existence, the first section of the Beauharnois plant was completed in 1948 by installation of its fourteenth and last generating unit. The second section was constructed in 1948-51, with installation of the first unit in 1950 and of the twelfth and last one in 1953.



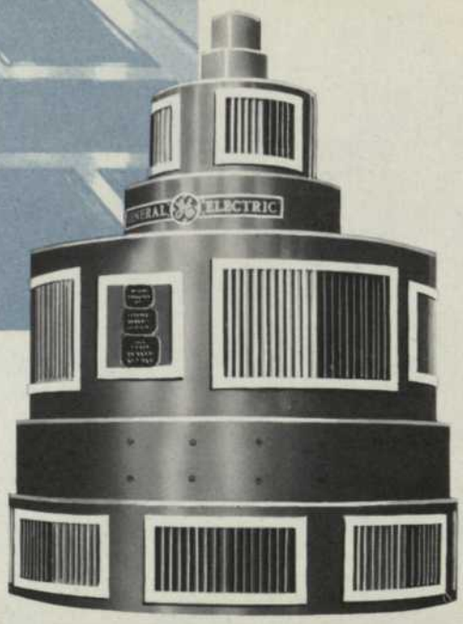
Power Houses No. 1 and 2 with a combined installed capacity of 1,063,050 kilowatts or 1,425,000 horsepower. A canal, 15 miles long and 3,300 feet wide, brings the waters of the St. Lawrence from Lake St. Francis down 83 feet to the power house generators.

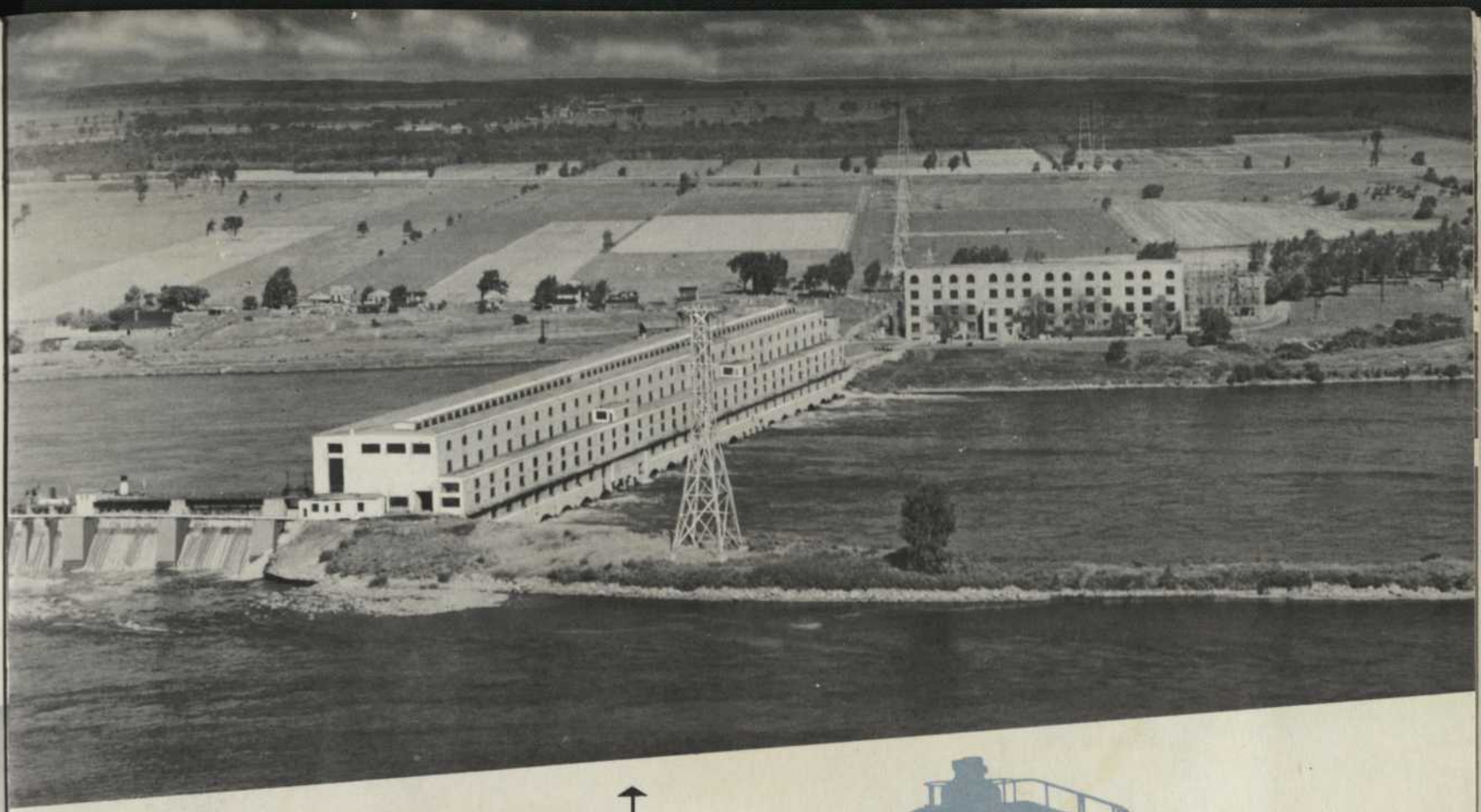

INSTALLED CAPACITY
of all Hydro-Quebec systems
1944-1954
— with a projection into
the future up to 1958.
(in millions of KW)
increase
188%
increase
77.3%
3.0
2.5
2.0
1.5
1.0
0.5
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
INSTALLED CAPACITY

Mammoth 26-ton rotating
cutter of the "HYDRO-QUEBEC," a dredge,
equipped with renewable teeth.

Interior view of the Beauharnois Power House.
The 2,200-foot building houses
14 generators of 40,000 kilowatts,
53,000 horsepower capacity apiece,
and 12 units of 41,000 kilowatts,
55,000 horsepower capacity apiece.

The "HYDRO-QUEBEC",
the largest suction
dredge in the world,
at work in the Beauharnois Canal.





CEDARS RAPIDS

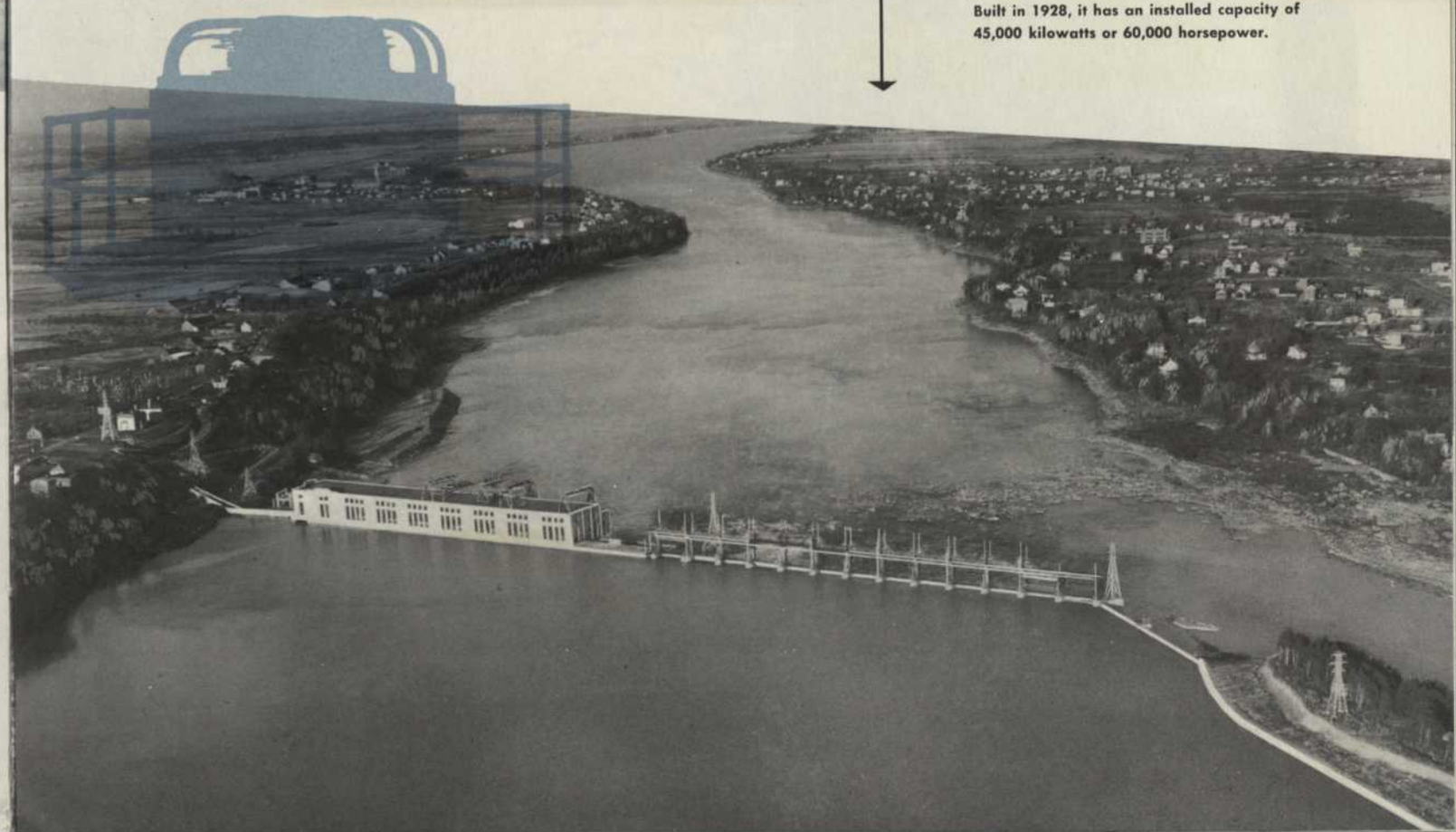
GENERATING STATION

some 30 miles from Montreal, on the St. Lawrence River. Built in 1913, it has a capacity of 153,000 kilowatts or 205,000 horsepower.

RIVIÈRE-DES-PRAIRIES

GENERATING STATION

spanning the river whose name it bears just off the Island of Montreal. Built in 1928, it has an installed capacity of 45,000 kilowatts or 60,000 horsepower.



TUNNEL ENTRANCE No. 1

TUNNEL INTAKE

TUNNEL ENTRANCE No. 2

TUNNEL ENTRANCE No. 3

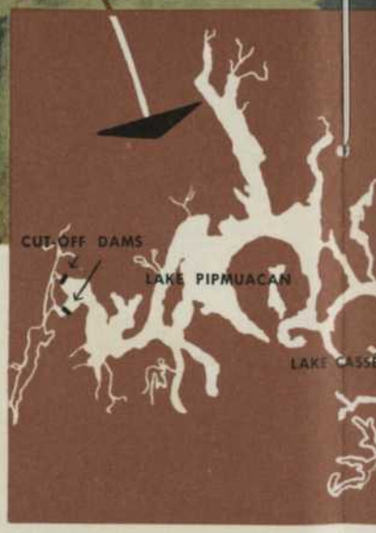
TAIL RACE

POWER HOUSE

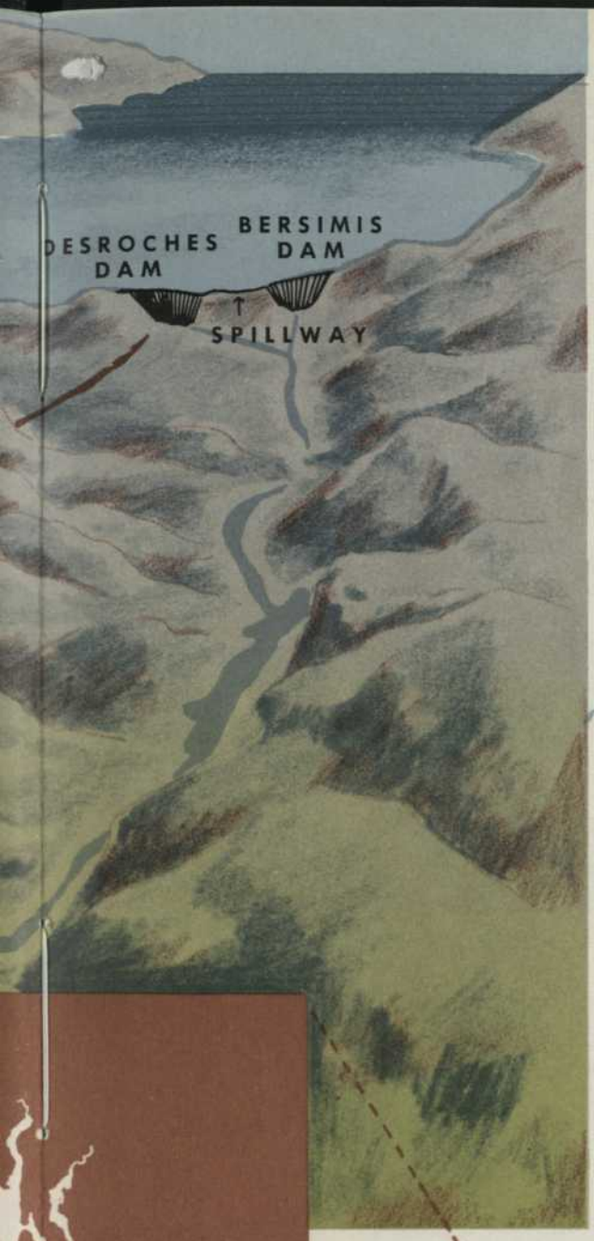
LABRIEVILLE

BERSIMIS RIVER

The main dam on the Bersimis River is 2,210 feet long, 200 feet high and 900 feet wide at the base, with a 40-foot wide crest.



