

SIXTH ANNUAL REPORT  
Year Ended 31 March 1968



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BRITISH COLUMBIA HYDRO AND POWER AUTHORITY





*Lieutenant-Governor George R. Pearkes dedicated and named the W. A. C. Bennett Dam. First Peace power is scheduled for delivery in autumn of 1968.  
(Photograph by L. D. Payerle)*



*Just six years ago, site of dam in Peace River Canyon looked like this. Soon, reservoir behind completed dam will become British Columbia's largest lake.  
(Photograph by Wally West)*



*Completed in September 1967, the W. A. C. Bennett Dam is 600 feet high and extends 1¼ miles across the Peace River Valley.*



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PRIME MINISTER  
VICTORIA

1 9 6 8

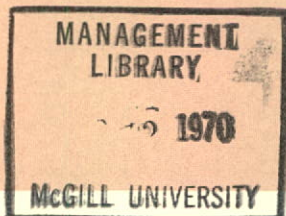
June 13th

Major-General the Honourable George Randolph Pearkes, V.C.,  
C.C., P.C., C.B., D.S.O., M.C., C.D., Lieutenant-Governor  
of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present the Annual  
Report of British Columbia Hydro and Power Authority for the year  
ended 31st March 1968.

Prime Minister





**DIRECTORS AND OFFICERS**

JOHN DUNSMUIR  
EINAR M. GUNDERSON\*  
HUGH L. KEENLEYSIDE *Chairman\**  
THE HONOURABLE W. KENNETH KIERNAN  
FRED D. MATHERS  
WILLIAM C. MEARNS\*  
GORDON M. SHRUM *Chairman\**  
FREDERICK A. SMITH  
JOHN H. STEEDE *Chief Engineer\**  
THE HONOURABLE RAY G. WILLISTON  
*\*Member of the Executive Management Committee*  
  
GEOFFREY G. WOODWARD *Secretary*  
MRS. P. ROSS KIDD *Assistant Secretary*

**SENIOR MANAGEMENT**

PHILIP W. BARCHARD *Division Manager – Operations*  
THOMAS CHAMBERS *Comptroller and Chief Financial Officer*  
HUGH A. ELLIOTT *Division Manager – Commercial Services*  
G. FREDERIC GREEN *Division Manager – Production*  
GARTH GRIFFITHS *Division Manager – Staff Services*  
ROBERT W. GROSS *Division Manager – Land*  
W. DENIS KENNEDY *Division Manager – Major Resources, and  
Manager – Canadian Entity Services*  
J. STUART LANG *Internal Auditor*  
ROBERT C. McMORDIE *Columbia Projects Manager*  
WILLIAM D. MITCHELL *General Solicitor and Division Manager – Legal*  
J. PETER OTTESEN *Construction Manager – Major Hydro Projects*  
HAROLD K. PRATT *Division Manager – Engineering*  
JOHN S. PURVES *Division Manager – Purchasing and Stores*  
SIGURDUR SIGMUNDSON *Division Manager – Transportation*

*Auditors: PRICE WATERHOUSE & CO.*

*Bankers: CANADIAN IMPERIAL BANK OF COMMERCE*

*Securities issued by British Columbia Hydro and Power Authority:  
Registrar, Canadian issues: THE AUTHORITY  
Registrar, United States issues: THE CANADIAN BANK OF COMMERCE TRUST  
COMPANY, New York*

*Securities issued by British Columbia Electric Company Limited:  
Registrar, Perpetual Callable Bonds and 25-year Bonds: MONTREAL TRUST COMPANY  
Registrar and Trustee, First Mortgage Bonds: MONTREAL TRUST COMPANY  
Registrar and Trustee, Debentures: THE ROYAL TRUST COMPANY*

*Securities issued by British Columbia Power Commission:  
Registrar: THE AUTHORITY*



# BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

OFFICE OF THE CHAIRMAN

970 BURRARD STREET

VANCOUVER 1, B.C.

10 June 1968

The Honourable W. A. C. Bennett, P.C., LL.D., D.Pol.Sc.,  
Prime Minister of British Columbia,  
Parliament Buildings,  
Victoria, B.C.

Dear Sir:

On behalf of the Board of Directors, we present, for transmittal to the Lieutenant-Governor in Council, the Annual Report of British Columbia Hydro and Power Authority for the year ended 31 March 1968. This report summarizes a year of progress and achievement by the Authority, which contributed greatly to the economic growth of British Columbia.

Of major consequence to the Authority and the Province was the completion on 12 September 1967 of the W. A. C. Bennett Dam on the Peace River. An important stage was reached in the development of the Columbia River when Duncan Dam, the first of the Columbia River Treaty storage projects scheduled for completion, was declared operational on 31 July 1967.

Reflecting prospects of continuing expansion in all sectors of the Provincial economy, the demand for power in the Authority's service area is forecast to increase at a substantial rate during the next decade. Keeping abreast of this growing demand presents a major challenge but, by simultaneous development of the Peace River and Columbia River and the investigation of other potential power sources, the Authority looks to the future confident that an abundant supply of power will be available to sustain British Columbia's economic growth.

Yours truly,



CHAIRMAN



CHAIRMAN



## THE BUSINESS OF THE AUTHORITY AND THE AREAS SERVED (See map, inside back cover)

### Electric Service

Generation and transmission of electricity.

Distribution of electricity throughout areas of British Columbia containing more than 90% of the population of the Province.

### Gas Service

Distribution of natural gas in Greater Vancouver and in the Fraser Valley eastward to Hope.

Distribution of liquefied petroleum gas-air in Greater Victoria.

### Passenger Transportation Service

Urban passenger transportation in Greater Vancouver and Greater Victoria.

Interurban passenger transportation in Greater Vancouver, in the Fraser Valley eastward to Hope, between Vancouver and Victoria and between Vancouver and Nanaimo.

### Rail Freight Service

Rail freight operations in Greater Vancouver and the Fraser Valley.

## THE YEAR IN BRIEF

- W. A. C. Bennett Dam on the Peace River was completed in September 1967. First power from the Peace River Project is scheduled for delivery in the autumn of 1968.
- Duncan Dam, first of the Columbia River Treaty storage projects scheduled for completion, was declared operational in July 1967, eight months ahead of schedule. Good progress was also made during the year on the Arrow and Mica storage projects.
- Expenditures on new plant, including the Peace, Duncan, Arrow and Mica projects, were \$341,170,731, a record for any 12-month period.
- Net income for the year was \$12,890,635 compared with \$9,350,954 last year.
- Kilowatt-hours of electricity sold were 10.8% higher than last year.
- Therms of gas sold were 9.6% higher than last year.
- Number of passengers carried on the urban transportation services increased 2.5% over last year.



# ANNUAL REPORT OF BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

for the year ended 31 March 1968

Another year of record growth enabled the Authority to reach a significant milestone in its history when annual gross revenues surpassed the \$200-million mark for the first time.

## RESULTS OF OPERATIONS

Gross revenues for the year ended 31 March 1968 amounted to \$201,469,898, an increase of \$23,322,972 or 13.1% over the gross revenues for the previous year.

Net income after providing for all expenses was \$12,890,635 compared with \$9,350,954 for the previous year. The net income was added to the Authority's reserves, and the corresponding funds have been used for plant renewals and expansion to meet load growth.

The following table shows the principal sources of revenue and how this revenue was used in the operations of the Authority:

	Year Ended 31 March 1968	Year Ended 31 March 1967
<b>Where the revenue came from</b>		
Sale of electricity to residential customers.....	\$ 51,441,920	\$ 41,635,372
Sale of electricity to other customers.....	86,230,163	76,791,810
Sale of gas.....	34,346,670	32,083,103
Transportation of urban and interurban passengers.....	18,131,364	17,635,677
Rail freight operations.....	6,992,305	6,420,825
Miscellaneous.....	4,327,476	3,580,139
	<u>\$201,469,898</u>	<u>\$178,146,926</u>
<b>How the revenue was used</b>		
Salaries, wages and employee benefits.....	\$ 43,999,168	\$ 40,141,462
Materials and services.....	43,340,818	36,655,844
Grants, school taxes, etc.....	13,265,734	11,351,142
Interest and other costs on debt, less interest charged to construction.....	53,233,932	48,973,573
Depreciation of plant.....	34,739,611	31,673,951
Balance employed in the business.....	12,890,635	9,350,954
	<u>\$201,469,898</u>	<u>\$178,146,926</u>

### THE AUTHORITY'S REVENUE DOLLAR

for the year ended 31 March 1968



#### WHERE THE REVENUE CAME FROM

ELECTRIC - RESIDENTIAL.....	26¢	
ELECTRIC - OTHER.....	43¢	
GAS.....	17¢	
PASSENGER TRANSPORTATION.....	9¢	
RAIL FREIGHT.....	3¢	
MISCELLANEOUS.....	2¢	

#### HOW THE REVENUE WAS USED

EMPLOYMENT COSTS.....	22¢	
MATERIALS AND SERVICES.....	22¢	
GRANTS, SCHOOL TAXES, ETC.....	7¢	
INTEREST ON DEBT, ETC.*.....	26¢	
DEPRECIATION.....	17¢	
EMPLOYED IN THE BUSINESS.....	6¢	

\*less interest charged to construction





## ELECTRIC SERVICE

### Sale of Electricity

Gross revenues from the electric service were \$137,672,083, an increase of 16.3% over the previous year. Kilowatt-hours of electricity sold rose by 10.8% over last year, somewhat below the average annual increase of 11.5% during the past decade, but well above the national average. The percentage increase in gross revenues compared with the relatively smaller increase in kilowatt-hours sold resulted primarily from the adjustment in residential rates that became effective in April 1967. Residential sales of kilowatt-hours to consumers were up 8.8% and commercial sales increased by 15.6%, compared with increases of 12.4% and 13.4% respectively recorded for these categories in the previous year. Industrial and bulk sales showed a gain of 8.8%, considerably below the spectacular rise of 22.2% recorded in the previous year; this decline in the rate of growth of industrial and bulk sales reflected, in part, a more modest increase during 1967 in production of pulp, newsprint and associated chemicals in the area served by the Authority.

At 31 March 1968, the number of customers receiving electric service from the Authority was 583,133, an increase of 28,104 during the year. Average annual consumption per residential account rose from 6,016 kwh to 6,222 kwh.

There were a number of interesting developments in the use of electricity in the Authority's service area. At the Last Mountain ski resort near Westbank, a ski slope has been illuminated with mercury vapour lights to facilitate night skiing. Infrared heating is becoming more widely used in buildings that are

difficult to heat, such as churches, ice arenas and mills. The use of electricity for agricultural purposes continued to show steady increases; crop drying and irrigation pumping gained favour with farmers, while the Authority, in cooperation with the Horticultural Branch of the British Columbia Department of Agriculture, conducted field trials on the use of artificial lighting for accelerating plant growth.

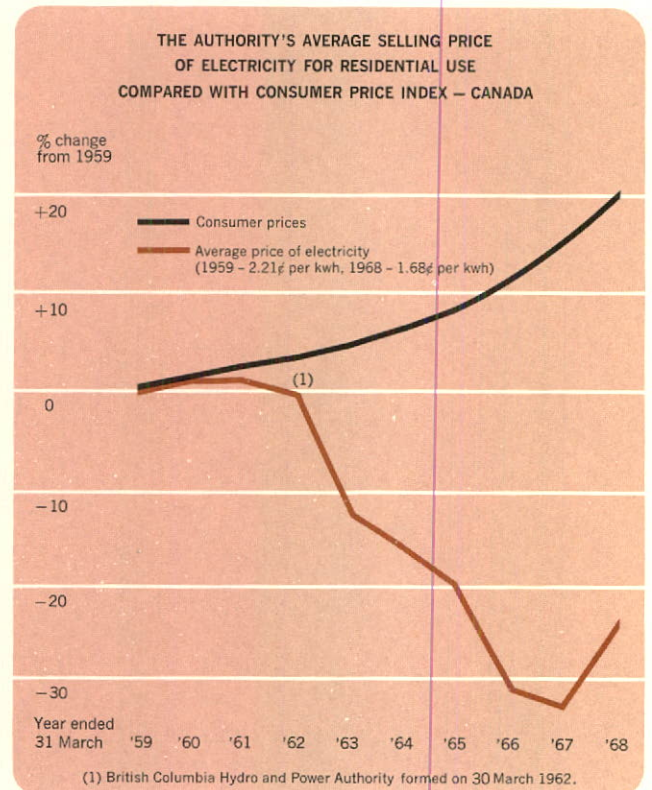
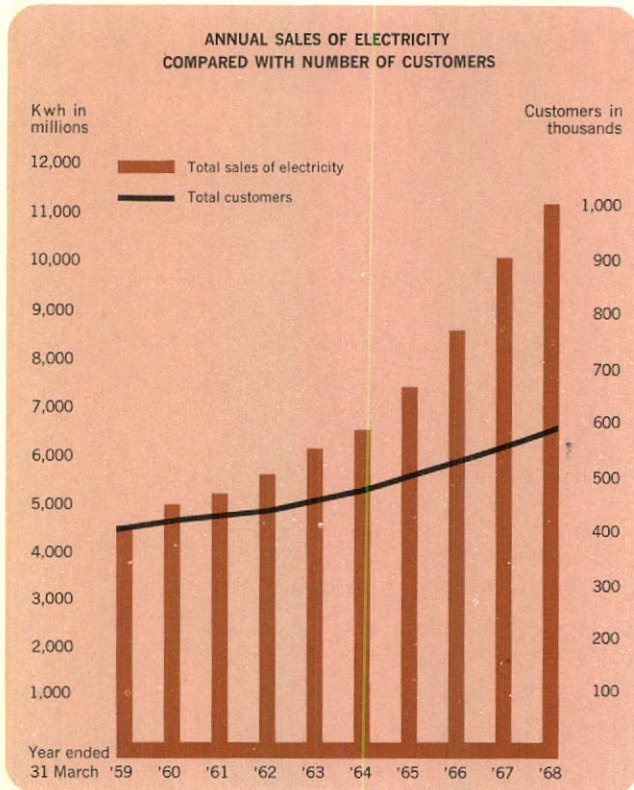
The demand for underground distribution lines in new residential subdivisions is steadily increasing in all regions, as developers of subdivisions are taking advantage of the benefits of underground wiring despite the higher initial costs of installation. During the year, work was carried out on 65 new subdivisions where underground wiring had been requested.

