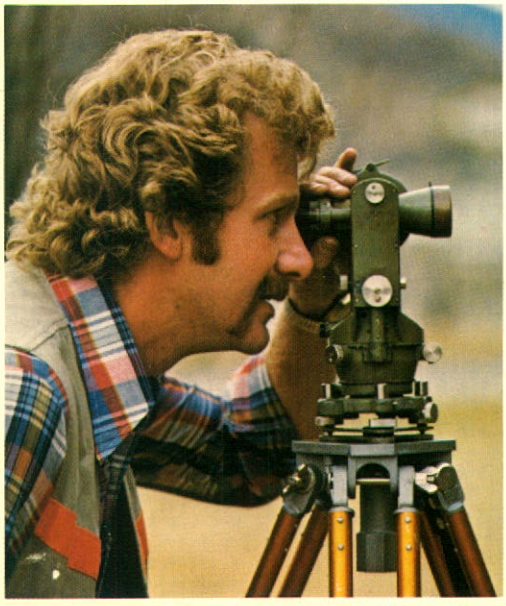
British Columbia Hydro and Power Authority

Annual Report 1978/79



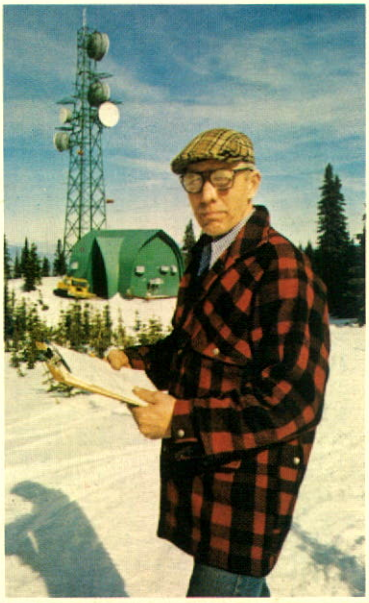
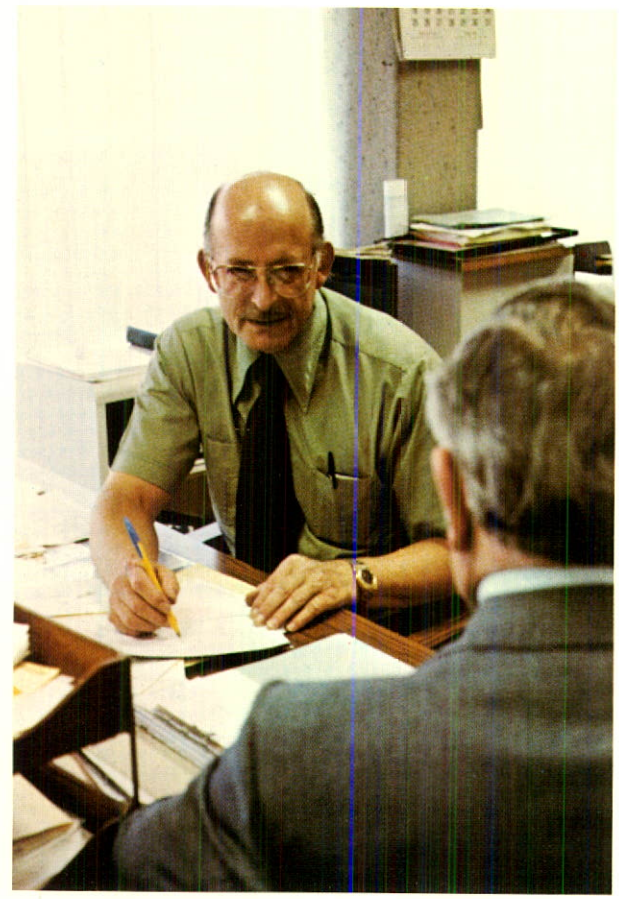


Photo Story Features B.C. Hydro Employees

Most of the photographs throughout this report are of B.C. Hydro employees in work situations in a number of locations across British Columbia. While it was not possible to depict all employee categories, it was intended that those selected would be representative of approximately 12 000 people whose combined efforts, directly or indirectly, made possible the provision of electric, gas and transportation services to customers during the year.

Other photos portray activities related to energy conservation, environmental services, construction, research and planning to ensure that future requirements of customers will be met.



To many customers across British Columbia, B.C. Hydro is as close as the local power district staff. Typical is commercial-industrial advisory services representative Bob Helme of Victoria power district, seen above in consultation with a customer.