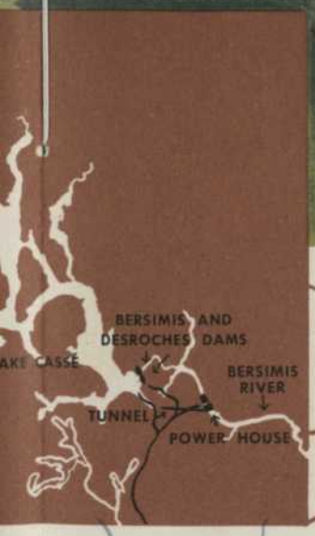
A 7.6-mile tunnel, 35 feet in diameter and excavated in solid rock, will bring the waters of Lac Cassé 875 feet downward to the underground generating station



BERSIMIS

Obliged to look for new sources of power, the Commission launched a bold, gigantic project — the Bersimis development — to make available in Montreal electricity generated in the North Shore wilderness of Quebec.

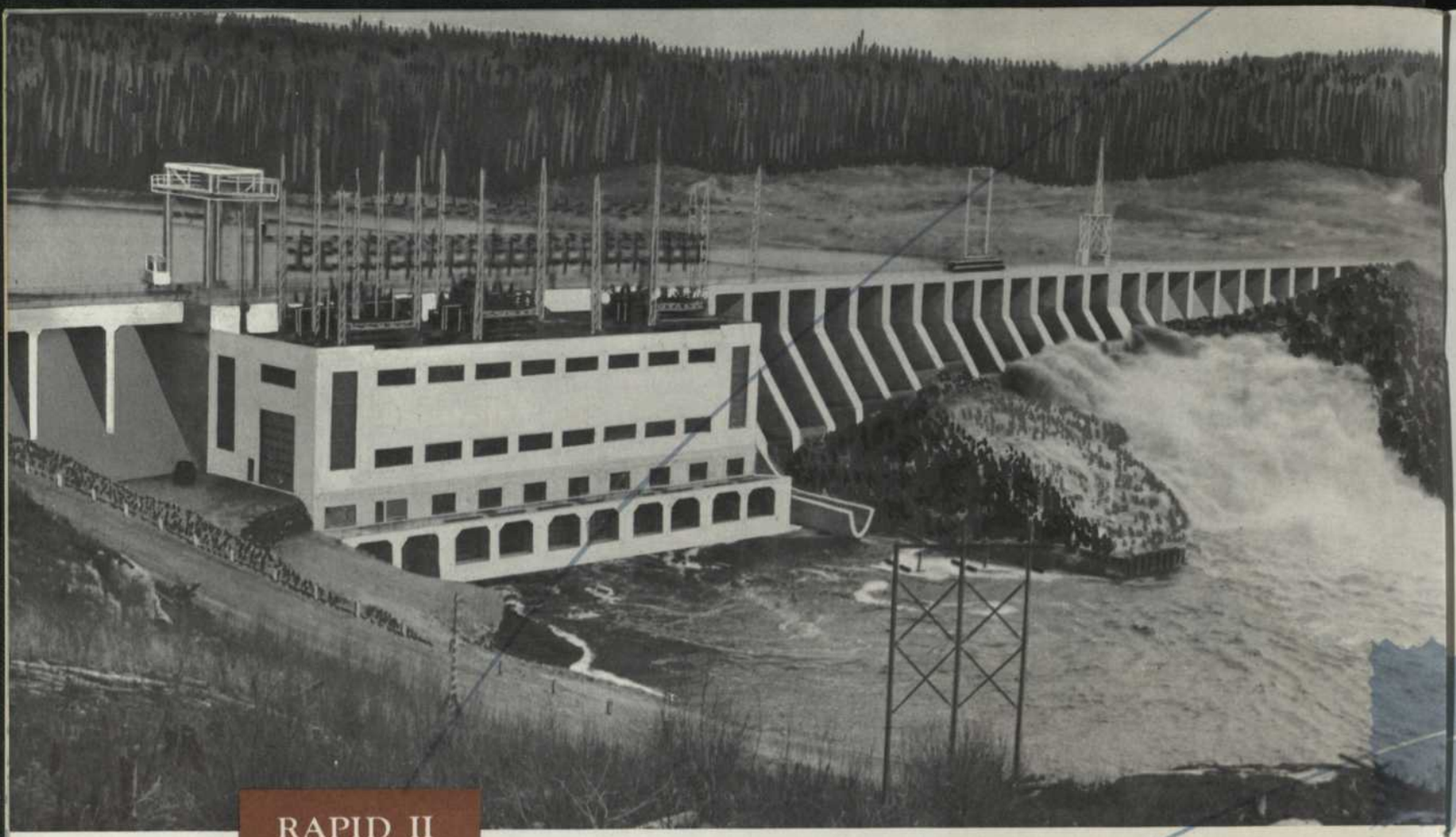
Original delivery of much-needed power from this new source is expected by 1956 and it is anticipated that its eight monster generating units — of 150,000 horsepower apiece — will be on the line by 1959. Should this revised schedule of installation be realized, the Bersimis program will be almost two years ahead of the time originally contemplated.



The inviting inn, matching the modern-styled houses of the permanent town site.

Church and school of St. Maurice de Labrieville

Labrieville, nerve centre of the project and general headquarters for the construction staff.

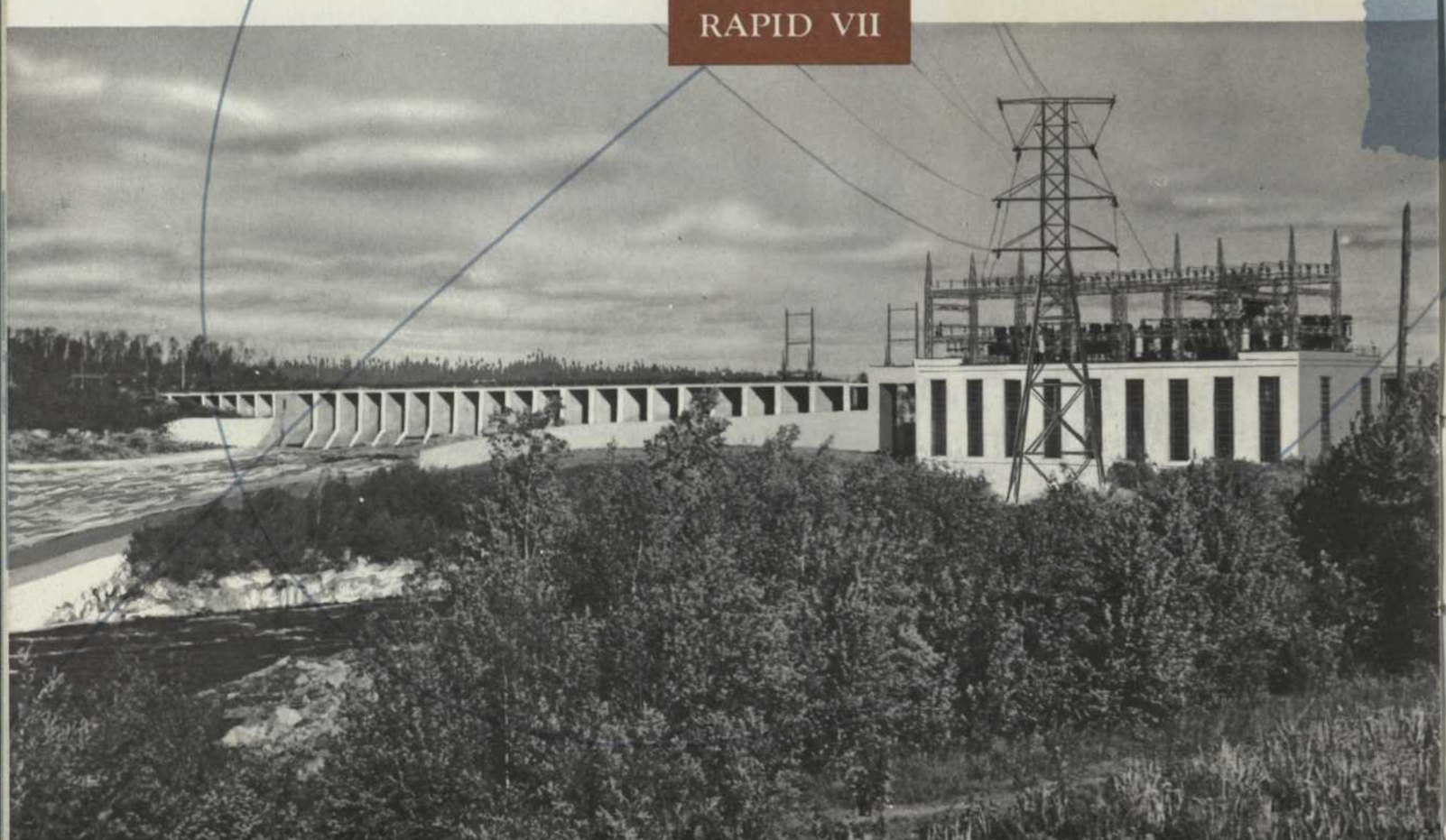


RAPID II

Built in 1951-54, this plant on the Upper Ottawa River will house four 12,000-kilowatt, or 16,000 horsepower, generating units, two of which are installed already.

Acquired in 1946, this plant houses four generating units and has a total installed capacity of 48,000 kilowatts or 64,000 horsepower.

RAPID VII

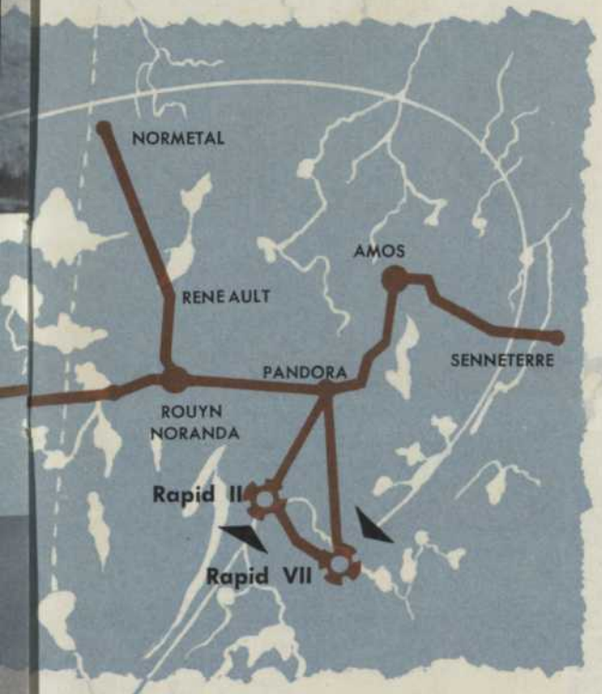


NORTHWESTERN QUEBEC DEVELOPMENT

The Commission doubled its generating facilities on the Upper Ottawa River during the past ten years, raising the total installed capacity to 72,000 kilowatts by 1954. This increase was to assure an adequate supply of power for the mining centres in the Abitibi district and for the urban and rural customers supplied by local co-operatives.