### Metropolitan Vancouver Region

Service was extended during the year to approximately 9,000 residential accounts in the Metropolitan Vancouver Region, of which 65% were for apartments. Vacancy rates in apartments in metropolitan Vancouver are running at less than 1%; consequently, demand for housing will undoubtedly be reflected in further construction of apartments in this densely populated area.

MacMillan Bloedel Limited increased the newsprint capacity of its plant at Powell River with the installation of a new machine; as a consequence, there will be a significant increase in that company's requirements for electric power from the Authority.

During the year, 32 miles of new overhead distribution circuits were constructed and 22 miles of underground lines were





added; there are now 384 miles of underground distribution lines in this region.

### Fraser Valley Region

In the Fraser Valley Region, the value of residential construction during 1967 was approximately double that of the previous year. The number of residential customers increased by 4,397, reflecting a growing trend for people to settle in Fraser Valley communities and commute to the Vancouver area.

Development of industrial and manufacturing sites was continued during the year in this region. The first plant in Matsqui Industrial Centre, near Abbotsford, was completed; this centre is being developed jointly by the District of Matsqui and the Authority. Indicative of the accelerating trend towards locating in less congested areas, the Plastics Division of Union Carbide Canada Limited moved staff responsible for sales and distribution to the company's ten-acre manufacturing site in Newton Industrial Centre.

During the year, 45 miles of new distribution circuits were placed in service in the Fraser Valley Region.

### Vancouver Island Region

Residential, commercial and industrial construction continued at a good rate during the year in the Vancouver Island Region. The number of customers increased by 5,249 or 4.4%. A total of 116 miles of new distribution lines was placed in service during the year.

In this region, electric heating is currently being installed in approximately 20% of new houses and 50% of new motels, apartments, office buildings and schools. Service was extended to the new pulp mill of Tahsis Company Ltd. at Gold River, which commenced operation in August 1967.

A difficult supply situation arose during the winter period of peak demand on Vancouver Island, because of delays in delivery of equipment necessary for the completion of a high voltage direct current interconnection from the Lower Mainland. To meet this situation, arrangements were made with some pulp mills to reduce their requirements for electricity during peak hours. The cooperation the Authority received from these customers was greatly appreciated.

### Southern Interior Region

Total sales of electricity in the Southern Interior Region increased 13.2% over last year, although industrial sales were adversely affected by the prolonged strike of Interior woodworkers. There were 2,238 new services installed and 119 miles of new distribution lines placed in service in this region during the year.

A number of communities made additions or improvements to street lighting systems during the year. There were 377 new street lights installed during this period, an increase of 8.1%.

Effective 1 April 1968, the operations in British Columbia of East Kootenay Power Company, Limited were merged with those of the Authority; that part of the system located in Alberta was sold to Calgary Power Ltd. on 1 November 1967.



*Residents of this subdivision near Quilchena Park in Vancouver enjoy the neat appearance and other benefits of underground wiring.*



## Central Interior Region

Economic expansion showed a substantial gain in the Central Interior Region during the year, as capital investment in the forest industry, particularly pulp and paper mills, continued at a high level. Consumption of electricity increased at a significant rate; residential sales were up by 19.9%, commercial 44.1% and sales to industrial customers showed a gain of 28.2%. These increases reflect the addition of some 2,500 new customers through the acquisition on 1 April 1967 of the electric distribution system at Kitimat.

Demand for electric space-heating in residential and commercial buildings continued to grow. For example, in Fort St. John, where winters are relatively severe, electric heating was chosen for 64 apartment suites, and throughout the Central Interior Region 10 all-electric schools were built during the year.

New distribution lines constructed during the year totalled 247 miles. New communities added to the Authority's system in this region included Wells, Topley Landing and Giscome.

## Rural Electrification

In 1967, the Provincial Government increased the annual grant to the Authority from \$150,000 to \$1,000,000 to provide financial assistance for the electrification of rural areas in British Columbia. As a result of the increased grant, commitments were made to extend financial assistance to 122 projects serving 1,135 electric customers in all regions of the Authority's service area. These commitments include the acquisition and rebuilding of electric systems in Atlin, Masset, Port Clements and Wells.

## Production of Electricity

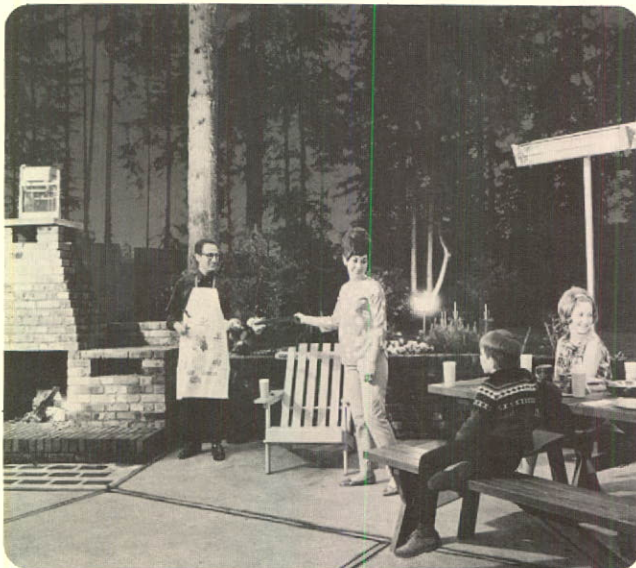
Electric energy requirements during the year ended 31 March 1968 totalled 12,361 million kwh compared with 11,158 mil-

lion kwh last year. The following table shows how the energy requirements were met during the year compared with the previous year:

	Year Ended 31 March 1968 Kwh in Millions	Increase (Decrease) From Previous Year Kwh in Millions	%
Hydro generation.....	8,295	531	6.8
Thermal generation.....	2,795	(136)	(4.7)
Duncan storage downstream benefits.....	852	852	—
Purchases.....	419	(44)	(9.5)
	<u>12,361</u>	<u>1,203</u>	<u>10.8</u>

The amount of water available from the snow pack in the winter of 1966-1967 was considerably above average and abundant rain fell during the last half of 1967, making conditions favourable for hydro generation; as a result, the Authority was able to meet the demand for electricity during the year with less thermal generation than had been anticipated. Also, because of the early completion of Duncan Dam, the Authority received electricity from downstream generating plants throughout the year and, consequently, the amount of energy that had to be purchased or generated by thermal plants was reduced.

The largest one-hour demand ever registered on the Authority's integrated system, 2,152,000 kw, occurred on 20 December 1967. This record one-hour demand exceeded the preceding year's peak - also a record - by 15.7% and was attributable to growth in the system and to relatively cold weather in December 1967. Total installed nameplate generating capacity at 31 March 1968 was 2,225,672 kw, comprising 1,320,322 kw hydro and 905,350 kw thermal capacity. Total capacity represents a 7.4% increase over last year, the principal addition being the fourth 150,000 kw unit at Burrard Thermal Generating Plant.



Infrared heating adds enjoyment and comfort to patios and gardens.



Westbank resort features night skiing under mercury vapour lights.



## GAS SERVICE

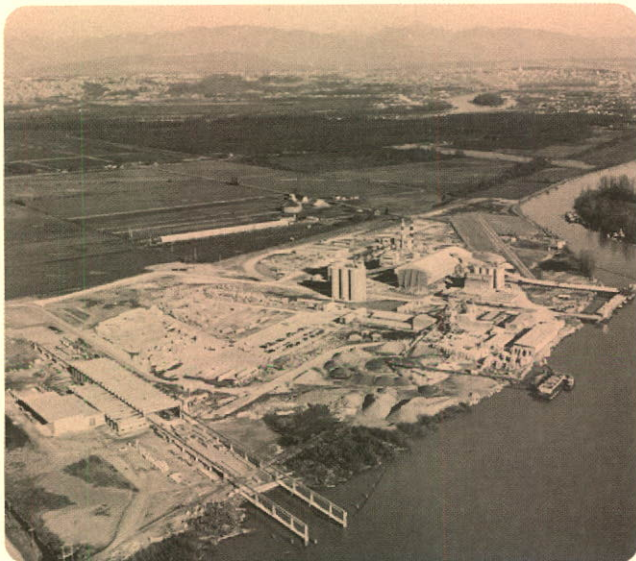
Gross revenues from the sale of gas to the public were \$34,346,670, up 7.1% from the previous year, while therms of gas sold rose by 9.6%. At 31 March 1968, there were 178,079 customers receiving gas service from the Authority, an increase of 9,035 during the year.

On the Lower Mainland, natural gas is chosen as the space-heating fuel for 90% of new residences and more than 80% of new commercial construction, including apartments. A further aspect of marketing natural gas is the conversion of existing heating systems in buildings using competitive fuels. Promotion programs, conducted in cooperation with Westcoast Transmission Company Limited and aimed at this segment of the market, were successful in the conversion to gas of heating systems in approximately 3,300 houses during the year. Similar programs resulted in the conversion of heating systems in 44 office buildings, 2,882 motel and hotel units, 1,586 apartment suites and 2 private hospitals.

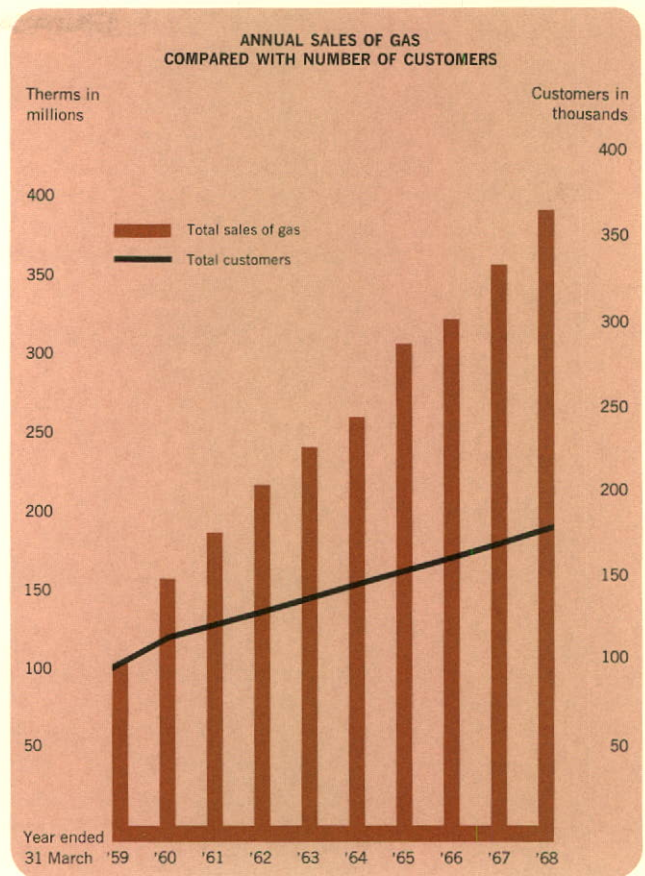
Lafarge Cement of North America Ltd., the Authority's largest gas customer, doubled the capacity of its plant in Richmond during the year.

Westcoast Transmission Company Limited supplies natural gas to the Authority on the Lower Mainland. In accordance with terms of a purchase agreement with that company, the daily billing demand for firm gas was increased on 1 November 1967 by 12 million cubic feet to 166.9 million cubic feet.

A Letter of Agreement was negotiated with Westcoast Transmission Company Limited concerning rate adjustments for the purchase of natural gas. This agreement provides for a merger of the existing service agreements effective 1 November 1969, allows for an increase in the volume of firm gas available from 226 million cubic feet to 400 million cubic feet per day and provides for a reduction in the price of gas to the Authority. The price of gas under the new agreement, up to a contract demand of 400 million cubic feet per day, remains fixed until 31 October 1987.



Lafarge Cement in Richmond is the Authority's largest gas user.



New 20-inch main will make more gas available to the North Shore.



## TRANSPORTATION SERVICES

### Urban Transportation

For the second successive year, there was an upward trend in the use of transit services in the Vancouver metropolitan area. Gross revenues from the urban transportation services during the year were \$14,928,396, an increase of 2.9% over the previous year. To meet the improved trend in passenger riding on the Vancouver metropolitan system, increases in service were introduced, with 356,063 additional miles being operated during the year.