***Front Cover** — Clockwise from top left; Subforeman lineman Vic McMillan, Hope; drafter Dave Marshall, Vernon; telecontrol technician Tom Flensburg, Vernon; Kootenay Canal hydroelectric project between Nelson and Castlegar; truck driver Harvey Stevens, Prince Rupert; district office clerk Cathy Morrison, Terrace.*

***Back Cover** — Apprentice lineman Don Delmonico and lineman Larry Nichol using "hot sticks" in Hope power district.*

Contents

With the exception of financial figures, all numbers in this report are expressed in metric style.

The Business of B.C. Hydro *as at 31 March 1979*

British Columbia Hydro and Power Authority is a Crown corporation with a staff of approximately 12 000 providing electric, gas and transportation services for British Columbians.

The responsibilities of B.C. Hydro are:

1. *Generation and transmission of electricity. Distribution of electricity throughout areas of British Columbia containing more than 90% of the Province's population.*

The bulk of B.C. Hydro's generating capacity is from hydroelectric sources. While most electric customers are served from the integrated transmission system, a number of remote communities not connected to main transmission lines are served from local diesel-powered generating plants.

2. *Distribution of natural gas in Greater Vancouver and the Fraser Valley and distribution of butane-air gas in Greater Victoria.*

B.C. Hydro is the largest distributor of natural gas in the Province and is the sole distributor in Greater Vancouver and the adjacent suburban and rural areas of the Fraser Valley. B.C. Hydro purchases natural gas from Westcoast Transmission Company Limited under a long-term agreement and takes delivery at Huntingdon, near Abbotsford, and at a number of smaller take-off points farther east.

3. *Passenger transportation service in Greater Vancouver and Greater Victoria, in the Fraser Valley, between Vancouver and Victoria and between Vancouver and Nanaimo.*

B.C. Hydro operates an urban trolley coach and motor-bus system in the Greater Vancouver area, an urban motor-bus system in Greater Victoria, and, until 31 March, an interurban system.

4. *Rail freight operations in Greater Vancouver and the Fraser Valley.*

B.C. Hydro provides a local and terminal freight service in the Greater Vancouver and Fraser Valley areas over more than 300 kilometres of rail freight lines. The railway has five interchange points which permit the exchange of freight cars with five major railway systems.

Clockwise from above: *Transit supervisor Jim Eaton, Vancouver; gas labourer Doug Webb (left) and utilityman/welder Glen Scott, Fraser Valley; engineering clerk Lorraine Bishop, Vernon power district; railway stores clerk Veronica Bosman and mechanic Tony Lucia, New Westminster.*

The Year's Highlights *for the year ended 31 March 1979*

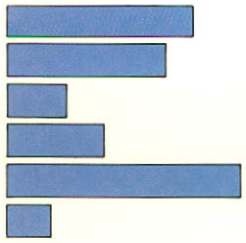
	1979	1978
	(in thousands)	
Financial Statistics		
Revenues	$904,036	$801,843
Net income (loss)		
Electric	$ 95,256	$ 82,584
Gas	13,009	4,921
Passenger transportation	(61,407)	(61,294)
Rail freight	1,395	1,761
Sundry	370	(472)
Total net income	$ 48,623	$ 27,500
Expenditures on fixed assets	$721,611	$641,120
Operating Statistics		
Electricity sold in British Columbia (millions of kW·h)	25 564	24 106
Gas sold (millions of therms)	832	790
Freight carried (thousands of tonnes)	2 536	2 397
Passengers carried (millions)	103	102

Distribution of B.C. Hydro's Revenue Dollar

REVENUE CAME FROM:

Sale of electricity 74.0%
Sale of gas 18.8%
Passenger transportation 4.8%
Rail freight operations 2.3%
Sundry .1%

REVENUE USED FOR:



Salaries, wages and employee benefits 23.5%
Materials and services 19.8%
Grants, school taxes and water rentals 7.5%
Depreciation 12.2%
Interest charged to operations 31.7%
Employed in the business 5.3%

Report of the Directors

Record sales volumes and peak demands were reached in both electric and gas operations in British Columbia during the year ended 31 March 1979. Growth in the Provincial economy was highlighted by increased activity in the forest industry, whose export sales were stimulated by the decline in the value of the Canadian dollar. While interest rates and other costs of providing services continued to rise, revenues also increased, reaching a record $904 million and producing a net income of $49 million for the year despite a loss of $61 million on passenger transportation. Sales of surplus electricity to the United States contributed $34 million to electric revenues during the year under review.

Total electric revenues were up 9.7% while kilowatt-hour sales in British Columbia alone rose 6.0%. Peak demand on the integrated system, after eliminating the effect of adding the North Coast Region, increased 7.2%. The load forecast prepared by B.C. Hydro in fall 1978 estimated that electric requirements would grow at an average annual rate of 6.4% during the next 11 years.