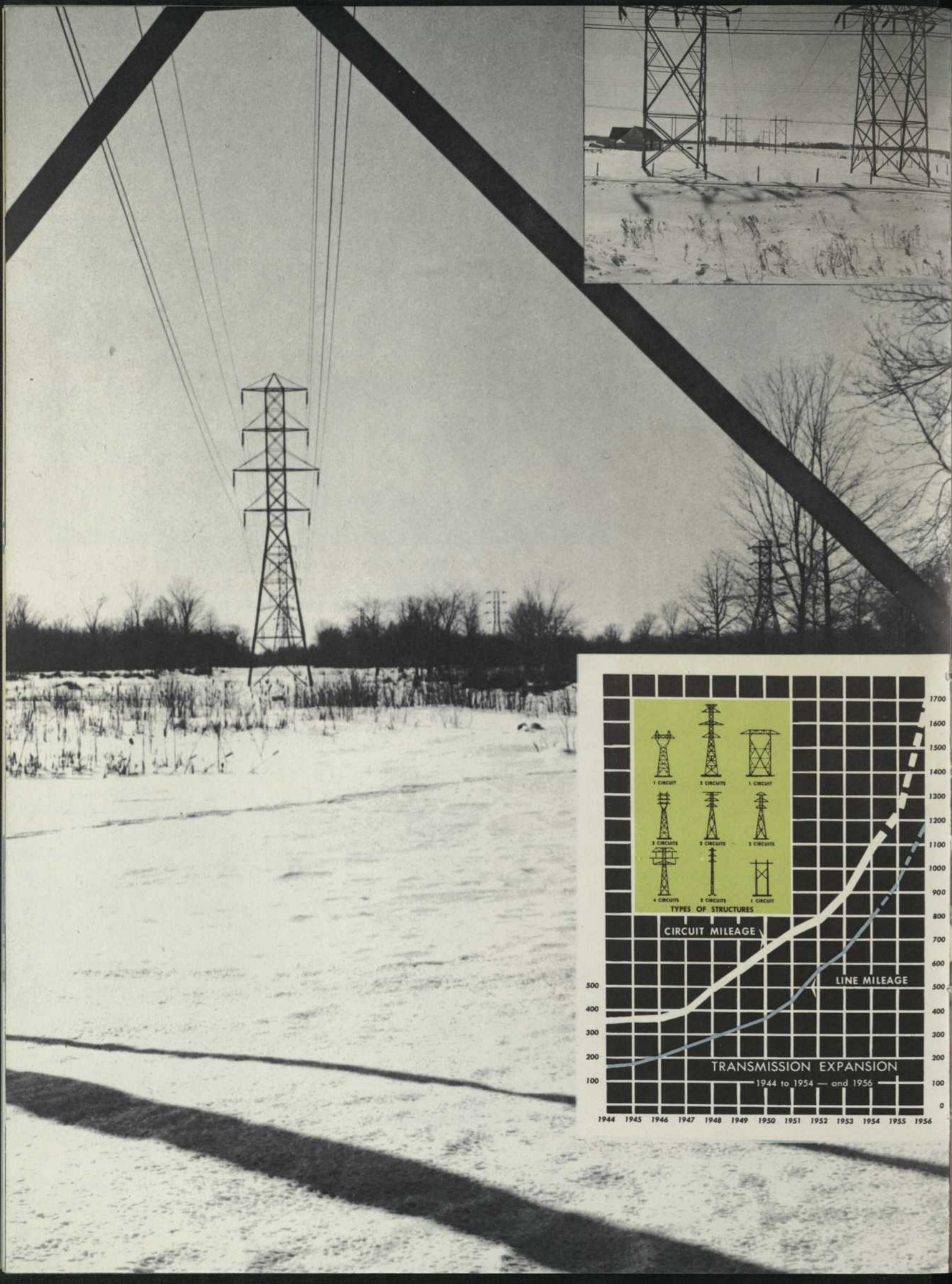
The Rapid VII plant was brought to its ultimate capacity in 1948 when one 12,000-kilowatt 60-cycle generating unit was added to the three 25-cycle units of similar capacity already installed.

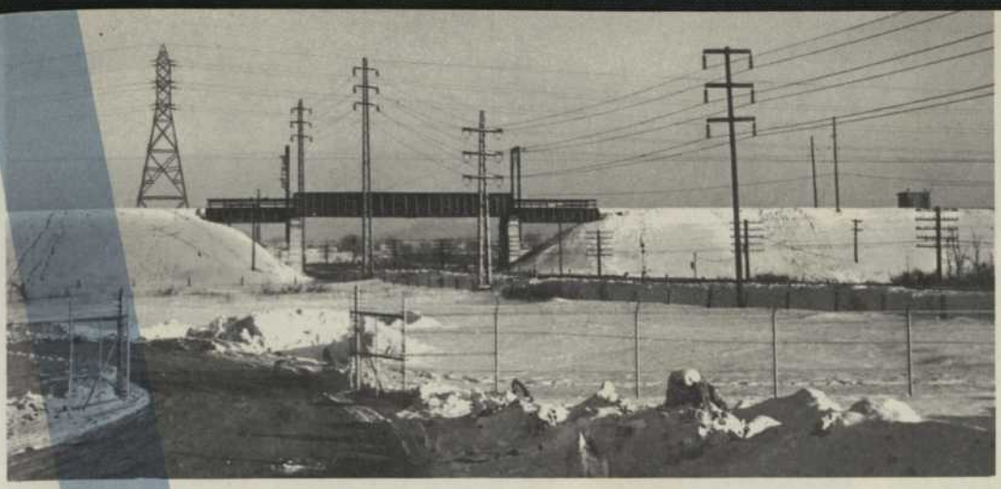
A new plant was built at Rapid II in 1951 to meet the increasing demand in this fast-growing district. This new development will have an ultimate capacity of 48,000 kilowatts. Two 12,000-kilowatt 60-cycle units had been installed by 1954.



Both Rapid VII and Rapid II generating stations supply power to the fast expanding mining industry and to local co-operatives in the Northwestern Quebec area.

Interior view of the Rapid II Power House.


1 CIRCUIT
2 CIRCUITS
1 CIRCUIT
2 CIRCUITS
2 CIRCUITS
2 CIRCUITS
4 CIRCUITS
2 CIRCUITS
1 CIRCUIT
TYPES OF STRUCTURES
CIRCUIT MILEAGE
LINE MILEAGE
TRANSMISSION EXPANSION
1944 to 1954 — and 1956
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
500
400
300
200
100
1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956



ELECTRICITY | TRANSMISSION

The Commission's total transmission system was increased by 195.8% during the 1944-54 period — from 394.39 to 1,167.2 circuit miles.

This network included overhead, underground and underwater lines at the end of 1954 as follows:

Overhead

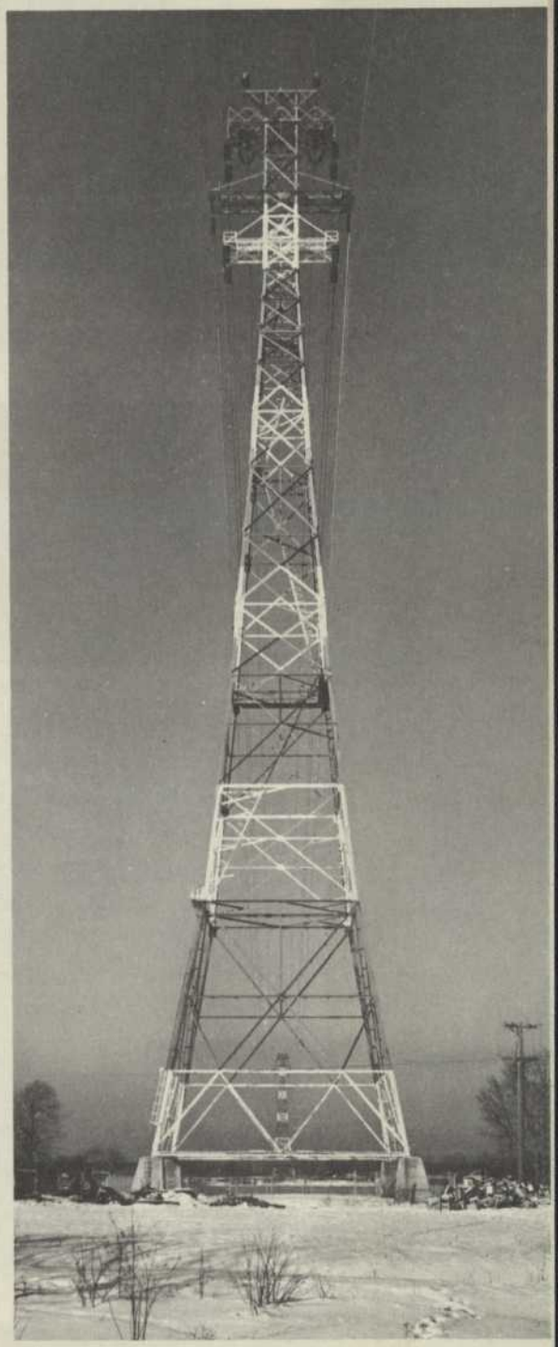
	Circuit Miles
Montreal System	
120 KV	351.8
60 KV	156.1
Beauharnois System	
220 KV (25-cycle to Ontario)	50.1
44 KV	70.5
Gaspé System	
161 KV	142.4
69 KV	5.2
Northwestern Quebec System	
120 KV	333.9

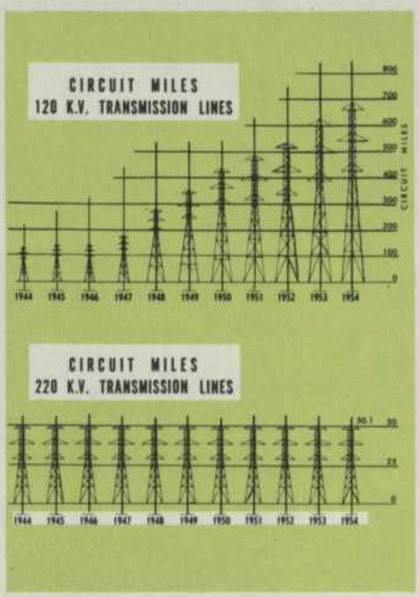
Underground

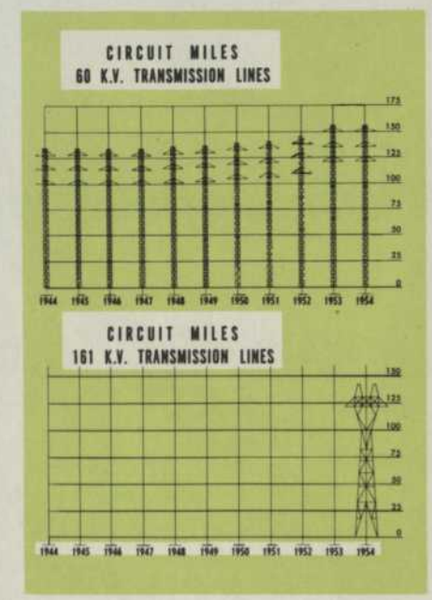
Montreal System	
120 KV	19.2
60 KV	3.
Beauharnois System	
44 KV	0.8
Gaspé System	
69 KV	34.2

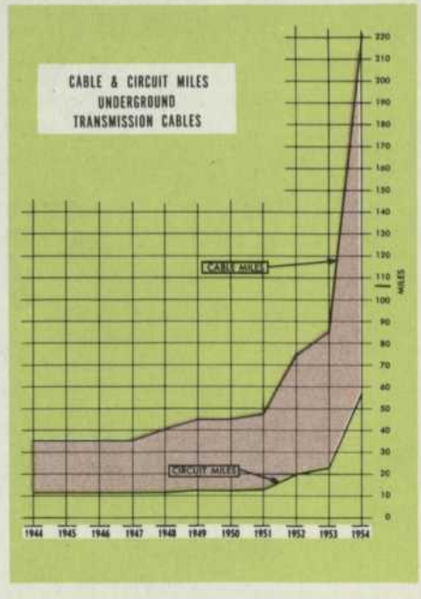
Underwater

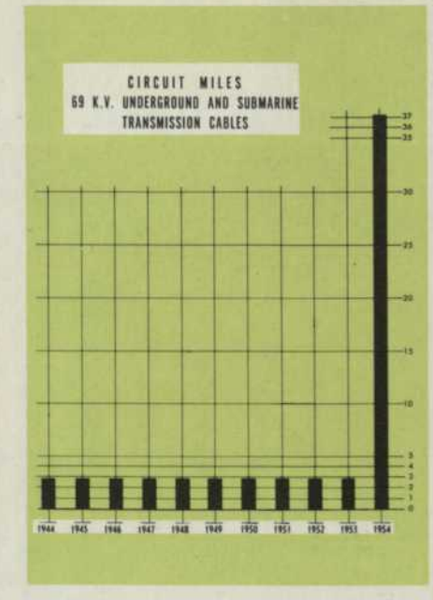
Complementing the Bersimis project, the Commission undertook in 1952-54 one of the most difficult tasks ever attempted — bringing electricity across the 31 miles of salt water separating the North Shore of the St. Lawrence River from power-hungry, mineral-wealthy Gaspé Peninsula.