Although the Vancouver metropolitan transit service has shown improved patronage during the past two years, operating losses of this service and the Greater Victoria system continue to be substantial. To help alleviate these heavy losses, the Government of British Columbia is making a grant to the Authority of \$1,000,000 for the coming year. The Government has also provided that, effective 1 April 1968, any person in receipt of supplementary social assistance may obtain a restricted transit pass at a price of \$5.00 for each six-month period; the Authority will utilize a portion of the metropolitan transit subsidy to absorb the cost of providing the passes.

Transit franchise agreements with the City of Victoria, the District of Saanich, the District of Oak Bay and the Township of Esquimalt expired during the year. The Authority is continuing to operate transit services in these areas and in other municipalities where franchises have expired.

Fifty new buses were purchased during the year for use in the Greater Vancouver area; these larger, faster and more comfortable vehicles replaced older equipment. On 29 June 1967, the new Kensington Transit Centre was opened in Burnaby, replacing the former New Westminster centre which has been sold. The new transit centre services 82 buses operating in Burnaby, New Westminster and a portion of the eastern section of Vancouver; this location will be capable ultimately of accommodating up to 200 vehicles.

### Interurban Transportation

Gross revenues from interurban transportation services rose by 2.4% to \$3,202,968 during the year. Improved patronage on Greater Vancouver and Fraser Valley routes resulted in an increase in revenues of 3.9% over the previous year. Revenues from the services operating between Vancouver and Victoria and between Vancouver and Nanaimo (via ships of the British Columbia Ferry Authority) showed a decline from the previous year, reflecting the effect of a two-week strike in February 1968 of ferry employees. Sizeable gains were made in sightseeing and charter revenues.

Fifteen new buses were added during the year to replace older buses; these were acquired for use on regular interurban routes and for sightseeing and charter operations.

### Rail Freight

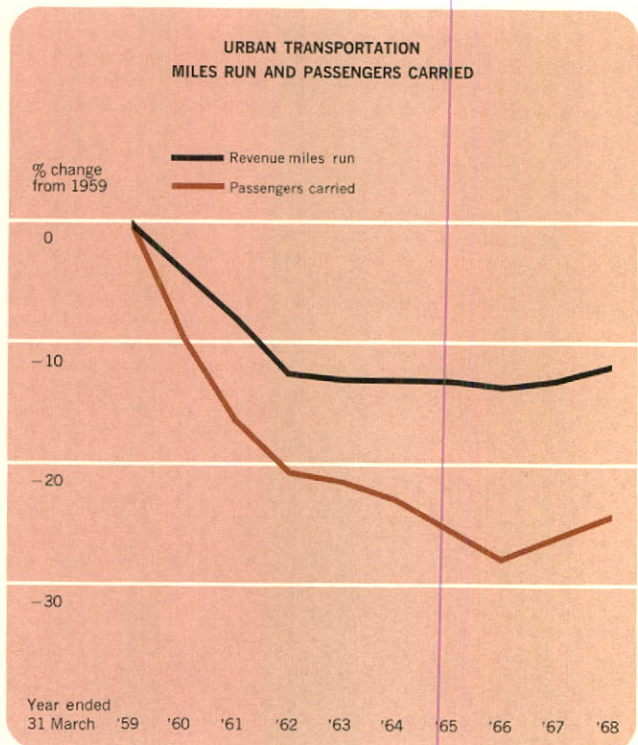
Gross revenues from rail freight operations totalled \$6,992,305, an increase of 8.9% over last year; the additional revenues included a full year's benefit from the Canadian freight rate increase which became effective early in 1967.

Industrial development activity continued at a high level during the year despite the general shortage of new money. A number of new freight customers purchased industrial sites adjacent to the Authority's railway lines and are proceeding to construct plants on these properties. In addition, many enquiries were received from industrial organizations interested in establishing plants near the Authority's railway lines. A decision was made recently to develop a new industrial area in Richmond. This development, to be called Van Horne Industrial Centre, will cater primarily to distributing firms requiring central locations and controlling large volumes of railway freight; two sites have already been sold and two others are under option to prospective customers. Burnaby Council approved in principle a cooperative development with the Authority of a large acreage in the Stride Avenue area, a major potential industrial and distribution location close to the railway lines of the Authority.

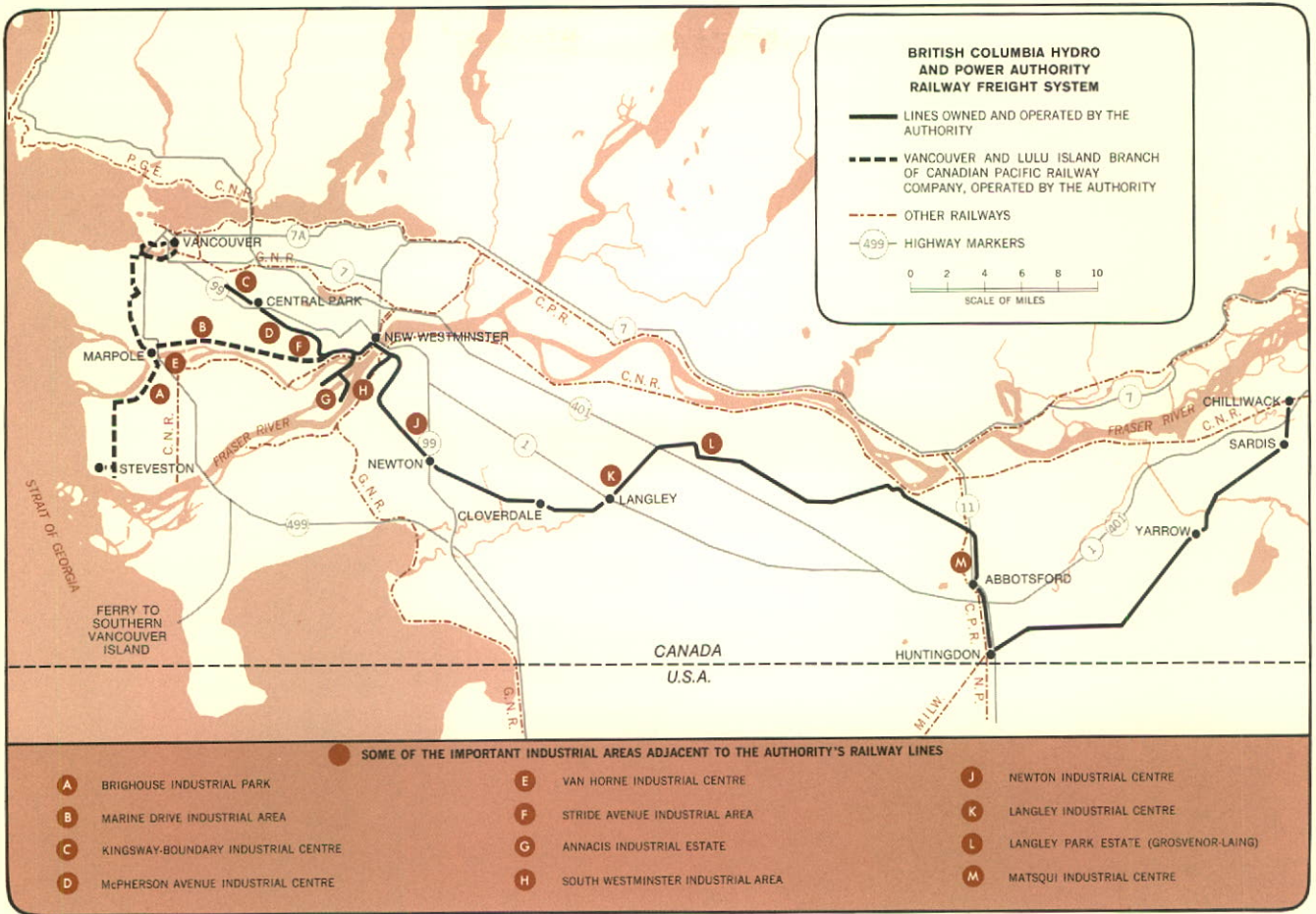
The Marpole Bridge, which provided rail access to freight customers on Lulu Island, was so severely damaged during the year by river traffic that it had to be taken out of service; a substitute service was accordingly arranged. Replacement of the railway bridge by Canadian Pacific Railway Company is planned.

One additional locomotive was placed in service during the year, bringing the total number of diesel locomotives to fifteen; and three depressed flat cars were purchased for transporting heavy equipment to major hydro construction projects. Nineteen new railway spurs for industrial plants were added.

The prospect of the rail freight service participating in the rapidly expanding containerization market and unit train operations will offer great scope for expansion of this service in the years ahead.







Kensington Transit Centre in Burnaby, opened in June 1967, services urban buses operating in eastern portion of Greater Vancouver.



## COST OF PROVIDING SERVICES

The total cost of providing all services during the year was \$188,579,263, an increase of \$19,783,291 or 11.7% over the previous year.

Interest and other costs on debt charged to operations were \$53,233,932, up \$4,260,359 or 8.7% from last year. The completion and transfer to active service of new plant contributed substantially to the increase in interest charged to operations, while the general rise in interest rates on new borrowings was also a significant factor.

Provision for depreciation of plant was \$34,739,611 compared with \$31,673,951 last year, an increase of 9.7%. Increases in provision for depreciation are directly related to the completion and transfer to active service of new plant and to property acquisitions. The increase over last year also reflects an increase in the annual depreciation rates for electric distribution plant; the new rates were based on revised estimates of the service life of this plant. The Authority's depreciation rates are comparable to those used by other utilities.

Salaries, wages and employee benefits charged to operations amounted to \$43,999,168, an increase of \$3,857,706 or 9.6% over the previous year. This increase was caused by higher rates of pay and an increase in the number of employees.

Cost of producing electric energy is influenced, among other

factors, by load growth and supply of water. Because water conditions during 1967 were favourable, above-normal hydro-electric production was possible; however, the significant growth in system load which took place during the year resulted in a substantial increase in total energy requirements. The charge to operations for electric energy received from other properties increased by a total of \$4,156,282 over the previous year. The major portion of additional power was received from the United States as Canada's share of downstream benefits resulting from the early completion of Duncan Dam. Although the expenditure for this power by the Authority was minimal, operating expenses were assessed a normal charge and Columbia River Treaty funds were credited with the benefit.

Purchases of natural gas from Westcoast Transmission Company Limited totalled \$18,199,590. Of this amount, \$14,175,311 was for gas sold to the public, an increase of \$1,337,164 or 10.4% over the previous year. The balance was used mainly at Burrard Thermal Generating Plant.

Grants, school taxes, water rentals and franchise payments charged to operating expenses during the year totalled \$13,265,734, an increase of \$1,914,592 or 16.9% over last year. The increase was caused primarily by higher mill rates charged for school taxes on the Authority's property.



*Fernie became headquarters for new Hydro service area, as B.C. operations of East Kootenay Power Company were merged with the Authority.*



## FINANCING

The following sinking fund bonds were issued in exchange for \$4,000,000 Series Z bonds sold in the previous year and \$22,700,000 Series Z bonds sold periodically during the year under review:

\$2,500,000	6% Series BA due 29 May 1992
\$10,000,000	6.10% Series AL-A due 2 July 1992
\$4,000,000	6¼% Series BB due 19 July 1992
\$10,200,000	6¼% Series BC due 1 February 1993

Five other issues of sinking fund bonds were sold in Canada during the year, as follows:

\$25,000,000	6¼% Series AM due 4 July 1992
\$20,000,000	6½% Series AP due 1 November 1992
\$3,300,000	6¾% Series Z-S due 15 February 1993
\$4,200,000	6¾% Series Z-T due 15 February 1993
\$10,000,000	6% Series AR due 29 March 1993

Twelve issues of Series V sinking fund bonds totalling \$96,601,000 were sold during the year to the Canada Pension Plan Investment Fund, at an average interest cost of 5.84%.

During the year, \$50,000,000 (U.S.) 6¼% Series AK sinking fund bonds, maturing 1 June 1992, were sold in the United States.

The average effective annual interest cost of all long-term bonds issued by the Authority during the year was 6.24% compared with an average of 5.83% in the previous year, reflecting the general increase in cost of money.

On 15 August 1967, \$50,505,000 5½% Parity Development Bonds Series AN, due 15 August 1972, were sold. The proceeds from this issue were applied to the repayment of

\$50,505,000 5½% Parity Development Bonds Series E, which matured on 15 August 1967.

The amount of \$16,706,618 was paid to Trustees during the year to meet sinking fund requirements of the Authority's long-term debt. All sinking fund obligations have been met.

Bonds and other securities issued by the Authority and its predecessors are unconditionally guaranteed as to principal and interest by the Province of British Columbia.