Total sales of gas were up 5.4% from the previous year and revenues from the sale of gas to the public rose 25.2%. The peak one-day output of gas in the Lower Mainland occurred on 30 December 1978 when a record amount of 4.8 million therms was sold.

A number of legislative and administrative steps were taken during the year to facilitate the transfer of responsibility for urban and interurban passenger transportation services from B.C. Hydro in accordance with Provincial Government policy.

Capital and operating expenditures by B.C. Hydro during the year totalled $1,577 million, equivalent to approximately 5.4% of the 1979 Gross Provincial Product. Total direct employment provided by B.C. Hydro, including

B.C. Hydro Capital and Operating Costs Relative to Provincial Economy

Year Ended 31 March	Gross Provincial Product	B.C. Hydro Capital and Operating Costs	
	(dollars in millions)	*(dollars in millions)*	*Equivalent to % of GPP*
1968	$ 7,175	$ 526.8	7.3
1969	7,885	436.3	5.5
1970	8,762	423.9	4.8
1971	9,520	471.3	5.0
1972	10,746	500.1	4.7
1973	12,445	536.2	4.3
1974	14,934	687.7	4.6
1975	17,610	880.7	5.0
1976	20,147	1,105.5	5.5
1977	23,422	1,166.2	5.0
1978	26,361 est.	1,415.4	5.4
1979	**29,319 est.**	**1,577.0**	**5.4**

employees of major contractors, exceeded 15 500 jobs.

Taxes (including social services tax on purchases), grants and water rentals paid to the Provincial Government, municipalities and related school districts totalled $81 million in the year ended 31 March 1978, up 16.8% from the previous year.

On 3 August 1978, B.C. Hydro reached an out-of-court settlement in the amount of $33,950,000 respecting all claims and matters in the dispute arising out of litigation, begun 11 years earlier, dealing with the underground powerhouse at W.A.C. Bennett Dam. The settlement amount was less than the payment previously made into Court by B.C. Hydro on 3 March 1976 following the Trial Judge's decision, which subsequently was successfully appealed by B.C. Hydro.

Senior B.C. Hydro officials appeared before the Provincial Legislature's Committee on Crown Corporations on numerous occasions during the year and provided extensive information about B.C. Hydro and its operations, primarily for the period prior to 1976. B.C. Hydro is also accountable to the Provincial Government through the Board of Directors, who are appointed by the Cabinet, and by virtue of a variety of Provincial statutes and regulations governing B.C. Hydro's operations.

The Directors acknowledge with appreciation the contributions made by B.C. Hydro's employees involved in the provision of electric, gas and transportation services to the people of British Columbia during the year.

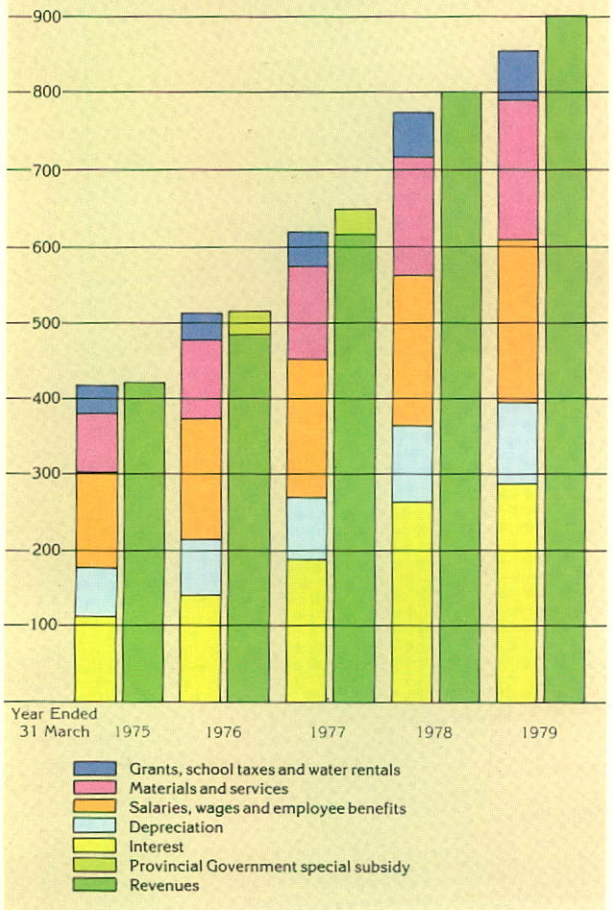
The Board records, with regret, the death on 14 November 1978 of John H. Steede, a Director since 1967.