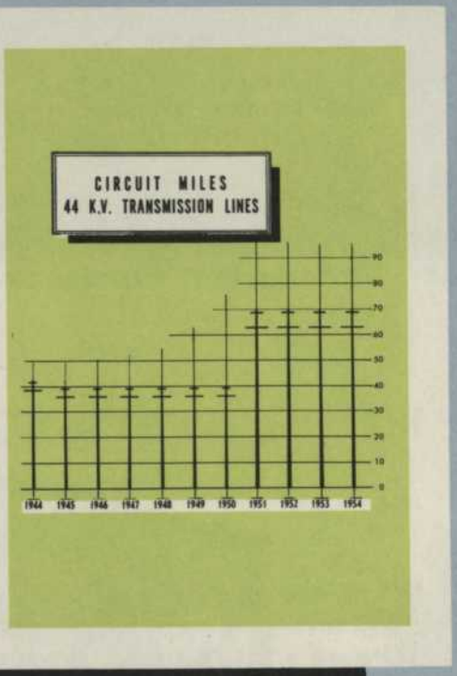



CIRCUIT MILES
120 K.V. TRANSMISSION LINES
CIRCUIT MILES
220 K.V. TRANSMISSION LINES
1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954


CIRCUIT MILES
60 K.V. TRANSMISSION LINES
CIRCUIT MILES
161 K.V. TRANSMISSION LINES
1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954


CABLE & CIRCUIT MILES
UNDERGROUND
TRANSMISSION CABLES
CABLE MILES
CIRCUIT MILES
MILES
1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954


CIRCUIT MILES
69 K.V. UNDERGROUND AND SUBMARINE
TRANSMISSION CABLES
1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954



Four 69,000-volt cables had been laid by the end of 1954. Some 34 miles long and with a transmission capacity of 75,000 kilowatts, the cables link Manicouagan Peninsula, on the North Shore, and Les Boules, on the Gaspé Coast. They were submerged 4,000 feet apart.

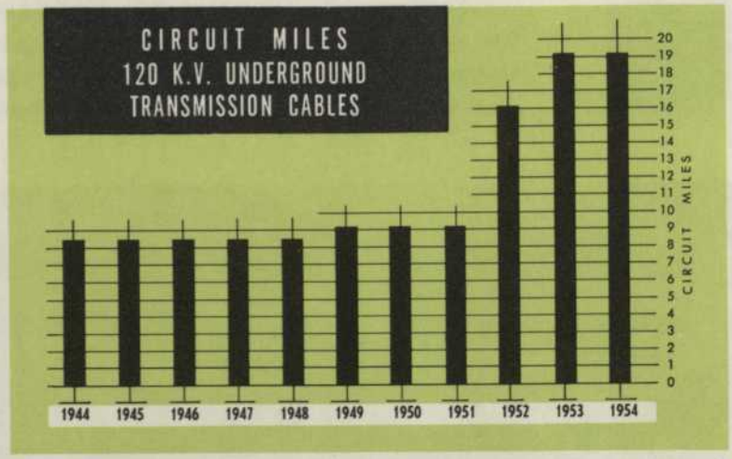
From Les Boules, a 142-mile transmission line of 161,000-volt capacity — built by the Commission in 1953-54 — will bring power to the Gaspé Copper Mines, to the Lower St. Lawrence Company and to local electricity co-operatives.

Lines Under Construction

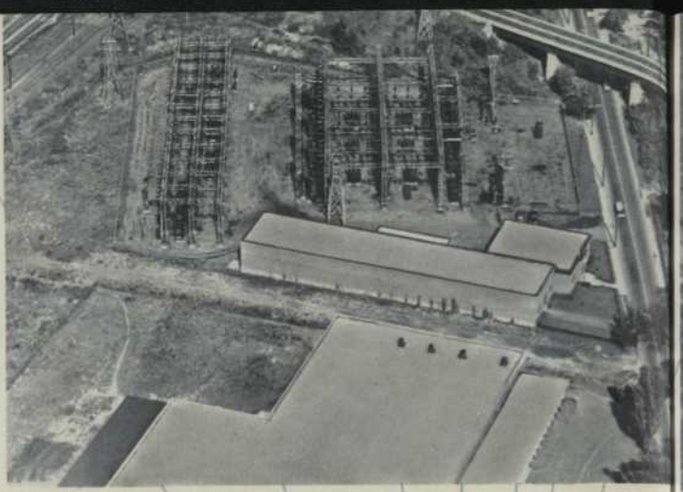
The transmission picture would not be complete without reference to the Bersimis-Quebec-Montreal line, under construction at the end of 1954, and the St. Félicien-Chibougamau line in the Lake St. John district, nearing completion at that time.

The 300,000-volt Bersimis-Quebec-Montreal line will bring power from the Bersimis power plant to a huge transformer-switching station at Charlesbourg, near Quebec City. From this station, construction of which was started in 1954, the power will travel to the terminal transformer-switching station which the Commission is constructing at Bout de l'Ile, on the eastern tip of the Island of Montreal.

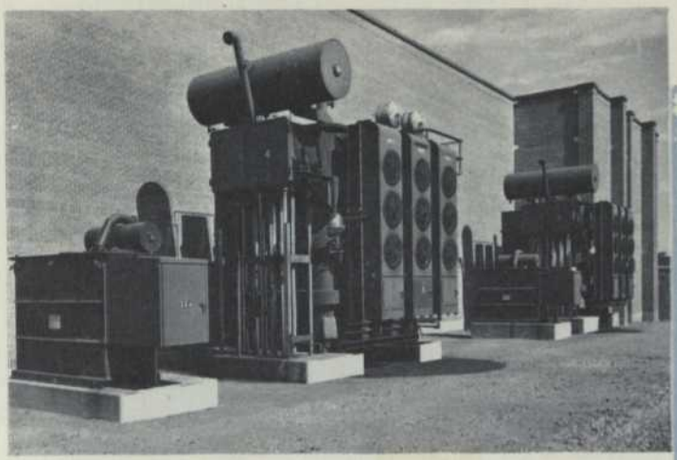
The 161,000-volt St. Félicien-Chibougamau line is destined to run 150 miles through northern bush country and place power at the disposal of new mining fields in the Chibougamau area. It will be fed temporarily from the Saguenay system at St. Félicien, awaiting connection with the Bersimis generating station.



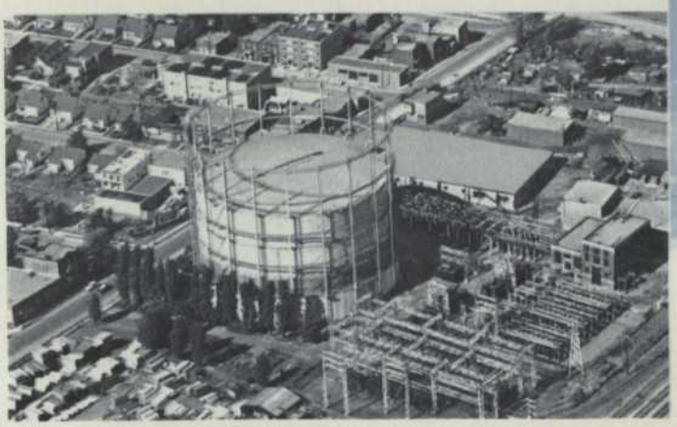
Guy Stn. 120,000 KVA — 120/12/4KV



Rockfield Stn. 120,000 KVA — 120/60/12KV



Delorimier Stn. 120,000 KVA — 120/12/4KV



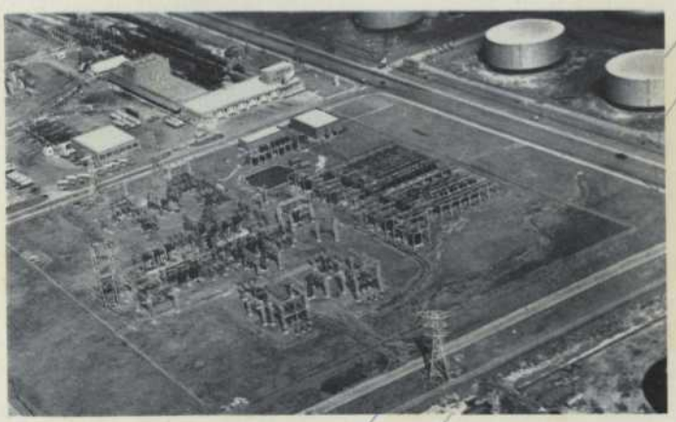
Beaumont Stn. 110,000 KVA — 60/12/4KV

The total installed capacity of transmission and distribution substations on the Commission's system experienced a 225.2% increase between 1944 and 1954 — from 685,575 to 2,228,350 kilovoltamperes.

Typical substations, constructed or renovated by the Commission during these years, are grouped in the pages following. They are the prelude to the vast program of substation construction which the Commission will undertake during the next two or three years — to cope with the new supply of power and the demand for electricity.

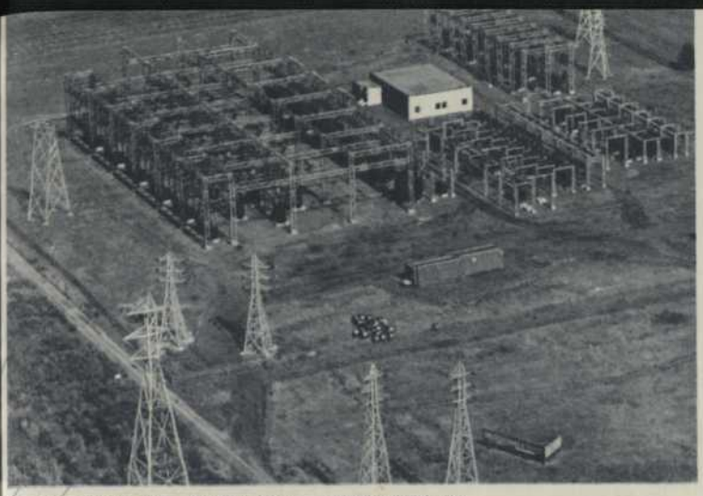
Distribution Lines

Challenged by the tremendous increase in the population of Greater Montreal and the accompanying unprecedented impetus in home construction during the past decade, the Com-



Montreal East Stn. 135,000 KVA — 120/12/4KV

Central Stn. 80,000 KVA — 120/12/4KV



Montreal North Stn. 240,000 KVA — 120/60/12/4KV

Atwater Stn. 240,000 KVA — 120/60/12/4KV

ELECTRICITY | DISTRIBUTION

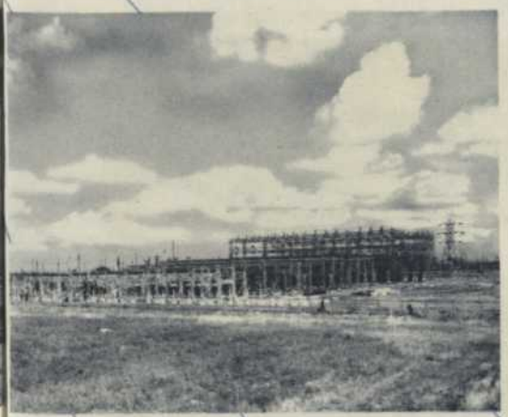
mission answered with a corresponding expansion of its distribution network facilities in the metropolitan area.

Net increases follow:

		1944	1954	Increase	%
Overhead lines	(in miles)	1,247	1,852	605	48.5
Underground lines	(in miles)	308.44	476.61	168.17	54.5
Transformer capacity	(in KVA)	238,333	635,000	396,667	166.4
Service loops (exclusive of power customers)		289,472	432,794	143,322	49.5
Meters		307,596	450,399	142,803	46.4

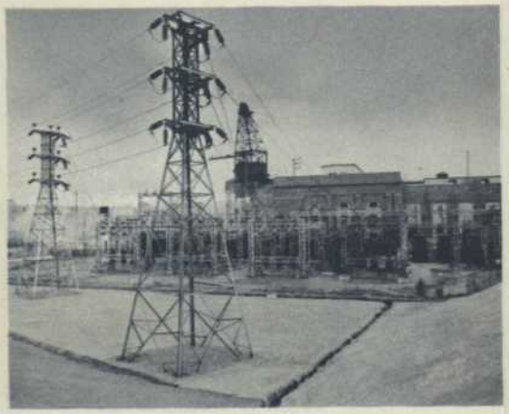
Concurrent with the increase in distribution equipment was expansion in the use of such facilities.

For instance, for every kilovoltampere of distribution transformer capacity, the number of kilowatthours used for residential service rose from 1,165 in 1944 to 1,965 in 1954, an increase of 69%.