### Columbia River Treaty Funds

On 16 September 1964, Canada and the United States exchanged ratifications of the Columbia River Treaty. Funds arising from the Treaty amounted to \$344,628,253 at 31 March 1968, derived from the following sources:

Payment received by British Columbia for Canada's entitlement to downstream power benefits, transferred to the Authority on 16 September 1964.....	\$273,291,661
Payment received by British Columbia for flood control provided by Duncan storage project, transferred to the Authority on 23 November 1967.....	11,929,031
Additional downstream power benefits received by the Authority as a result of Duncan storage project becoming operational ahead of schedule (net).....	4,008,532
Interest.....	55,399,029
	<u>\$344,628,253</u>

## STATEMENT OF SOURCE AND APPLICATION OF FUNDS FOR THE YEAR ENDED 31 MARCH 1968

(with corresponding figures for the year ended 31 March 1967)

	1968	1967
<b>Funds provided:</b>		
Operations –		
Net income.....	\$ 12,890,635	\$ 9,350,954
Provision for depreciation.....	34,739,611	31,673,951
Other.....	1,820,216	1,726,824
	49,450,462	42,751,729
Sales of property.....	1,670,114	908,702
Proceeds from sales of bonds.....	282,850,970	281,691,031
Columbia River Treaty –		
Benefits received during year.....	15,937,563	—
Interest.....	16,783,960	15,988,948
Contributions in aid of construction.....	3,461,543	3,234,152
Decrease in working capital exclusive of changes in current portion of long-term debt.....	58,791,596*	34,472,536
	<u>\$428,946,208</u>	<u>\$379,047,098</u>
<b>Funds expended:</b>		
Plant additions –		
Peace River Project.....	\$166,155,067	\$124,514,189
Duncan, Arrow and Mica storage projects.....	85,115,368	91,817,294
Other.....	89,900,296	107,731,898
	341,170,731	324,063,381
Purchase of shares of East Kootenay Power Company, Limited.....	—	3,400,275
Sinking fund purposes.....	16,706,618	15,223,163
Redemption of bonds matured.....	62,186,373	23,574,000
Decrease in notes payable to Provincial Government.....	7,500,000	11,000,000
Increase in sundry assets, etc.....	1,382,486	1,786,279
	<u>\$428,946,208</u>	<u>\$379,047,098</u>

\*Includes \$49,609,060 of Columbia River Treaty investments which matured.



*In the four years since the "Two River" policy of the Government of British Columbia became a reality, construction of plant facilities by the Authority has increased dramatically. In the year ended 31 March 1964, the Authority spent \$71 million on plant. In succeeding years, construction of the Peace River Project and Columbia River Treaty storage projects has gained momentum; and in the year ended 31 March 1968, over-all expenditures on plant amounted to \$341 million.*

*During the same period, total assets of the Authority have increased at a remarkable rate, from one billion dollars at 31 March 1964 to nearly two billion dollars at 31 March 1968, reflecting the unparalleled growth of the Authority since the "Two River" development program was started.*

*Construction work on the Peace River Project and Columbia River Treaty storage projects has also provided an impetus to the Provincial economy. Payrolls of more than \$150 million for construction workers on these projects, spending by some 500,000 tourists who visited the developments, and the manufacture in British Columbia of materials used on the projects, all have had a stimulating effect on the economy of the Province.*

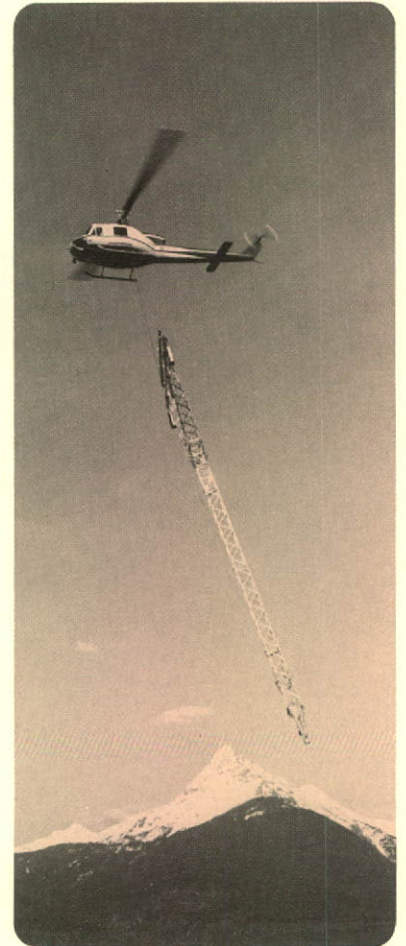
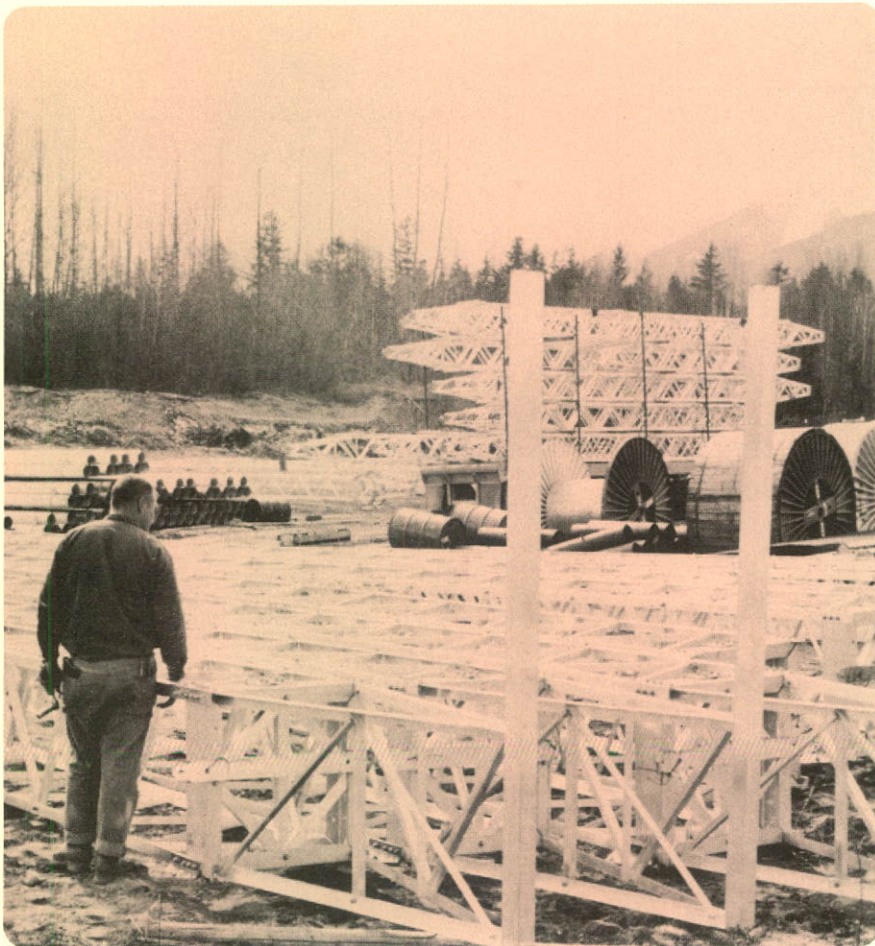
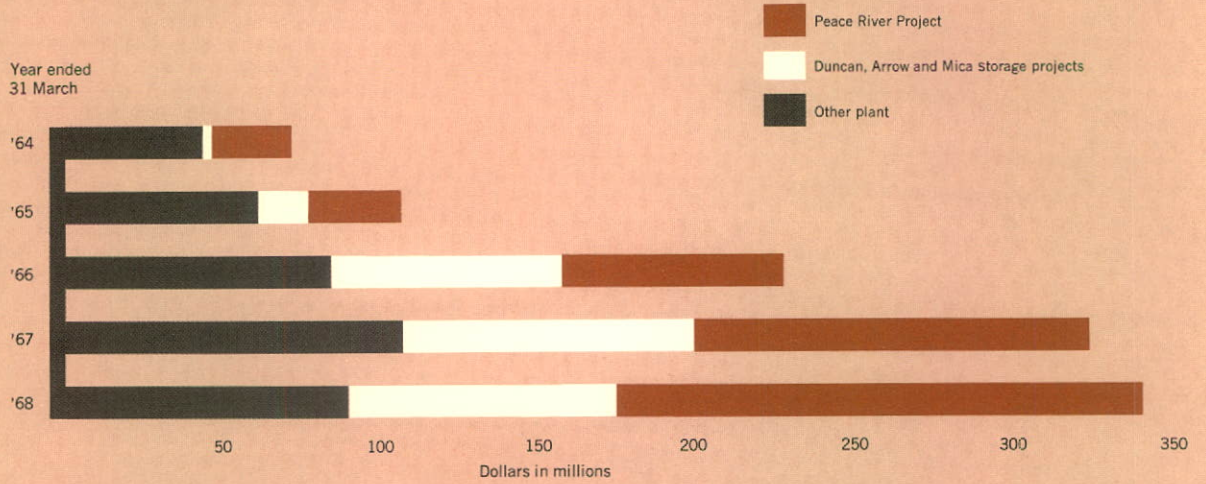
## CONSTRUCTION PROGRAM

Expenditures on plant additions, land and improvements totalled \$341,170,731 compared with \$324,063,381 in the previous year. Net property additions amounted to \$331,804,595, after deducting plant retirements of \$9,366,136. Major expenditures for the year by projects or broad classifications included the following:

Peace River Project, including transmission lines .....	\$166,155,067
Duncan, Arrow and Mica storage projects .....	85,115,368
Burrard Thermal Generating Plant .....	14,055,446
Major electric transmission line construction-	
Lower Mainland to Vancouver Island - 260 kv D.C. ....	10,080,134
Skeena to Nass River to Alice Arm - 138 kv .....	3,196,821
Williston to Glenannan - 230 kv .....	2,753,912
Cheekye to Sechelt - 138 kv .....	2,349,923
Kitimat to Prince Rupert - 287 kv .....	1,774,770
Burrard to Walters - 230 kv .....	1,693,929
Highland to Brenda Mines Ltd. - 138 kv .....	1,668,480
Needles to Nakusp - 138 kv .....	1,458,029
Other .....	3,034,404
Substations, associated distribution facilities and local transmission systems - electric .....	14,648,083
Electric extensions to serve new customers .....	14,079,275
Gas extensions to serve new customers .....	4,865,511
Gas system renewals and alterations .....	1,235,624
Buses for Vancouver urban transit system and for interurban transit system .....	2,685,083
Bus garage facilities .....	490,862
Rail freight diesel locomotive, shop equipment and other plant additions .....	876,765



EXPENDITURES ON PLANT



Lightweight aluminum towers for transmission line north of Terrace were field-assembled . . . . . and lowered into place by helicopter.



## PEACE RIVER PROJECT

Total expenditures on the Peace River Project to 31 March 1968 were \$438,129,187, of which \$166,155,067 was spent during the year under review. All phases of the work are progressing satisfactorily, and first production of power is planned for the autumn of 1968.

Of prime significance during the year was the completion of the dam at Portage Mountain. On 12 September 1967, at a ceremony held to mark the official completion of the massive 600-foot-high structure on the Peace River, the Honourable George Randolph Pearkes, Lieutenant-Governor of British Columbia, dedicated and named the dam the W. A. C. Bennett Dam in honour of the Prime Minister of British Columbia.

Construction of W. A. C. Bennett Dam, which was completed ahead of schedule, required the preparation and placement of approximately 57,200,000 cubic yards of fill, an average of 100 tons a minute during a construction period of 20 working months – an outstanding achievement of engineering and utilization of modern methods and equipment. Reservoir storage behind the completed dam began with the 1968 spring breakup on the Finlay, Parsnip and Peace rivers.

Excavation of the 2,800-foot-long spillway channel in the right abutment of the dam and installation of the nine spillway slide gates were completed during the year; placement of concrete in the spillway headworks and discharge tunnel is progressing favourably.

Work continued on the mammoth underground power plant during the year. Excavation of the underground features and placement of concrete for the ten intake structures, ten penstocks and the first five draft tubes were completed. Other phases of the underground construction work are continuing, and installation of the first three turbine and generator units is scheduled so that first power from this project can be produced in the autumn of 1968.

Delivery and installation of mechanical and electrical equipment reached peak activity during the year, with Pacific Great Eastern Railway handling shipments to Chetwynd totalling some 15,000 tons.

Conversion of the three diversion tunnels to permanent low-level outlet works was undertaken during the year and is nearing completion. One tunnel has been used since 10 December 1967 for release of water past the dam, in accordance with the conditional water licence issued by the Provincial Government.

Construction of the central control building is well advanced, with both interior finishing and installation of equipment under way. All phases of the work in the 500 kv and 138 kv switchyards are proceeding satisfactorily.

Good progress was made during the year on the two 500 kv transmission lines from Portage Mountain to the Lower Mainland. The first line has been completed except for the section from Boston Bar to the Vancouver area, which is scheduled for completion in August 1968. The right-of-way for the second line has been cleared for a distance of 400 miles; installation of foundations and erection of towers have been completed

over a distance of 150 miles between Portage Mountain and Prince George, and stringing of conductors along this section of line is on schedule. Construction of three 500 kv substations at Prince George, Kelly Lake and in the Vancouver area is well advanced.

The work force for the entire Peace River Project in 1967 reached a high of 4,850, an increase of 553 over the previous peak year of 1966. In 1968, the maximum labour force is expected to be 2,950.

On 17 July 1967, Northern Powerplant Builders, the contractor responsible for construction of the underground powerhouse and associated works, commenced an action against the Authority for additional remuneration, damages and declarations as to the contractor's rights. No trial date has been set for this action. Work under the contract is continuing.