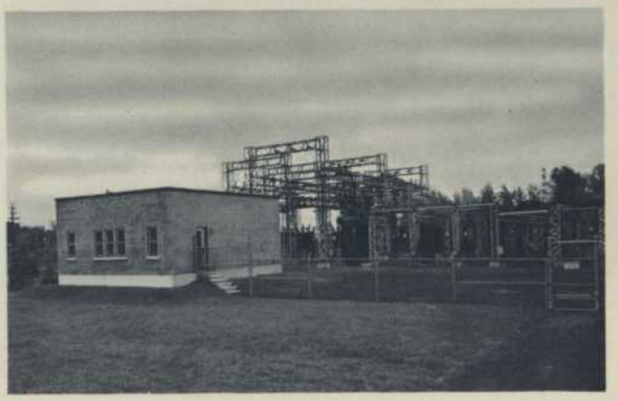
St. Maxime Stn. 73,500 KVA — 120/25/4KV

Vallée Stn. 75,000 KVA — 60/4KV

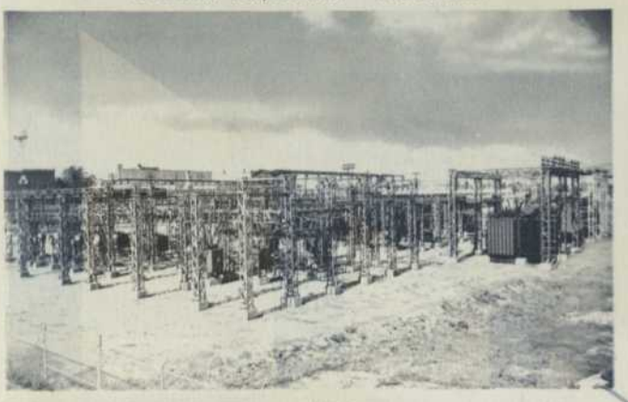


LaSalle Stn. 101,000 KVA — 60/12/4KV

Jeanne d'Arc - 1 Stn. 90,000 KVA — 120/60/4KV
2 & 3 Stn. 127,000 KVA — 120/60/12KV

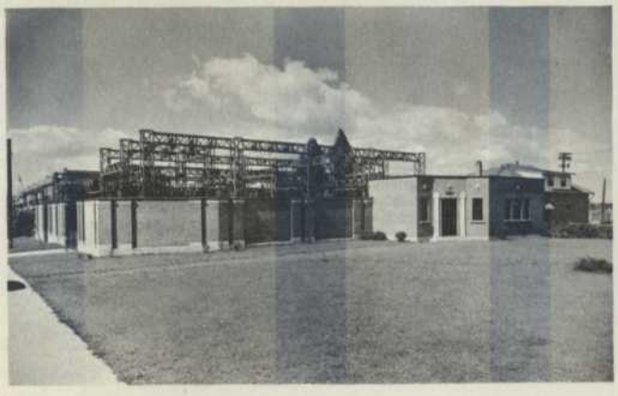


Dorval Stn. 13,000 KVA — 60/4KV

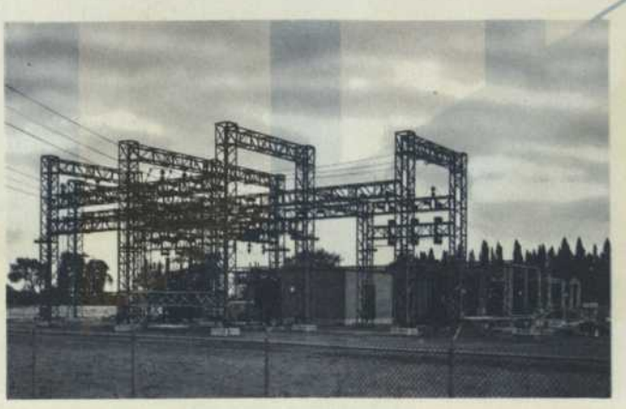


Rosemount Stn. 70,000 KVA — 60/12/4KV

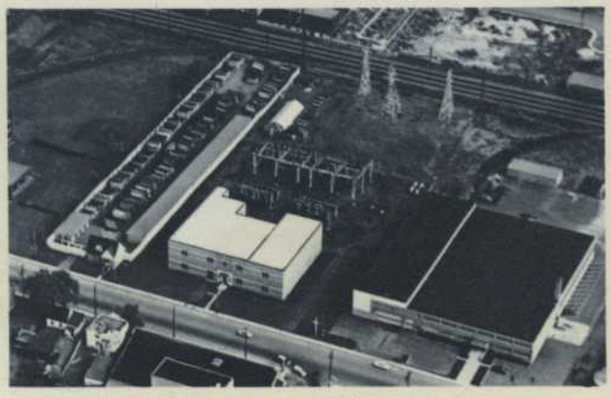
Baie d'Urfé Stn. 13,200 KVA — 60/4KV



Crémazie Stn. 14,000 KVA — 12/4KV

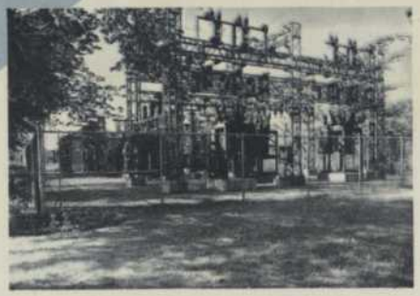


Pointe Claire Stn. 23,000 KVA — 60/4KV

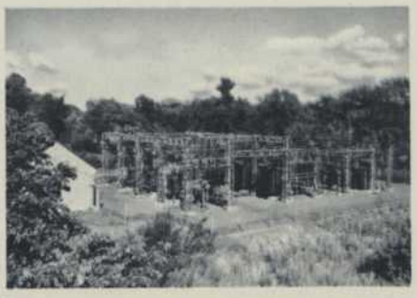


Mount Royal Stn. 60,000 KVA — 60/12/4KV

Somerled Stn. 10,000 KVA — 12/4KV

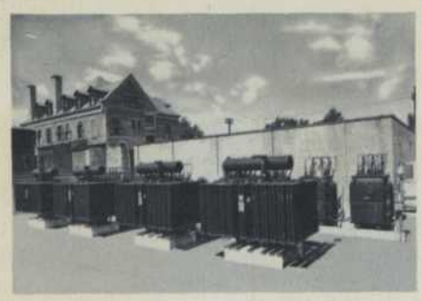


St. Lambert Stn. 9,500 KVA — 25/4KV



Ahuntsic Stn. 12,000 KVA — 12/4KV

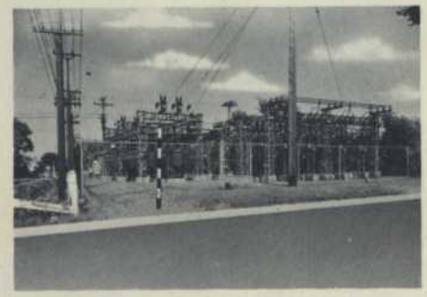
Brillant Stn. 15,000 KVA — 12/4KV



Roy Stn. 15,000 KVA — 12/4KV

Laurier Stn. 15,000 KVA — 12/4KV

O'Brien Stn. 12,000 KVA — 12/4KV

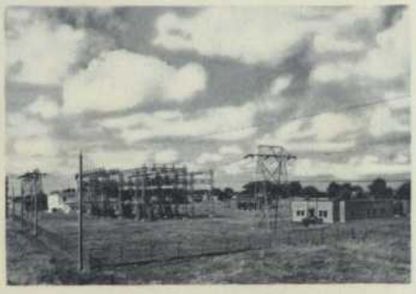


Longueuil Stn. 10,000 KVA — 25/4KV

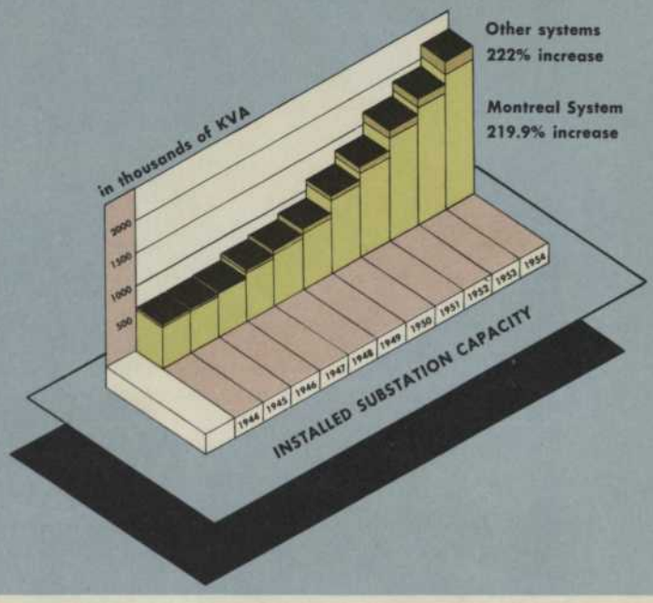
Cartierville Stn. 12,000 KVA — 12/4KV

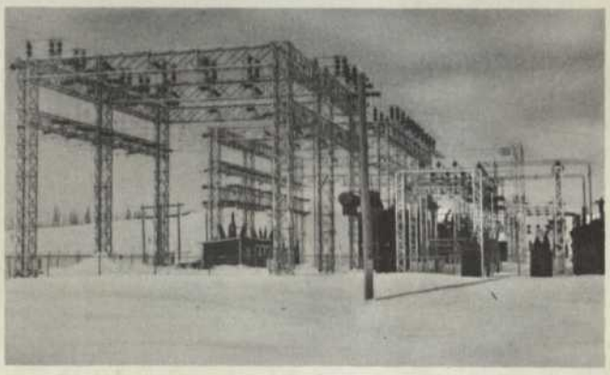
Champlain Stn. 15,000 KVA — 12/4KV

St. Luc Stn. 10,000 KVA — 12/4KV



Chambly Stn. 1,500 KVA — 25/2.3KV





Northwestern System

The Rouyn Substation, upper left, has a capacity of 15,000 KVA at 25 cycles and of 2,500 KVA at 60 cycles — 120/12/4 KV.

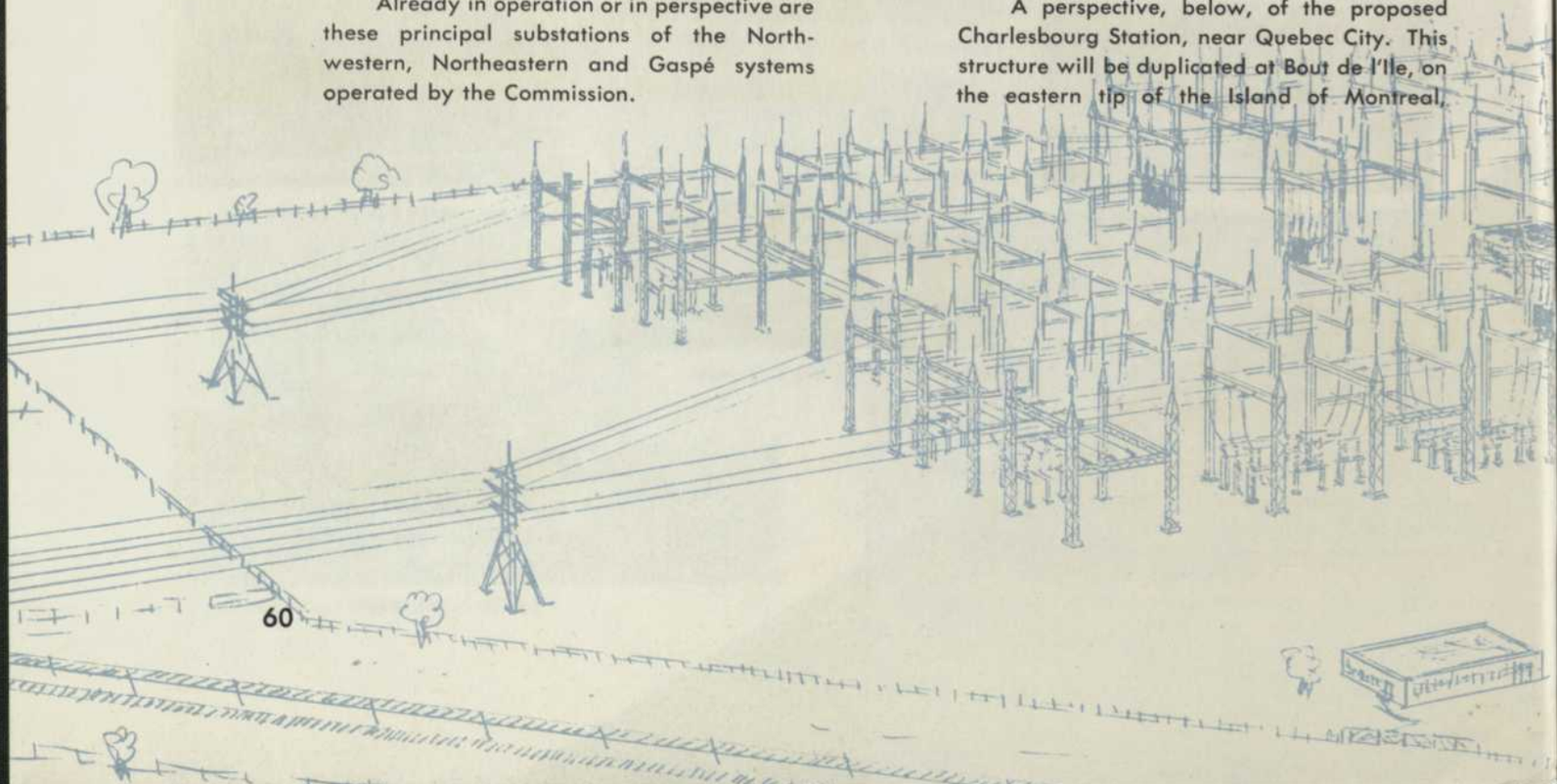
The Pandora Frequency Changer Station, centre, converts power from 25 to 60 cycles.

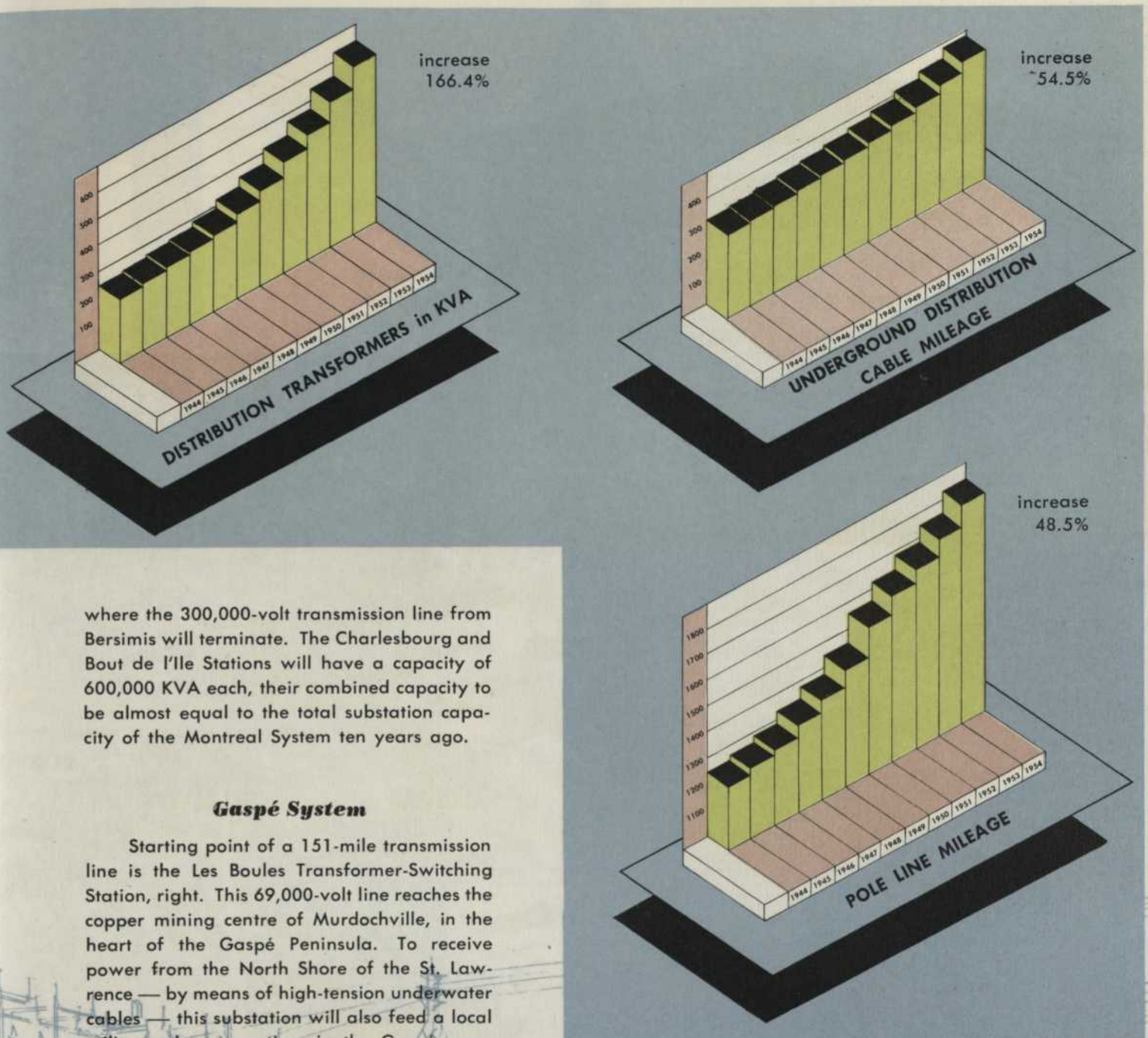
The Renault Transformer-Frequency Changer Station, lower left, has a capacity of 1,000 KVA - 120/25 KV. Power is converted here also from 25 to 60 cycles

Already in operation or in perspective are these principal substations of the Northwestern, Northeastern and Gaspé systems operated by the Commission.

Northeastern System

A perspective, below, of the proposed Charlesbourg Station, near Quebec City. This structure will be duplicated at Bout de l'Ile, on the eastern tip of the Island of Montreal.

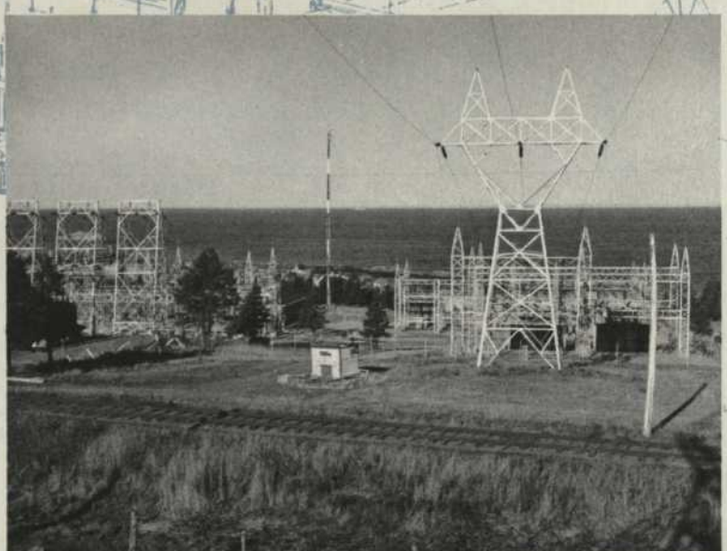




where the 300,000-volt transmission line from Bersimis will terminate. The Charlesbourg and Bout de l'Ile Stations will have a capacity of 600,000 KVA each, their combined capacity to be almost equal to the total substation capacity of the Montreal System ten years ago.

Gaspé System

Starting point of a 151-mile transmission line is the Les Boules Transformer-Switching Station, right. This 69,000-volt line reaches the copper mining centre of Murdochville, in the heart of the Gaspé Peninsula. To receive power from the North Shore of the St. Lawrence — by means of high-tension underwater cables — this substation will also feed a local utility and co-operatives in the Gaspé area.

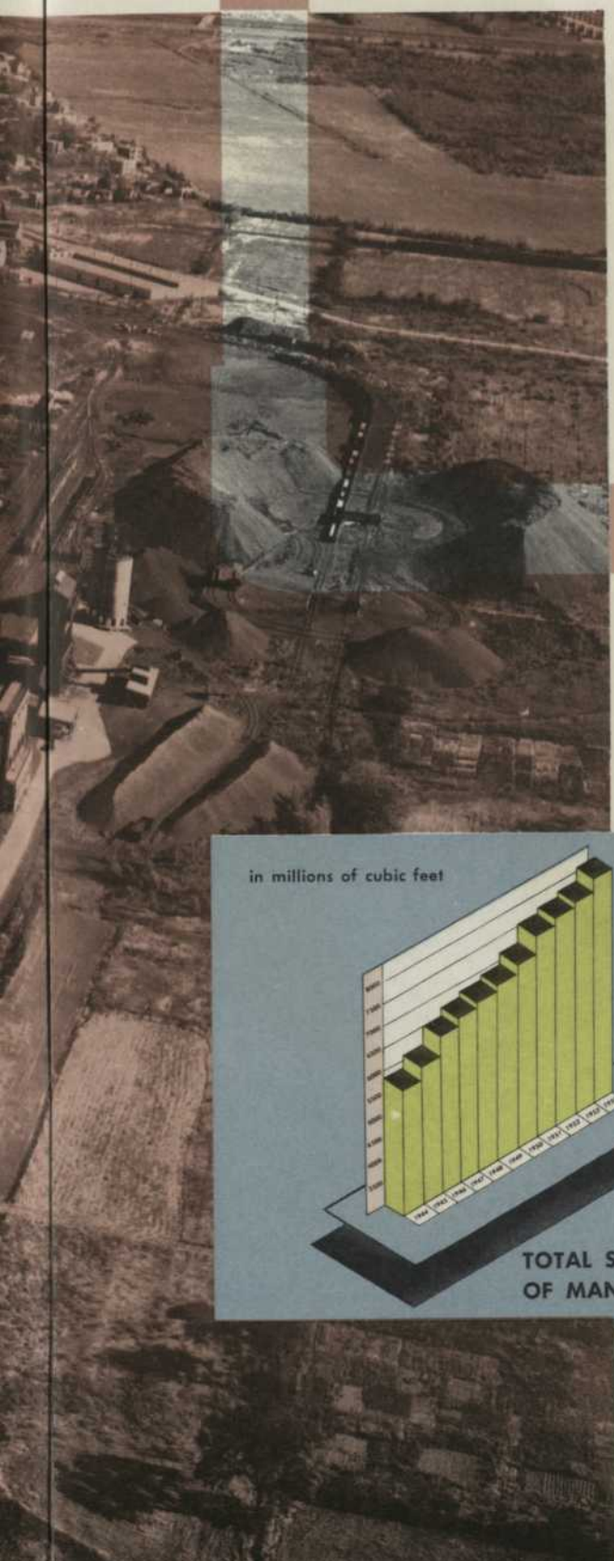


◀ Beaumont
Gas Holder

GAS | STORAGE

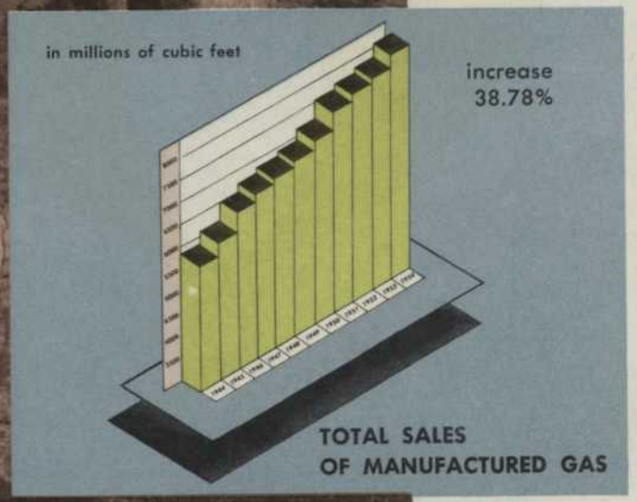
The main addition to the Commission's gas storage and compressor facilities during the 1944-54 period was construction of a new modern booster-compressor station. This structure is adjacent to Hydro-Quebec's 10,000,000-cubic foot holder in the east end of the City.

Other additions and improvements included the installation of seven new boilers and the addition of new telemetering equipment to improve metering facilities.