Major contracts awarded during the year included:

Mitsui & Co., Ltd. <i>Supply and installation of generators, turbines and governors (2 contracts).....</i>	\$6,276,552
The Cattermole-Trethewey Contractors Ltd. <i>Stringing conductor for transmission lines.....</i>	4,152,000
The East Asiatic Company (Canada) Ltd. <i>Design, fabrication and supply of towers for transmission lines.....</i>	3,145,541
Pacific Petroleum Ltd. <i>Supply of petroleum products.....</i>	3,016,000
Canada Wire & Cable Company Limited <i>Supply of aluminum conductor for transmission lines.....</i>	1,920,000
Aluminum Company of Canada, Limited <i>Supply of aluminum conductor for transmission lines.....</i>	1,900,000
Tide Bay Construction Ltd. <i>Erection of towers for transmission lines.....</i>	1,685,867

### W. A. C. BENNETT DAM

Height: 600 feet. Length: 1¼ miles. Thickness: ½ mile at base. Volume: 57.2 million cubic yards of gravel, sand and rock.

### PORTAGE MOUNTAIN GENERATING STATION

Located underground on the left bank of the river. Ultimate capacity: 2,300,000 kw.

### RESERVOIR

225 miles long, covering 640 square miles. Total storage capacity: 57 million acre-feet of water.

### TRANSMISSION

Two 500 kv lines – one, 575 miles and the other, 558 miles – to the southwest corner of the Province.

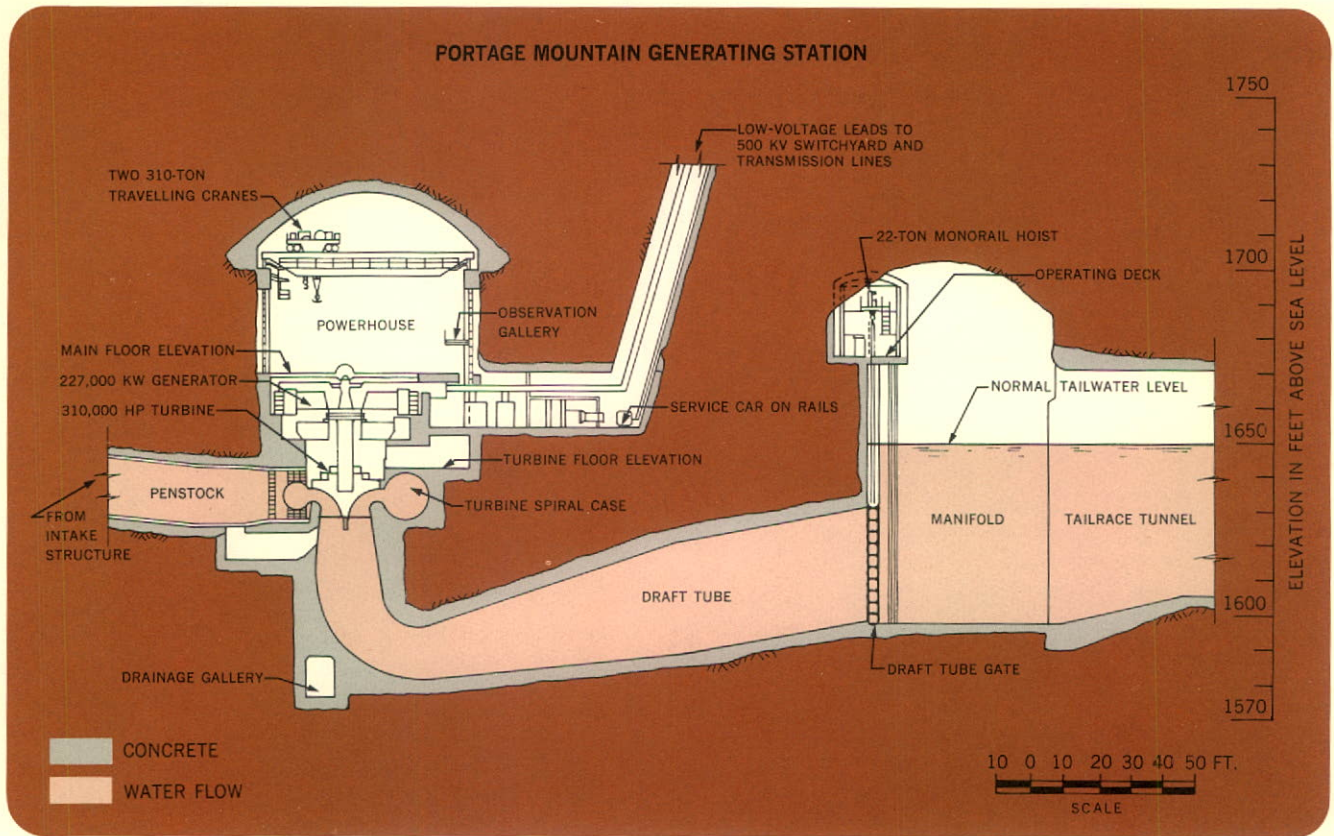
### SECOND STAGE

Second dam, 240 feet high, with 650,000 kw power plant planned for construction, when needed, 12 miles downstream from Portage Mountain site.

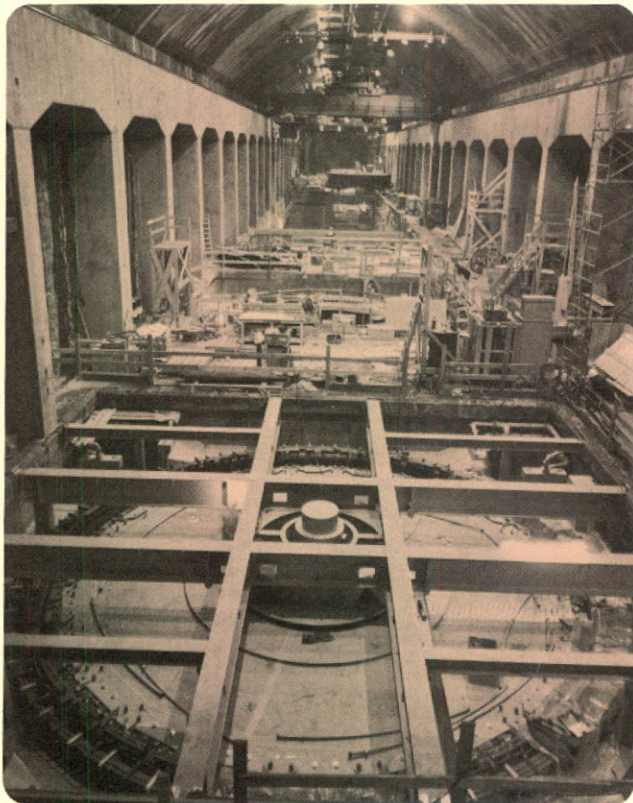
### ESTIMATED PEAK LABOUR FORCE

1968: 2,950 men.





*Typical cross section of Portage Mountain Generating Station at Peace River Project, one of world's largest underground power plants.*



*First power plant units will begin operating in autumn of 1968.*



*High-voltage, long-distance transmission will begin at switchyard.*



## DUNCAN, ARROW AND MICA STORAGE PROJECTS

The Authority is the Canadian Entity under terms of the Treaty between Canada and the United States relating to development of the water resources of the Columbia River Basin. The Treaty called for the construction of three storage dams in Canada – Duncan, Arrow and Mica – to regulate river flow for both hydro-electric generation and flood control purposes. The Authority completed the Duncan storage project during the year under review and is actively engaged on the Arrow and Mica projects. The total spent on the three projects to 31 March 1968 was \$274,847,167, of which \$85,115,368 was spent during the year.

### Duncan Dam

The Duncan storage project was declared operational on 31 July 1967, eight months ahead of the time specified in the Agreement of Sale relating to downstream power benefits. Prime Minister W. A. C. Bennett dedicated the dam at a ceremony on 17 August 1967, at which a large memorial stone was unveiled as a tribute to the men who engineered and constructed the 130-foot-high structure in record time and without loss of life.

The early completion of Duncan Dam made it possible for the reservoir to be filled during the 1967 spring and summer runoff and, as a result, additional benefits valued at \$4,358,594 were received by the Authority. The financial advantages resulting from the early completion of this project included additional downstream power benefits and interest from the advanced payment of the \$11.1 million in United States funds received by British Columbia for providing flood control.

The Meadow Creek spawning channel, which was built by the Authority as part of the Duncan storage project, is operating successfully. This man-made channel, the longest in the world, is believed to be the first ever constructed for freshwater fish. An estimated 200,000 Kokanee salmon spawned in the two-mile channel in 1967.



*Kokanee spawning channel at Meadow Creek proved successful.*

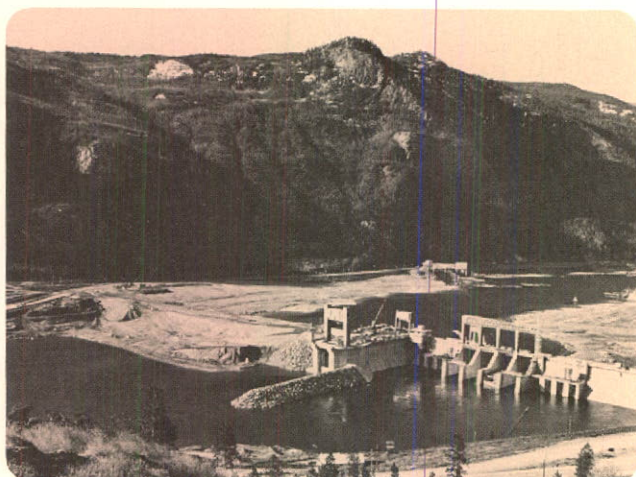
### Arrow Dam

Construction of Arrow Dam is several months ahead of schedule. Except for some concrete to be placed in the sluiceways, all major concrete work on the discharge works and navigation lock has been completed, and installation of the mechanical and electrical equipment for operation of the gates and navigation lock is well advanced. The Columbia River was diverted through the discharge structures on 29 January 1968 by closure of the earth-fill section of the dam; placement of the remaining fill is proceeding satisfactorily. Because of the excellent progress which has been made, it is planned that the project will become operational in December 1968, about four months ahead of the originally scheduled date of 1 April 1969 specified in the Agreement of Sale relating to downstream power benefits. The work force at the Arrow project reached a peak of 1,687 men in May 1967.

Three new communities are being developed at Fauquier, Burton and Edgewood in the Arrow Lakes region to replace communities that will be flooded. Most of the townsite lots in the new communities have been sold for residential and commercial purposes. The building and relocating of houses on the townsite lots, the construction of community halls and the development of recreational areas are in progress. Plans are well advanced for relocating schools, churches and commercial centres.

### Mica Dam

On 6 September 1967, a contract was awarded for construction of Mica Dam, discharge works and intakes for future power development. The \$136.3 million contract, believed to be the largest unit-price contract ever undertaken in Canada, was awarded to a joint venture consisting of Guy F. Atkinson Company of San Francisco, California; The Arundel Corporation of Baltimore, Maryland; L. E. Dixon Company of San Gabriel, California; and Commonwealth Construction Co. Ltd. and Dillingham Corporation Canada, Ltd., both of Vancouver.



*Construction of Arrow Dam is several months ahead of schedule.*



Two diversion tunnels each 45 feet in diameter were completed, and intake gates together with their operating mechanisms were installed during the year. Following completion of cofferdams upstream and downstream, the Columbia River was diverted through the tunnels on 6 November 1967. Excavating to bedrock is now proceeding on a dry river bed, in preparation for construction of the 645-foot-high Mica Dam. Relocation of the Big Bend Highway between Revelstoke and Mica Creek, including the construction of eight new bridges, was completed during the year, and more than half the relocated road was paved. Paving of the remainder of the road is scheduled for completion during the summer of 1968.

Mica Creek townsite has been established, and living accommodation, stores, schools and recreational facilities have been completed to take care ultimately of 4,000 persons. The labour force at the Mica project reached a peak of 972 in July 1967.

### Columbia River Treaty Implementation

Duncan reservoir was operated from 29 April 1967 under a special operating program agreed upon by an exchange of notes between Canada and the United States. In accordance with the program, the Canadian share of additional power generated in the United States was delivered to the Authority throughout the year by United States agencies and was used in the Authority's system. Power was also received from Cominco Ltd. and West Kootenay Power and Light Company, Limited as the Authority's share of downstream power produced at plants on the Kootenay River.

Special arrangements are being made by the Canadian and United States Entities for partial operation of Arrow reservoir during the year ending 31 March 1969 and for downstream power benefits to be transmitted to Canada for use in British Columbia by the Authority.



Excavation of river bed will provide solid rock base for Mica Dam.

COLUMBIA RIVER TREATY DAMS			
	DUNCAN	ARROW	MICA
Height (feet).....	130	170	645
Length (feet).....	2,600	2,850	2,600
Volume (cubic yards in millions).....	6.4	8.5	42.0
Reservoir (length in miles).....	28	145	135
Live storage capacity (acre-feet in millions)...	1.4	7.1	12.0
Scheduled completion date..	Completed	1 April 1969	1 April 1973

### Contracts

Major contracts awarded during the year included:

Mica Dam Contractors (Guy F. Atkinson Company, The Arundel Corporation, L. E. Dixon Company, Commonwealth Construction Co. Ltd., Dillingham Corporation Canada, Ltd.)

*Construction of Mica Dam and associated works*..... \$136,261,544

Imperial Oil Limited

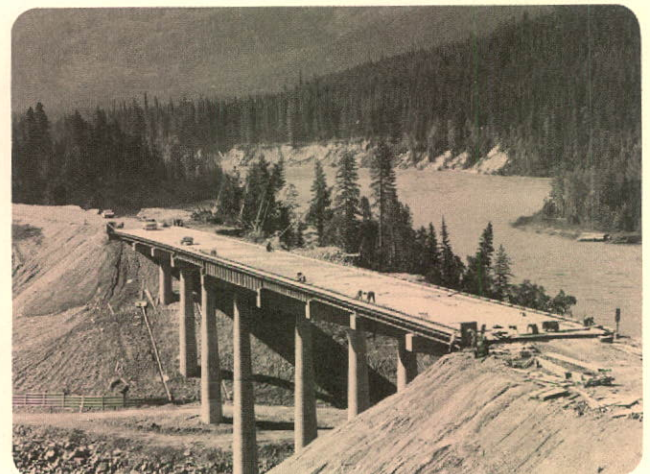
*Supply of petroleum products*..... 5,804,845

Department of Highways,  
Provincial Government

*Engineering and construction of road between Cranberry Lake and Shelter Bay, and relocation of road between Nakusp and Fauquier (2 contracts)*..... 5,475,000

Geddes Contracting Co. Ltd.

*Control and disposal of debris, Mica Project*..... 1,250,000



Highway between Revelstoke and Mica Creek was relocated.



## OTHER MAJOR ELECTRIC SERVICE PLANT ADDITIONS

At Burrard Thermal Generating Plant, the fourth 150,000 kw turbine generator was brought into service in September 1967. Installation of a fifth 150,000 kw unit, scheduled for service in the autumn of 1968, is progressing favourably.

The first high-voltage, direct-current transmission system in North America was energized on 19 February 1968, when power was transmitted at 130 kv over an interconnection between the Lower Mainland and Vancouver Island; the circuit utilizes equipment installed in converter buildings near Ladner on the Mainland and Duncan on Vancouver Island. Initial capacity of the direct-current system is 78,000 kw, and the capability will be increased in 1969 to 312,000 kw with the installation of more rectifier capacity and three submarine cables for additional crossings of Georgia Strait and Trincomali Channel.

The 500 kv transmission line westward from Williston Substation, Prince George, to Glenannan Substation (102 miles) was completed during the year and put into operation at a lower voltage. This line transmits power for mining operations of Granisle Copper Limited at Babine Lake and expanded operations of Endako Mines Ltd. and also provides an integrated power supply for the Bulkley Valley. The 287 kv transmission line from the Aluminum Company of Canada's plant at Kitimat to Terrace and Prince Rupert was completed in 1967. Ultimately, Prince Rupert and Terrace will be integrated with the Provincial grid through a connection from Glenannan Substation to Skeena Substation at Terrace.

A 230 kv line from Burrard Thermal Generating Plant across the north arm of Burrard Inlet to Walters Substation was nearing completion at the year-end; this line will serve the growing

industrial and residential loads in North Vancouver. A 230 kv line from Cheekye Substation to Sechelt (51 miles), which forms the first stage of a second transmission link to Powell River, was completed and put into operation at 138 kv.

In the Bulkley Valley, 65 miles of 138 kv lines from Glenannan to Burns Lake and from Topley to Babine Lake were constructed. A 138 kv line from Skeena Substation to Alice Arm (92 miles) was completed to serve British Columbia Molybdenum Limited; initial operation of this line is at 60 kv. A second 60 kv line from Williston Substation to Canreed Substation, near Prince George, was placed in operation to serve several large industrial customers, including three pulp mills. In the southern interior of the Province, a 26-mile line from Savona to Valleyview Substation in Kamloops and a 57-mile line from Highland Substation in the Highland Valley to Brenda Mines Ltd., near Peachland, were constructed, both for 138 kv operation. Work was started on 36 miles of 138 kv lines from Needles to Nakusp to replace an existing line that will be flooded by the reservoir behind Arrow Dam. In North Vancouver, a 60 kv circuit was extended to serve the grain elevator of Saskatchewan Wheat Pool.

New and increased substation facilities were added in Greater Vancouver, Prince George, Prince Rupert, Bulkley Valley, Kamloops, on Vancouver Island and elsewhere throughout the Province to serve the continuing growth in demand for power.

Two 5,000 kw gas turbine generators were installed during the year – one at Prince Rupert and the other at Chetwynd. Additional diesel generating capacity was installed to meet growing loads at Atlin, Port Hardy and Valemount.

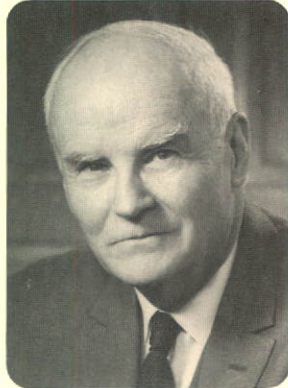


*Fourth 150,000 kw generator went into service at Burrard Thermal Generating Plant in September 1967. A fifth unit is now being installed.*



## BOARD OF DIRECTORS

Mr. John H. Steede, Chief Engineer and Division Manager – Engineering, was appointed an Executive Director of the Authority on 7 November 1967. The appointment capped a distinguished career of more than 42 years with the Authority and its predecessor, British Columbia Electric Company Limited. In his new capacity, Mr. Steede is a member of the Authority's Board of Directors and Executive Management Committee.



JOHN H. STEEDE

## SENIOR MANAGEMENT

Mr. Harold K. Pratt was appointed to succeed Mr. Steede as Manager of the Authority's Engineering Division, effective 1 January 1968. Mr. Pratt joined the Authority in April 1967, after serving as head of the Hydro-electric Engineering Division of International Power and Engineering Consultants, Limited, a subsidiary of the Authority.

## EMPLOYEES

The Authority had a staff of 6,737 regular employees at 31 March 1968, an increase of 285 or 4.4% over the previous year. The rate of increase in number of employees was well below the rate of expansion in construction and operations activity.

Two collective labour agreements were concluded during the year. One of the agreements is with the Office and Technical Employees' Union and reflects a binding award by a conciliation board, which established rates of pay and working conditions for a two-year period ending 31 March 1969; the award

provides for cumulative 8½% salary increases for each of the two years. The other agreement, with the Brotherhood of Locomotive Engineers and Order of Railway Conductors and Brakemen, is for a two-year period ending 30 June 1969; this agreement was reached through direct negotiation and provides for non-cumulative 9% wage increases for each of the two years. A general salary increase of 8% was granted supervisory and professional employees during the year.

Programs of management development were expanded during the year. More than 400 managers and supervisors participated in seminars designed to examine problems of concern to the Authority and to assist the managers and supervisors to be increasingly effective in their work. Under a program for training apprentices in electrical trades, directed by a joint union-management committee, 110 apprentices received instruction leading to journeyman qualifications – an excellent example of cooperation between management and union.

A total of 159 employees retired on pension during the year. Thirty-one had more than 40 years' service; of these, the following had served for over 45 years:

ROBERT ARTHUR KNIGHT

*Construction Scheduler and Inspector – 51 years, 3 months*

LIONEL KIRWIN O'NEILL

*Administrative Assistant – 50 years, 9 months*

ARTHUR HENRY GRIFFITHS

*Disposal Agent – 50 years, 2 months*

RICHARD HENRY EGERTON

*Freight Agent – 50 years, 1 month*

JOSEPH PAVAN

*Groundman – 47 years, 3 months*

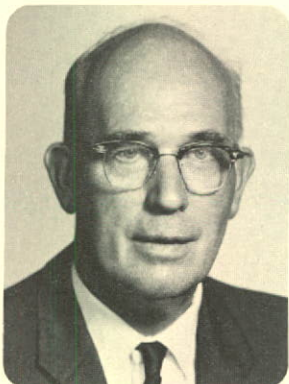
ERNEST HEWETT THOMPSON

*Senior Depot Clerk – 47 years, 1 month*

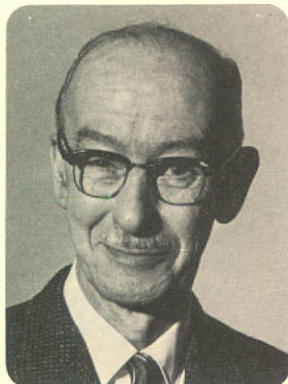
JOHN MATHEW KELLY

*Diesel Locomotive Mechanic – 45 years, 2 months*

The Directors wish to commend the employees who retired on pension for their loyal and effective efforts, and to record their sincere appreciation of the contribution made by all employees to the progress and achievements of the Authority during the year under review.



ROBERT ARTHUR KNIGHT  
51 years, 3 months



LIONEL KIRWIN O'NEILL  
50 years, 9 months



ARTHUR HENRY GRIFFITHS  
50 years, 2 months



RICHARD HENRY EGERTON  
50 years, 1 month



## CENTENNIAL SALUTE

A unique battery of air-operated trumpets, which sounds the first four notes of "O Canada", was installed in 1967 on the roof of the Authority's Head Office building in downtown Vancouver as a tribute to Canada's 100th anniversary of Confederation. The giant trumpets are sounded precisely at noon and, by wide popular request, are to be a continuing feature of the Vancouver scene.



*Centennial "O Canada" salute was held over by popular request.*



*New computers keep pace with Hydro's remarkable growth.*

## DATA PROCESSING

An IBM 360 electronic data processing system was installed early in 1968 in the Head Office building. The new system, which is rented from International Business Machines, replaces an IBM 1400 system which had been in use for the past five years, under a similar arrangement. This latest change marks another step forward for the Authority in the use of data processing methods; the first data processing system was used by this utility in 1917, and electronic computers were first used in 1952.

Because of the remarkable growth of the Authority in recent years and the increasing use of computers in various phases of the Authority's activities, the new equipment was essential to provide additional capacity and increased speed of operation. The new 360 system is being used approximately half the time for financial and other commercial purposes, includ-

ing the monthly billing of electric and gas accounts; the remaining time is utilized for scientific work, including engineering, design and simulation of the Authority's operations.

## OUTLOOK

In the four years since the program of simultaneous development of the Peace River and Columbia River became a reality, the Provincial economy has expanded at a rapid rate. With the completion of W. A. C. Bennett Dam during the past year, and the assurance of large quantities of power from the Peace River Project soon to become available, the outlook for the future is one of continuing expansion of both the Authority's facilities and British Columbia's economy.

Despite the pressures exerted by higher interest rates and other restrictions on borrowing, the economy of the Authority's service area continued to be healthy during the past year, although the rate of growth was lower than the exceptionally high rate experienced during the previous three years. In the coming year, a continued high level of activity is expected. Residential construction, which had declined during 1966, improved during 1967 and has shown a marked increase in recent months; this trend should continue as the demand for accommodation is unlikely to ease for some time. The population of British Columbia increased in 1967 at the rate of 3.9%, compared with an increase of 1.9% for Canada as a whole. Mining operations, which are demonstrating a growing relative importance in the economy of the Province, experienced a record year in 1967; the value of production increased by a remarkable 15.8% over 1966, and a continued high rate of growth is expected. In this regard, the proposed large expansion of coal mining in the Crowsnest Pass and the related port development at Roberts Bank will have major consequences. In the forest industry, the value of production increased at a modest rate during 1967, and prospects are for steady growth as additional pulp capacity is currently being constructed and sizeable increases in exports to the Pacific rim market are expected in the future.

Based on the expansion that is forecast for British Columbia, requirements for electricity in the Authority's service area are expected to more than double during the next decade. The development by the Authority of hydro-electric storage on the Peace River and Columbia River, and the investigation of other potential sources of power, will provide the firm foundation for economic growth in the Province. With its abundance of natural resources, British Columbia's prospects for continued prosperity are exceedingly bright.

## FINANCIAL STATEMENTS

The financial statements of the Authority have been examined by Price Waterhouse & Co., the Auditors appointed by the Lieutenant-Governor in Council. The Balance Sheet, Statement of Net Income and Report of the Auditors are included in the following pages.



**REPORT OF THE AUDITORS**

The Lieutenant-Governor in Council,  
Province of British Columbia:

We have examined the balance sheet of British Columbia Hydro and Power Authority as at 31 March 1968 and the statements of net income and source and application of funds for the year then ended. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion these financial statements present fairly the financial position of the Authority as at 31 March 1968 and the results of its operations and the source and application of its funds for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Vancouver, B.C.  
24 May 1968

PRICE WATERHOUSE & CO.,  
Chartered Accountants.