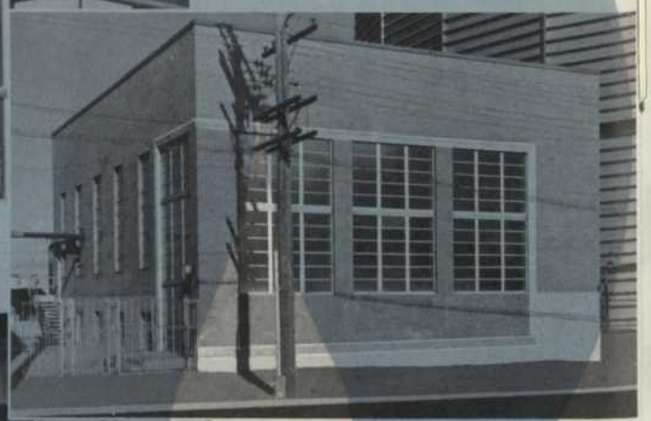
LaSalle Gas Works supply some 30,000,000 cubic feet of gas per day to Hydro-Quebec customers on the Island of Montreal

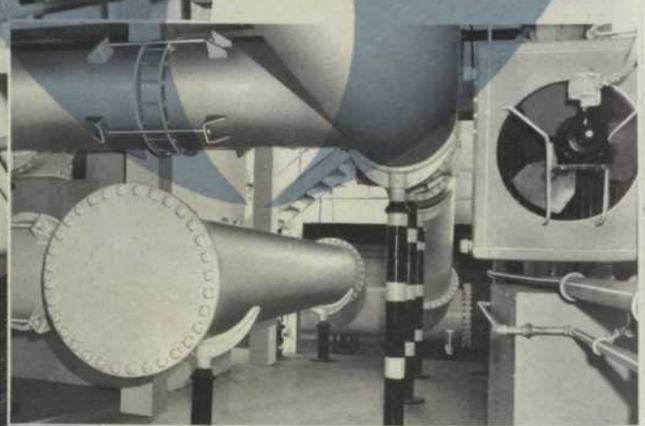
Hochelaga Gas Holders, of 10,000,000-cubic foot and 3,000,000-cubic foot capacity, respectively, serve the eastern and northwestern areas of the Island of Montreal.



Interior view of the new Hochelaga Compressor and Booster Station, which has a capacity of 1,000,000 cubic feet per hour.

This building, erected in 1953, houses the new Hochelaga Compressor and Booster Station.



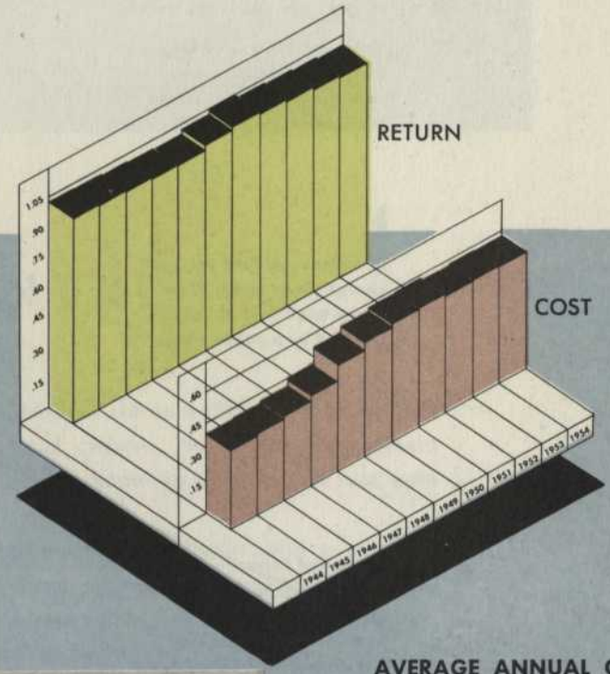


Starting point of high-pressure gas mains in the new Hochelaga Station.

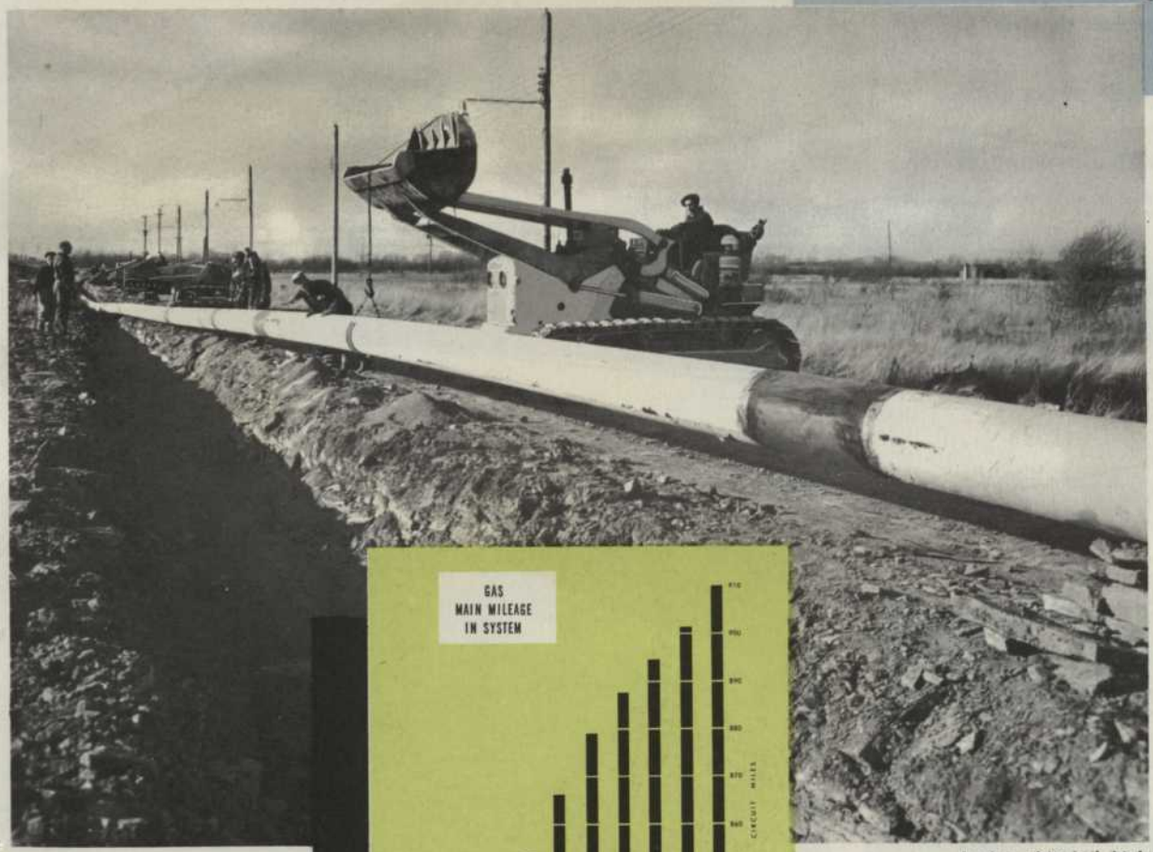
GAS | DISTRIBUTION

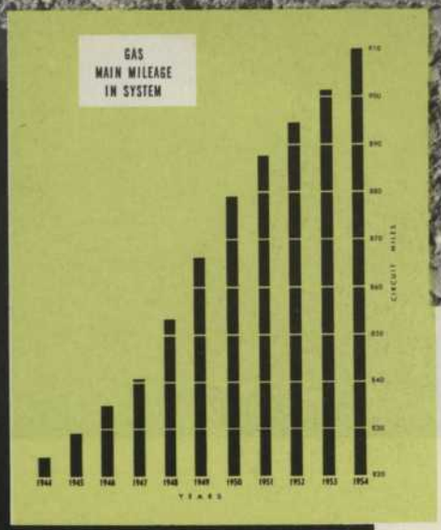
During the past ten years gas service has been made available to new areas through the installation of about 100 miles of new gas mains and of 11,616 new services. Reinforcement of the existing system has resulted in improved service to customers.

An experiment in house heating by gas promises to have an important influence on the future development of the distribution system. Strong interest in gas house heating, manifested by developers of a 310-unit project in the North-east portion of the Island, resulted in Hydro-Quebec installing nearly 2½ miles of 16-inch high-pressure main in the area.



AVERAGE ANNUAL COST AND RETURN per M.C.F.





Laying of 16-inch high-pressure gas main in new district.

Left — Aerial view of the Service Centre and adjacent Store yards.

Centre — The most up-to-date methods of material handling have been incorporated in the stores and yard where a multitude of articles of every description are stocked.

Right — Troubles and Inquiries Division, where all trouble calls and requests for service information are received.

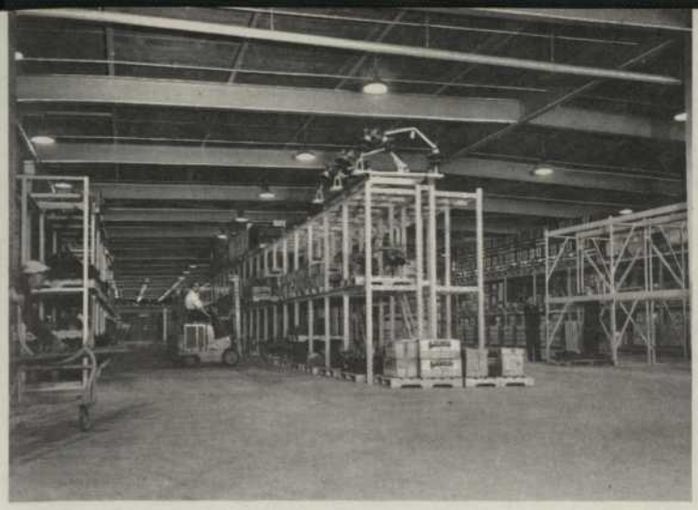
A modern and fully equipped garage caters to the needs of the large fleet of vehicles required by a public utility.

The Service Centre — The building, part of which is of two-storey dimensions, measures 720 by 600 feet. It is strategically located in the centre of the Island of Montreal.

Left — General Shops — Equipped with modern machinery and tools to do all kinds of maintenance and repair work.

Centre — Electric Meter and Gas Meter Shops.

Right — Some of the heavy motor vehicles necessary for the operation and maintenance of electricity and gas services.



SERVICE CENTRE

The modern structure housing Hydro-Quebec's ancillary services was one of the more important Commission achievements during the decade under review.

Erected on a spacious parcel of property close to the geographical centre of the Island of Montreal, the new Service Centre provides all facilities essential to Hydro-Quebec's schedules of operation, maintenance and expansion. Location and facilities combine to help assure the best service possible to the public.

The building, part of which is of two-storey dimensions, contains :

1 — An up-to-date garage with dock areas to facilitate loading construction, operation and maintenance vehicles, spacious, column-free parking areas and a repair shop equipped with the most modern machinery.

2 — General stores adjacent to an outside yard where the latest equipment makes handling of materials fast, safe and facile.

3 — General shops, embracing a machine shop, carpentry, tinsmith and pipefitting shops, brass shop and tool room.

4 — A gas meter shop capable of producing 15,000 new meters and reconditioning 75,000 other meters per year.

5 — An electric meter shop where meters are repaired, calibrated and checked prior to inspection and sealing by a Federal Government bureau located on the premises.

6 — Spacious, well-lighted and well-ventilated office quarters.

7 — An auditorium, cafeteria, medical clinic, training classrooms, etc.

Machine Tabulating Division,
where some of the customer
accounting operations are carried out.

A group of well-trained specialists are always on hand to receive customers with a problem to submit, a question to be answered, a request for explanations, a grievance to be righted.

BILLING | COLLECTION

In a successful effort to meet a steadily increasing number of accounts, the Commission made major changes to its customer accounting methods during the past decade.

Careful, extensive study of methods used in comparable utilities resulted in the Commission adopting the International Business Machine punch-card billing system, combined with the Remington Rand unit-desk system. This combination was found best suited to Hydro-Quebec requirements, permitting unlimited expansion.

Adoption of this new system entailed redistribution of meter-book routes throughout metropolitan Montreal to assure an even flow of work on a day-to-day basis and thereby avoid bottlenecks in the billing process. At the same time, this system makes possible much faster compilation of sales and revenue statistics.

In operation six years at the end of 1954, the system had established its usefulness and, compared with the former customer accounting procedure, required 15% less personnel.

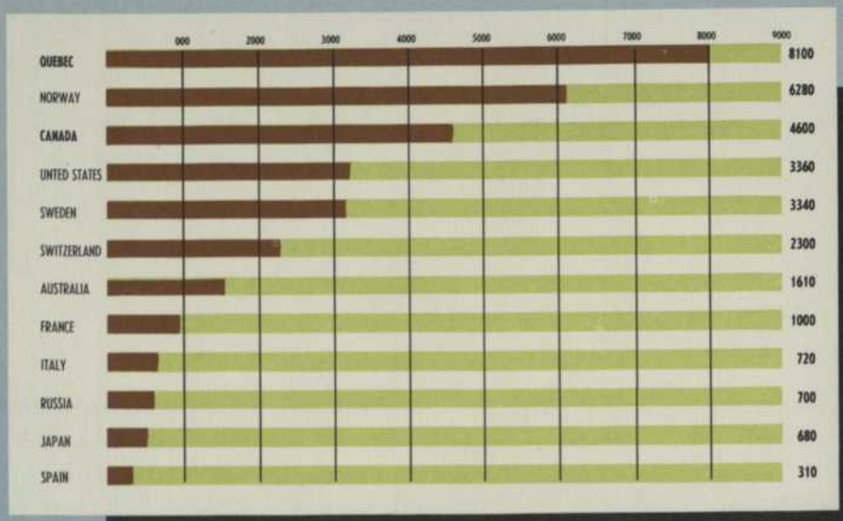
An important change in customer relations policy was introduced in 1947, when the Commission refunded — with interest to date — the deposits demanded of residential customers. A similar privilege was extended later to commercial customers of more than five-year standing. The total operation involved issuing 218,431 cheques of a total principal amount of $1,269,534, to which was added $442,351 interest.