**STATEMENT OF NET INCOME FOR THE YEAR ENDED 31 MARCH 1968**

*(with corresponding figures for the year ended 31 March 1967)*

	1968	1967
Gross revenues.....	<u>\$201,469,898</u>	<u>\$178,146,926</u>
Expenses:		
Salaries, wages and employee benefits.....	43,999,168	40,141,462
Materials and services.....	43,340,818	36,655,844
Grants, school taxes, etc.....	13,265,734	11,351,142
Provision for depreciation.....	34,739,611	31,673,951
Interest and other costs on debt (Note 3).....	\$74,334,668	\$61,249,033
Less -		
Interest charged to construction.....	<u>21,100,736</u>	<u>12,275,460</u>
	<u>188,579,263</u>	<u>168,795,972</u>
Net income, transferred to stabilization of rates and contingency reserve (Note 5).....	<u>\$ 12,890,635</u>	<u>\$ 9,350,954</u>



**BALANCE SHEET AS AT 31 MARCH 1968**

(with corresponding figures as at 31 March 1967)

	1968	1967
<b>PROPERTY ACCOUNT:</b>		
Lands, franchises, water rights, storage dams, plants for the generation, transmission and distribution of electricity and gas, trolley coaches, motor buses, freight railway and rolling stock, etc., at cost.....	\$1,416,938,821	\$1,256,333,794
Less -		
Accumulated depreciation.....	300,097,184	271,573,963
	<u>1,116,841,637</u>	<u>984,759,831</u>
Unfinished construction -		
Peace River Project.....	438,129,187	271,974,120
Arrow and Mica storage projects (1967 - Duncan storage project included).....	244,076,300	189,731,799
Other.....	30,100,000	79,400,000
	<u>1,829,147,124</u>	<u>1,525,865,750</u>
<b>CURRENT AND WORKING ASSETS:</b>		
Cash.....	8,342,856	7,223,851
Temporary investments.....	63,142,016	116,160,859
Accounts receivable and unbilled revenues.....	28,405,205	23,430,638
Materials and supplies at average cost.....	10,516,485	10,259,481
Prepaid expenses.....	568,589	531,577
	<u>110,975,151</u>	<u>157,606,406</u>
MORTGAGES AND OTHER DEFERRED ACCOUNTS RECEIVABLE.....	6,251,948	4,768,258
UNAMORTIZED DISCOUNT AND EXPENSE ON LONG-TERM DEBT AND PARITY DEVELOPMENT BONDS.....	22,143,505	20,454,769
	<u>\$1,968,517,728</u>	<u>\$1,708,695,183</u>

APPROVED ON BEHALF OF THE BOARD:



E. M. GUNDERSON, Director



H. L. KEENLEYSIDE, Director



	1968	1967
LONG-TERM DEBT (Notes 1 and 2).....	<u>\$1,193,389,518</u>	<u>\$1,003,226,345</u>
PARITY DEVELOPMENT BONDS, payable on demand (Note 2):		
5½% Series E due 15 August 1967.....	—	50,505,000
5½% Series K due 3 August 1968.....	50,505,000	50,505,000
5½% Series P due 1 September 1969.....	50,505,000	50,505,000
5½% Series R due 1 September 1970.....	50,505,000	50,505,000
5½% Series AN due 15 August 1972.....	50,505,000	—
	<u>202,020,000</u>	<u>202,020,000</u>
NOTES PAYABLE, held by the Province of British Columbia.....	—	7,500,000
CURRENT AND ACCRUED LIABILITIES:		
Accounts payable.....	75,493,098	67,999,173
Interest accrued on long-term debt, parity development bonds and notes payable.....	20,068,402	15,401,986
Long-term debt payments due within one year –		
Sinking fund instalments.....	13,783,733	13,577,526
Debt maturities.....	28,059,974	11,905,101
	<u>137,405,207</u>	<u>108,883,786</u>
CONTRIBUTIONS ARISING FROM COLUMBIA RIVER TREATY (Note 4).....	<u>344,628,253</u>	<u>311,906,730</u>
CONTRIBUTIONS IN AID OF CONSTRUCTION.....	<u>14,737,035</u>	<u>11,711,242</u>
STABILIZATION OF RATES AND CONTINGENCY RESERVE (Note 5).....	<u>76,337,715</u>	<u>63,447,080</u>
	<u>\$1,968,517,728</u>	<u>\$1,708,695,183</u>

COMMITMENTS (Note 7)

*The accompanying notes are an integral part of the above balance sheet.*



## NOTES TO FINANCIAL STATEMENTS AS AT 31 MARCH 1968

## Note 1 – Long-term debt:

Issued by British Columbia Hydro and Power Authority –

## Bonds:

	1968	1967
5¼% Series A due 1 May 1982.....	\$ 32,496,300	\$ 32,496,300
3¼% Series B due 1 October 1979.....	10,000,000	10,000,000
5% Series C due 1 March 1993.....	15,000,000	15,000,000
5¼% Series D due 1 May 1993.....	25,000,000	25,000,000
5¼% Series F due 1 June 1993.....	10,000,000	10,000,000
5¼% Series G due 15 October 1993.....	15,000,000	15,000,000
5¼% Series H due 15 December 1993.....	10,000,000	10,000,000
5¼% Series J due 1 March 1994.....	10,000,000	10,000,000
5¼% Series L due 2 July 1994.....	10,000,000	10,000,000
5¼% Series M due 15 December 1994.....	20,000,000	20,000,000
5¼% Series N due 15 March 1995.....	10,000,000	10,000,000
5¾% Series S due 15 September 1995.....	10,000,000	10,000,000
5½% Series T due 29 December 1995.....	29,000,000	29,000,000
5¾% Series U due 18 April 1991.....	40,000,000	40,000,000
5¾% Series X due 1 July 1991.....	5,000,000	5,000,000
5% Series Y due 2 July 1991.....	50,000,000*	50,000,000*
6¼% Series Z-A due 23 September 1991.....	—	1,000,000
6¼% Series AG due 1 December 1991.....	20,000,000	20,000,000
5¾% Series AH due 2 January 1992.....	50,000,000*	50,000,000*
6¼% Series Z-B due 9 January 1992.....	—	3,000,000
5.46% Series W-A due 1 February 1987.....	80,396,000	80,396,000
5.36% Series V-N due 2 March 1987.....	9,088,000	9,088,000
6% Series AJ due 15 March 1992.....	25,000,000	25,000,000
5.39% Series V-P due 4 April 1987.....	8,618,000	—
5.37% Series V-R due 2 May 1987.....	9,310,000	—
6% Series BA due 29 May 1992.....	2,500,000	—
6¼% Series AK due 1 June 1992.....	50,000,000*	—
5.48% Series V-S due 2 June 1987.....	8,571,000	—
6.10% Series AL-A due 2 July 1992.....	10,000,000	—
6¼% Series AM due 4 July 1992.....	25,000,000	—
5.56% Series V-T due 4 July 1987.....	9,084,000	—
6¼% Series BB due 19 July 1992.....	4,000,000	—
5.61% Series V-U due 1 August 1987.....	9,496,000	—
5.61% Series V-V due 1 September 1987.....	8,593,000	—
5.69% Series V-W due 3 October 1987.....	8,114,000	—
6½% Series AP due 1 November 1992.....	20,000,000	—
6.14% Series V-X due 2 November 1987.....	7,397,000	—
6.27% Series V-Y due 1 December 1987.....	6,325,000	—
6.44% Series V-Z due 3 January 1988.....	4,963,000	—
6.51% Series V-A due 1 February 1988.....	5,442,000	—
6¾% Series BC due 1 February 1993.....	10,200,000	—
6¾% Series Z-S due 15 February 1993.....	3,300,000	—
6¾% Series Z-T due 15 February 1993.....	4,200,000	—
6.53% Series V-B due 4 March 1988.....	10,688,000	—
6¾% Series AR due 29 March 1993.....	10,000,000	—
carried forward.....	\$ 721,781,300	\$ 489,980,300



**Note 1 – Long-term debt** (continued):

	1968	1967
brought forward .....	\$ 721,781,300	\$ 489,980,300
<i>Issued by the former British Columbia Electric Company Limited –</i>		
First Mortgage Bonds, after deducting bonds redeemed in accordance with sinking fund requirements:		
3¼% Series "B" due 1 October 1967 .....	—	7,148,000
3¾% Series "C" due 1 April 1968 .....	12,074,000	12,424,000
3¾% Series "D" due 1 February 1969 .....	11,995,000	12,350,000
3½% Series "E" due 1 March 1975 .....	14,120,000	14,592,000
4% Series "F" due 1 July 1991 .....	2,702,000	2,800,000
3¾% Series "G" due 1 December 1976 .....	15,482,000*	15,870,000*
4¾% Series "H" due 1 December 1977 .....	11,555,000	11,903,000
4¾% Series "I" due 1 February 1979 .....	11,828,000	12,168,000
3¾% Series "J" due 1 June 1980 .....	12,236,000	12,544,000
4¼% Series "K" due 1 February 1981 .....	24,559,000	25,209,000
5% Series "L" due 1 February 1982 .....	33,686,000	34,499,000
5½% Series "M" due 2 January 1988 .....	43,022,000	44,001,000
5½% Series "N" due 1 March 1989 .....	26,405,000	26,961,000
6½% Series "O" due 1 April 1990 .....	27,444,000	27,881,000
5¾% Series "P" due 1 May 1991 .....	13,945,000	14,159,000
Perpetual Callable Bonds:		
4% .....	365,300	405,900
4¼% .....	125,950	132,700
4½% .....	237,800	254,800
4¾% .....	601,950	659,550
5% .....	532,450	568,350
5½% .....	371,950	390,750
25-year Callable Bonds due 1 August 1986:		
4% Series AA .....	11,634,700	11,594,100
4¼% Series AB .....	10,874,050	10,867,300
4½% Series AC .....	14,762,200	14,745,200
4¾% Series AD .....	25,811,450	25,753,850
5% Series AE .....	24,467,550	24,431,650
5½% Series AF .....	14,628,050	14,609,250
Sinking Fund Debentures:		
5¾% Series A due 1 April 1977, after deducting debentures redeemed in accordance with sinking fund requirements .....	36,000,000	36,400,000
<i>Issued by the former British Columbia Power Commission –</i>		
Bonds:		
3% Series A due 1 October 1967 .....	—	7,000,000
3% Series B due 1 November 1968 .....	6,000,000	6,000,000
3¾% Series C due 15 September 1991 .....	3,000,000	3,000,000
4% Series D due 21 May 1992 .....	1,000,000	1,000,000
4% Series E due 15 June 1992 .....	1,000,000	1,000,000
4% Series F due 15 September 1992 .....	1,500,000	1,500,000
4% Series G due 1 November 1988 .....	10,000,000*	10,000,000*
3¼% Series H due 15 July 1989 .....	6,300,000*	6,300,000*
carried forward .....	<u>\$1,152,047,700</u>	<u>\$ 941,102,700</u>



## NOTES TO FINANCIAL STATEMENTS AS AT 31 MARCH 1968 (continued)

**Note 1 – Long-term debt** (continued):

	1968	1967
brought forward.....	\$1,152,047,700	\$ 941,102,700
3¼% Series J due 4 July 1975.....	10,000,000	10,000,000
5% Series MC due 15 September 1982.....	5,149,000	5,149,000
5% Series MD due 15 September 1992.....	18,724,000	18,724,000
5% Series N due 15 September 1992.....	10,000,000	10,000,000
3% Series S due 1 April 1976.....	17,738,000	17,738,000
3½% Series T due 1 April 1977 (payable in Canadian or United States funds at option of holder).....	9,285,000	9,285,000
Debentures:		
3¾% Series K due 15 June 1986.....	20,000,000*	20,000,000*
4¾% Series L due 15 April 1987.....	25,000,000*	25,000,000*
3¾% Series P due 1 February 1988.....	20,000,000*	20,000,000*
	<u>1,287,943,700</u>	<u>1,076,998,700</u>
Exchange premium at date of issue on long-term debt payable in United States funds....	9,148,856	5,157,928
	<u>1,297,092,556</u>	<u>1,082,156,628</u>
Less –		
Sinking funds on deposit with Trustee, Minister of Finance for the Province of British Columbia.....	61,859,331	53,447,656
	<u>\$1,235,233,225</u>	<u>\$1,028,708,972</u>
<i>*Payable in United States funds and carried at par of exchange.</i>		
Classification on balance sheet –		
Long-term debt.....	\$1,193,389,518	\$1,003,226,345
Long-term debt payments due within one year, included in current and accrued liabilities:		
Sinking fund instalments.....	13,783,733	13,577,526
Debt maturities.....	28,059,974	11,905,101
	<u>\$1,235,233,225</u>	<u>\$1,028,708,972</u>

**Note 2 – Guarantee by Province of British Columbia:**

The Government of the Province of British Columbia has unconditionally guaranteed the principal and interest of the long-term debt and parity development bonds.

**Note 3 – Interest:**

Included in interest and other costs on debt for the year ended 31 March 1968 is \$1,820,216 for amortization of discount and expense on long-term debt and parity development bonds, and there has been deducted \$3,210,747 for income from sinking fund investments.

**Note 4 – Columbia River Treaty:**

The Authority is the Canadian Entity for purposes of the Columbia River Treaty between Canada and the United States and is required to construct three storage dams – Duncan, Arrow and Mica. Canada's entitlement to half the increased power generation in the United States resulting from the construction of the three dams was sold to the Columbia Storage Power Exchange for periods of 30 years from the scheduled dates of completion of the respective dams. The consideration for this sale was received by the Government of British Columbia and transferred to the Authority. Payments are receivable by the Government of British



**Note 4 – Columbia River Treaty (continued):**

Columbia for providing flood control as each of the storage dams becomes operational. Duncan storage project was declared operational on 31 July 1967 and a payment of \$11,929,031 for flood control was received and transferred to the Authority. Because Duncan Dam was completed ahead of schedule, the Authority benefited by receiving a share of the additional power generated downstream in the United States and Canada. These various payments and benefits, with interest, aggregated \$344,628,253 as at 31 March 1968:

Amount received from the sale of entitlement to downstream benefits.....	\$273,291,661
Flood control benefits.....	11,929,031
Additional downstream benefits (net).....	4,008,532
Interest (including charges to construction of \$20,777,208).....	55,399,029
	<u>\$344,628,253</u>

This amount has been applied as follows:

Temporary investments and accrued interest (included in current assets).....	\$ 35,584,310
Funds temporarily advanced to the Authority for general purposes, with interest at 6¼%.....	34,196,776
Expenditures on Duncan, Arrow and Mica storage projects to 31 March 1968, including interest charged to construction.....	274,847,167
	<u>\$344,628,253</u>

As operations of the Arrow and Mica storage dams are commenced, amounts aggregating \$53,300,000 (United States dollars) will be receivable by the Government of British Columbia for providing flood control. Amounts receivable for flood control are subject to reduction if full operation of either of the storage dams is not commenced within the time required by the Treaty. Arrow is expected to become fully operative in 1968; Mica is presently under construction and scheduled for completion in 1973.