The result was an annual saving in interest of some $52,000, as well as other economies in salaries and incidental expenses. Furthermore, a close survey of customer credit records has not indicated any adverse effect on bad debt loss ratios. In fact, of a total sales amount of $511.2 millions, only $128,371 — 0.0251% — has been transferred as non-recoverable bad debts.

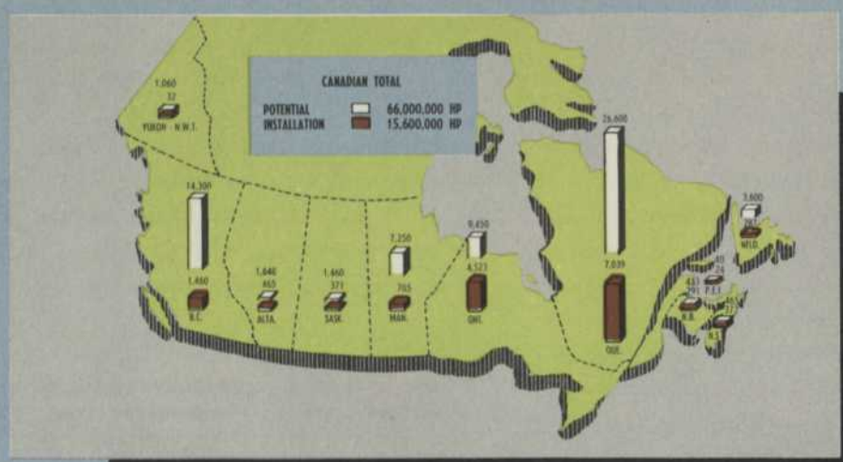
Accounting methods relating to the Accounts Payable and Payroll divisions have been revised by the Commission with the installation of a new International Business Machine system.

Unit desk plan of customer accounting — Each unit desk clerk is responsible for some 13,000 customers, representing 23,000 meters.

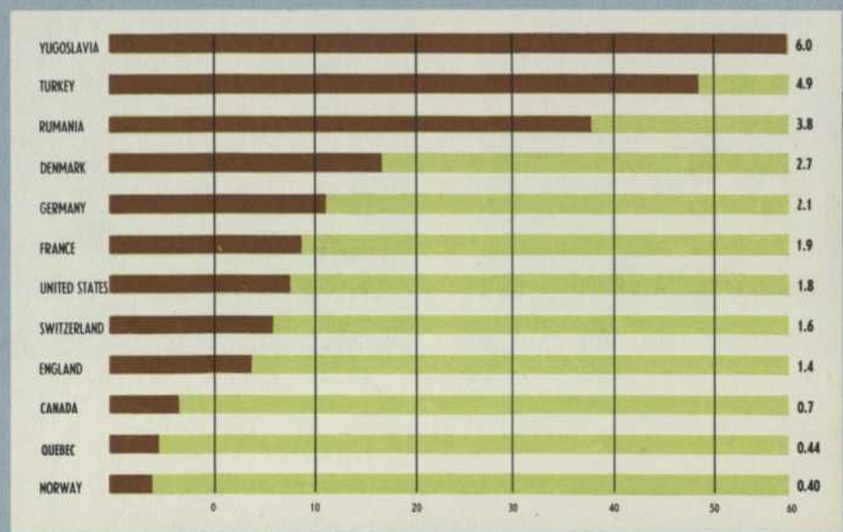
WORLD LEADERS in Water Power Installations (K.W.H. per capita) (1954)



WATER POWER IN CANADA Thousands of horsepower as at December 31, 1953



COMPARATIVE PRICES of electricity in the world (1951) (average in cents per K.W.H.)



The impetus provided by the development of its natural resources is changing the Province of Quebec economy from its predominantly agricultural basis to a combined agricultural-industrial structure. And the expansion of the Quebec Hydro-Electric Commission during the past ten-year cycle has been the true expression of the further consolidation Quebec has made of the status it enjoys among Canada's ten provinces.

Canada has become a world leader in the production of hydro-electric energy, as the accompanying charts establish. And the Province of Quebec is undisputed leader among the nation's power-producing provinces.

This leadership among Canadian — and international — power-endowed areas becomes all the more significant when consideration is given to the low cost of Quebec power to the ultimate consumer. Small wonder that this Province of Quebec has earned the title of "The Land of Tomorrow" . . . an area of exciting expansion where men of vision dare to dream and conquer new frontiers.

With the development of unlimited natural resources, with the expansion of industry already prosperous, with the introduction of new capital to assist in Quebec's march towards its destiny, the hydro-electric power industry will continue to be called upon to play a vital role.

The Quebec Hydro-Electric Commission stands ready to do its share. While concentrating on current programs, it is charting the years ahead, assuring delivery of necessary equipment, expanding production, transmission and distribution facilities, extending electricity and gas services.

The unique record of achievement of its first ten years is the Commission's guarantee of its future. In continued co-operation with privately-owned public utilities, it will make its contribution towards the progress and development of this "Land of Tomorrow."

Summary

LITHO-CANADA

J. ARTHUR SAVOIE
President

THE COMMISSION

as of June 1st, 1955

Notary J. Arthur Savoie, formerly Vice-President of the Commission, was appointed its President upon retirement from full active service of L. Eugène Potvin. At the same time, Léonard Préfontaine was named to fill the vacancy in Commission ranks.

JOHN W. McCAMMON
Commissioner
and General Manager

RENÉ DUPUIS
Commissioner

RAYMOND LATREILLE
Commissioner

LÉONARD PRÉFONTAINE
Commissioner

THE QUEBEC HYDRO-ELECTRIC COMMISSION

RESERVES ACCUMULATED DURING THE TEN YEAR PERIOD UNDER REVIEW

DEFERRED MAINTENANCE			
Total credited from operations as per Revenue Statement		$ 10,851,323	
Interest charged to operations over the period and credited to this reserve		1,608,927	
Transfer from Reserve for Contingencies		3,863,118	
Adjustment of unbilled accounts 1949/52 not reflected in revenues for those years		1,988,587	
		$ 18,311,955	
Deduct : Sundry charges for Maintenance		2,175,460	
Total as per Balance Sheet			$ 16,136,495
IMPROVEMENTS			
Total credited from operations as per Revenue Statement		$ 20,833,869	
Interest charged to operations over the period and credited to this reserve		2,571,967	
		$ 23,405,836	
Deduct: Various charges		337,422	
Total as per Balance Sheet			23,068,414
STABILIZATION OF RATES			
Total credited from operations as per Revenue Statement		$ 14,767,310	
Interest charged to operations over the period and credited to this reserve		2,232,690	
Total as per Balance Sheet			17,000,000
CONTINGENCIES			
Total credited from operations as per Revenue Statement		$ 26,911,763	
Interest charged to operations over the period and credited to this reserve		4,046,757	
		$ 30,958,520	
Deduct : Transfer to Deferred Maintenance Reserve	$ 3,863,118		
Sundry charges to this Reserve	3,505,614		
		7,368,732	
Net Total			23,589,788
Reserve total as per Balance Sheet		$ 24,000,000	
Deduct :			
Northwestern Quebec District Deficit as shown on Balance Sheet		410,212	
		$ 23,589,788	
AMORTIZATION			
Total credited from operations as per Revenue Statement		$ 88,186,115	
Interest charged to operations over the period and credited to this reserve		6,506,283	
Recoveries of items written off		26,800	
		$ 94,719,198	
Deduct :			
Transfer to Renewal Reserve re Lake Dozois	$ 500,000		
Amount written off to set value of assets on original cost basis as established by independent engineers	63,246,804	$ 63,746,804	
Total as per Balance Sheet			30,972,394
INVESTMENT EQUALIZATION			
Represents Capital Profit on Sales of Investments			347,334
DEPOSITS, INTEREST AND DIVIDENDS			
Represents unclaimed accounts			441,556
			$111,555,981

RESERVES FOR DEPRECIATION & RENEWALS

DEPRECIATION			
Depreciation as at April 14, 1944 on properties acquired		$ 53,832,091	
Retirements — sundry write offs, less credits		19,798,458	
Balance			$ 34,033,633
Northwestern Quebec System			
Depreciation Reserve as at January 1, 1950		$ 848,488	
less included in Renewal Reserve for the years 1944 to 1949 per Revenue Statement		597,405	
			251,083
RENEWALS			
Total Credited from operations as per Revenue Statement		$ 58,188,205	
Interest charged to operations over the period and credited to Renewal Reserve		7,730,049	
Credits arising from property sales, etc., less charges		1,162,775	
Transfer from Amortization Reserve re Lake Dozois		500,000	
			67,581,029
			$101,865,745

CAPITAL EXPENDITURES IN THE MONTREAL SYSTEM

1944-1954 INC.

HYDRO QUEBEC

$107,987,561

1952	1953	1954	TOTAL $	ELECTRICITY
63,846	16,376	41,363	489,286	Generation
24,463	3,408,137	1,705,483	13,070,985	Transmission
97,364	4,817,256	3,255,298	33,241,537	Substations
69,742	6,873,130	6,894,370	37,529,226	Distribution
29,001	126,697	166,336	730,200	Utilization
	222,922	80,885	402,434	Other
			2,428,054	Can. L. & P. Property
84,416	15,464,518	12,143,735	87,891,722	TOTAL - ELECTRIC
				GAS
	130,636	2,253	156,085	Production
41,953	30,648	509,710	2,653,688	Storage
6,957	871,144	674,761	4,602,730	Distribution
	16,169	5,179	21,348	Other
48,910	1,048,597	1,191,903	7,433,851	TOTAL - GAS
88,870	1,357,820	2,032,450	12,661,988	**GENERAL**
22,196	**17,870,935**	**15,368,088**	**107,987,561** *	GRAND TOTAL

uharnois System incurred exclusively for the benefit
where most of the power produced will be fed also

1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	TOTAL $	ELECTRICITY
775	3,407	13,153	24,962	62,376	154,638	8,005	385	163,846	16,376	41,363	489,286	Generation
8,391	19,086	150,716	532,519	490,104	1,917,221	1,335,058	1,279,807	2,224,463	3,408,137	1,705,483	13,070,985	Transmission
81,078	163,458	480,181	1,274,908	2,337,950	5,066,163	3,909,627	4,758,254	7,097,364	4,817,256	3,255,298	33,241,537	Substations
232,578	524,217	804,977	1,231,670	2,131,937	2,982,500	4,410,266	5,273,839	6,169,742	6,873,130	6,894,370	37,529,226	Distribution
1,791	1,996	4,844	12,365	100,036	58,965	93,422	34,747	129,001	126,697	166,336	730,200	Utilization
92,884					5,743				222,922	80,885	402,434	Other
					2,428,054						2,428,054	Can. L. & P. Property
417,497	712,164	1,453,871	3,076,424	5,122,403	12,613,284	9,756,378	11,347,032	15,784,416	15,464,518	12,143,735	87,891,722	TOTAL - ELECTRIC
												GAS
					786	18,688	3,722		130,636	2,253	156,085	Production
		1,665	2,054	136,910	161,515	7,272	961,961	841,953	30,648	509,710	2,653,688	Storage
153,842	248,459	328,564	349,491	542,228	669,889	738,761	18,634	6,957	871,144	674,761	4,602,730	Distribution
									16,169	5,179	21,348	Other
153,842	248,459	330,229	351,545	679,138	832,190	764,721	984,317	848,910	1,048,597	1,191,903	7,433,851	TOTAL - GAS
3,122	41,606	8,681	10,195	2,921	283,988	3,747,038	3,685,297	1,488,870	1,357,820	2,032,450	12,661,988	**GENERAL**
574,461	**1,002,229**	**1,792,781**	**3,438,164**	**5,804,462**	**13,729,462**	**14,268,137**	**16,016,646**	**18,122,196**	**17,870,935**	**15,368,088**	**107,987,561** *	GRAND TOTAL

* These figures do not include $69,000,000 worth of capital expenditures for the Beauharnois System incurred exclusively for the benefit of the Montreal System, nor the current expenditures for the Bersimis development where most of the power produced will be fed also into Metropolitan Montreal.