If these storage dams are not completed so as to be fully operative by agreed dates, the Authority is liable under certain covenants to make compensation to the Columbia Storage Power Exchange. The Authority also has obligations relating to the operation and maintenance of these storage dams.

**Note 5 – Stabilization of rates and contingency reserve:**

Balance as at 31 March 1967.....	\$63,447,080
Net income for the year ended 31 March 1968.....	12,890,635
Balance as at 31 March 1968.....	<u>\$76,337,715</u>

**Note 6 – Pension plans:**

Substantially all employees of the Authority are covered under existing contributory pension plans, and provisions are being made for current services according to the requirements of the various plans. Provision has been made for all past service costs under these plans with the exception of those relating to a new contributory plan introduced effective 1 January 1965. Employees may elect, by a date to be fixed by the Authority, to transfer from existing plans to the new plan. Some transfers will depend upon a re-examination being made of recent amendments to the existing plans and of their relationship to the Canada Pension Plan. Until it is known how many employees will transfer to the new plan, the amount of the past service costs of this plan cannot be determined.

**Note 7 – Commitments:**

In addition to the general commitment to construct the storage dams on the Columbia River (Note 4) (the final costs of which cannot yet be determined), in respect of which the uncompleted portions of contracts entered into as at 31 March 1968 amounted to a total of \$157,000,000, other commitments and contracts of the Authority for capital projects and inventories of materials and supplies aggregated approximately \$135,000,000 as at 31 March 1968.



## FINANCIAL STATISTICS

(in millions of dollars)

	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959
<b>SOURCES OF REVENUE</b>										
Electric – residential.....	51.5	41.6	38.1	40.6	38.5	37.4	40.0	38.2	36.4	33.0
– other.....	86.2	76.8	66.8	60.4	54.8	55.1	50.3	46.6	44.1	39.1
Gas.....	34.4	32.1	31.2	30.0	25.7	24.6	22.5	19.7	17.0	12.2
Passenger transportation.....	18.1	17.6	16.9	14.5	13.8	13.9	13.4	13.9	14.6	14.3
Rail freight.....	7.0	6.4	6.2	5.9	5.6	5.3	5.0	4.8	4.9	5.1
Miscellaneous.....	4.3	3.6	1.6	1.9	1.2	1.4	2.1	3.0	2.2	1.8
Total.....	201.5	178.1	160.8	153.3	139.6	137.7	133.3	126.2	119.2	105.5
<b>DISPOSITION OF REVENUE</b>										
Employment costs, materials and services.....	87.4	76.8	69.2	59.9	54.5	51.7	47.9	46.1	45.6	40.4
Grants, school taxes, etc.....	13.3	11.3	10.6	9.9	9.1	8.4	7.1	6.8	6.2	5.5
Provision for depreciation.....	34.7	31.7	28.8	27.1	25.3	22.8	21.8	20.7	18.9	17.0
Taxes on income.....	—	—	—	—	—	—	2.8	12.0	11.8	9.2
Interest and other costs on debt, less interest charged to construction.....	53.2	49.0	44.7	43.2	41.9	40.8	32.5	25.3	20.3	16.8
Dividends on preferred shares.....	—	—	—	—	—	—	1.7	5.0	5.0	5.0
Dividends on common shares.....	—	—	—	—	—	—	1.9	8.1	7.2	6.3
Employed in the business.....	12.9	9.3	7.5	13.2	8.8	14.0	17.6	2.2	4.2	5.3
Total.....	201.5	178.1	160.8	153.3	139.6	137.7	133.3	126.2	119.2	105.5
<b>EXPENDITURES ON PLANT.....</b>	341.2	324.1	227.5	105.3	70.6	54.2	57.1	64.3	81.0	98.8

NOTE: Statistics are for years ended 31 March except 1962 (1 April 1961 to 29 March 1962) and 1963 (30 March 1962 to 31 March 1963). For years prior to 30 March 1962, statistics of the former British Columbia Electric Company Limited and the former British Columbia Power Commission have been combined.



## OPERATING STATISTICS

	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959
<b>ELECTRIC</b>										
Generating capacity at year-end (rated kw in thousands) (1)										
Hydro.....	1,320	1,320	1,306	1,306	1,295	1,295	1,295	1,296	1,172	1,023
Thermal.....	906	752	738	588	571	570	268	268	253	110
Total.....	2,226	2,072	2,044	1,894	1,866	1,865	1,563	1,564	1,425	1,133
Peak one-hour demand, integrated system (kw in thousands).....	2,152	1,860	1,686	1,490	1,244	1,169	1,154	1,083	1,064	1,020
Customers at year-end (in thousands).....	583	555	529	503	478	459	443	432	420	403
Electricity sold to public (kwh)										
Total (in millions).....	11,084	10,000	8,506	7,345	6,431	6,059	5,540	5,149	4,934	4,471
Increase over previous year (%).....	10.8	17.6	15.8	14.2	6.1	9.4	7.6	4.4	10.4	18.6
By class of customer (%)										
Residential.....	28	28	30	31	32	32	33	33	33	33
Other systems (largely residential).....	2	2	1	2	2	2	1	2	2	2
Commercial, industrial, etc.....	70	70	69	67	66	66	66	65	65	65
Residential service										
Average annual kwh use per customer.....	6,222	6,016	5,650	5,486	5,200	5,029	4,829	4,723	4,658	4,455
Average revenue per kwh (cents).....	1.7	1.5	1.5	1.8	1.8	1.9	2.2	2.2	2.2	2.2
<i>(1) Excludes electricity available from other systems. Rated capacity has been exceeded on occasion.</i>										
<b>GAS</b>										
One-day capacity at year-end (therms in thousands)										
Mainland - firm pipeline contracts (2).....	2,260	2,140	2,020	1,900	1,780	1,780	1,780	1,540	1,000	575
- plant.....	250	250	250	250	250	250	250	320	320	190
Greater Victoria - plant.....	36	36	36	36	36	36	36	27	27	27
Peak one-day demand (therms in thousands)										
Mainland system - including interruptible.....	2,537	2,634	2,593	2,341	1,359	1,580	1,287	934	828	728
- excluding interruptible.....	1,905	1,474	1,493	1,849	1,060	1,342	1,081	733	690	663
Greater Victoria system.....	19	16	17	23	16	18	21	13	16	15
Customers at year-end (in thousands).....	178	169	161	153	145	137	129	120	111	96
Gas sold to public (therms)										
Total (in millions).....	391	357	322	306	260	240	217	186	157	103
Increase over previous year (%).....	9.6	10.7	5.3	17.7	8.6	10.3	16.8	18.5	52.1	66.4
Average revenue per therm (cents).....	8.8	9.0	9.7	9.8	9.9	10.3	10.2	10.6	10.8	11.8
<i>(2) On basis of 100 cu. ft. to one therm.</i>										
<b>PASSENGER TRANSPORTATION</b>										
Vehicles at year-end										
Urban - buses.....	340	321	325	336	339	334	332	342	341	346
- trolley coaches.....	296	296	296	296	312	317	327	327	351	351
- total.....	636	617	621	632	651	651	659	669	692	697
Interurban buses.....	70	56	61	70	80	81	75	71	67	69
Passengers carried (in millions)										
Urban.....	74.6	72.7	70.7	73.1	75.8	77.3	78.3	82.4	89.3	98.4
Interurban.....	2.1	2.1	2.0	2.0	2.3	2.5	2.5	2.6	2.7	3.1
Revenue miles run - urban (in millions).....	20.8	20.5	20.4	20.5	20.5	20.5	20.6	21.7	22.6	23.6
Passenger revenue per mile - urban (cents).....	71.2	70.2	68.4	57.7	52.8	54.0	54.2	54.3	56.5	52.4
<b>RAIL FREIGHT (tons in thousands).....</b>	2,057	2,011	1,971	1,832	1,663	1,567	1,527	1,427	1,359	1,276
<b>EMPLOYEES AT YEAR-END</b>										
Regular.....	6,737	6,452	6,250	6,006	5,761	5,641	5,804	5,919	6,053	6,263
Temporary.....	614	687	647	418	451	328	292	323	340	487
Total.....	7,351	7,139	6,897	6,424	6,212	5,969	6,096	6,242	6,393	6,750

NOTE: Statistics are for years ended 31 March except 1962 (1 April 1961 to 29 March 1962) and 1963 (30 March 1962 to 31 March 1963). For years prior to 30 March 1962, statistics of the former British Columbia Electric Company Limited and the former British Columbia Power Commission have been combined.



## AUTHORITY OFFICES SERVING ELECTRIC AND GAS CUSTOMERS

### HEAD OFFICE:

970 Burrard Street  
Vancouver 1

### METROPOLITAN REGION

#### REGIONAL OFFICE:

970 Burrard Street  
Vancouver 1

110 - 6th Street  
New Westminster

1444 Lonsdale Avenue  
North Vancouver

4567 Marine Avenue  
Powell River

Wharf Road  
Sechelt

4355 Pemberton Avenue  
Squamish

### FRASER VALLEY REGION

#### REGIONAL OFFICE:

7132 King George Highway  
North Surrey

2485 Montrose Avenue  
Abbotsford

Quartz Road  
Cache Creek

125 South Young Street  
Chilliwack

11820 - 9th Avenue  
Haney

229 Wallace Street  
Hope

20472 Douglas Crescent  
Langley

Main Street  
Lillooet

Mission Oaks Mall  
Main Street  
Mission

### VANCOUVER ISLAND REGION

#### REGIONAL OFFICE:

820 Pandora Avenue  
Victoria

Bella Coola

101 - 10th Avenue  
Campbell River

477 - 6th Street  
Courtenay

121 Ingram Street  
Duncan

13 Commercial Street  
Nanaimo

325 Argyle Street  
Port Alberni

Airport Road  
Port Hardy

### SOUTHERN INTERIOR REGION

#### REGIONAL OFFICE:

Kalamalka Lake Road  
Vernon

Borden Street  
Athalmer

5th Avenue  
Blue River

129 - 2nd Avenue  
Fernie

1206 East 11th Avenue  
Golden

322 Seymour Street  
Kamloops

McBride

2076 Granite Avenue  
Merritt

Mica Creek

Columbia Avenue  
Nakusp

Palmer Street  
Salmon Arm

Valemount

2903 - 35th Avenue  
Vernon

Main Street  
Westbank

### CENTRAL INTERIOR REGION

#### REGIONAL OFFICE:

3333 - 22nd Avenue  
Prince George

Railway Avenue  
Burns Lake

Chetwynd

800 - 102nd Avenue  
Dawson Creek

Fort Nelson

10127 - 100th Avenue  
Fort St. John

Hazelton

Hudson Hope

Kitimat

Mackenzie

120 First Avenue  
100 Mile House

501 McBride Street  
Prince Rupert

2 Mile Flat  
Quesnel

Sandspit

162 Main Street  
Smithers

Stewart

4602 Lazelle Avenue  
Terrace

1655 Stewart Street  
Vanderhoof

94 - 1st Avenue North  
Williams Lake



# BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

## ELECTRIC TRANSMISSION SYSTEM AT 31 MARCH 1968 – WITH PLANNED ADDITIONS



### LEGEND

- HYDRO-ELECTRIC GENERATING STATIONS
- DIESEL-ELECTRIC GENERATING STATIONS
- ▣ GAS-TURBINE-ELECTRIC GENERATING STATIONS
- SUBSTATIONS
- TRANSMISSION LINES 60 KV AND ABOVE, (EXISTING AND UNDER CONSTRUCTION)
- TRANSMISSION LINES 60 KV AND ABOVE (PLANNED)

#### REGIONS:

1. METROPOLITAN VANCOUVER
2. FRASER VALLEY
3. VANCOUVER ISLAND
4. SOUTHERN INTERIOR
5. CENTRAL INTERIOR

### VANCOUVER AREA

#### MAJOR GENERATING PLANTS

Alouette: Hydro-Electric	Port Mann: Gas-Turbine
Burrard: Steam-Turbine	Ruskin: Hydro-Electric
Lake Buntzen, Nos. 1 and 2: Hydro-Electric	Stave Falls: Hydro-Electric

#### MAJOR SUBSTATIONS

Arnott	Kidd, Nos. 1 and 2
Dal Grauer	Mainwaring
Horne-Payne	Murrin
Inglodow	Walters





*Aerial view of Duncan Dam, the first Columbia River Treaty storage project to be completed. This project was declared operational on 31 July 1967.*



*Prime Minister W.A.C. Bennett and Hydro Chairman Dr. H. L. Keenleyside officiated as 130-foot-high Duncan Dam was dedicated in August 1967.*



*Memorial stone unveiled at ceremony is a tribute to the men who engineered and built Duncan Dam in record time and without loss of life.*