On behalf of the Board

Robert W. Bonner, *Chairman*

B.C. Hydro's Revenues and Expenses

(dollars in millions)



Review of Operations

Electric Service

Revenues from the electric service were $669 million, up 9.7%. The increase reflected higher sales volume in British Columbia and rate increases for all classes of customers in March and April 1978. Electric revenues included $34 million from the sale of surplus electricity to the United States. Revenue from this source, which is available when favourable water conditions coincide with export market opportunities, was less than in the previous year. The following table records these sales for the past five years:

Sales of Surplus Electricity to the United States

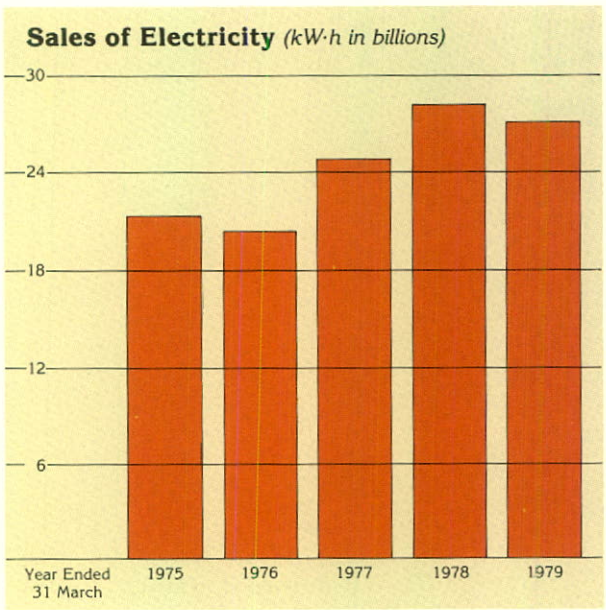
Year ended 31 March	kW·h (millions)	Revenue (millions)
1979	1 412	$34
1978	3 907	78
1977	1 707	23
1976	—	—
1975	808	5

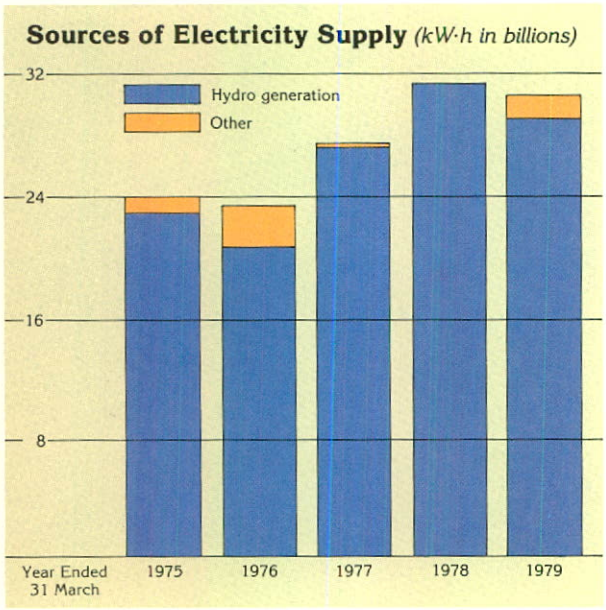
Sales of electricity in B.C. Hydro's service area during the year totalled 25 564 million kW·h, an increase of 6.0% over the previous year. The highest one-hour demand ever recorded on the integrated transmission system — 5 091 000 kW — occurred on 15 January 1979, an increase of 10.2% from the previous year's high. Part of the increase resulted from the connection of the North Coast region to the integrated system. After allowing for the North Coast portion of the peak demand, the adjusted percentage increase over the previous year's peak was 7.2%.

On Vancouver Island, a record regional peak of 1 242 000 kW was reached on 29 December 1978 and was closely approached on several other occasions during the winter. The critical power supply situation on Vancouver Island was partially alleviated by the addition in spring 1979 of 238 000 kW to the capacity of the high-voltage, direct current intertie with the mainland. Sufficient electricity to meet major new industrial loads, however, is not expected to be available until 1983, when completion of the first circuit of the proposed 500 kV Cheekye-Dunsmuir alternating current intertie with the mainland is scheduled.

It is the policy of utilities in the Northwest Power Pool to assist one another during periods of emergency. British Columbia and B.C. Hydro have benefited from this arrangement on several occasions. The most recent example occurred on 13 February 1979 when a snowslide destroyed seven towers on one 500 kV transmission line from Mica Generating Station and severely damaged one tower on the second line, thus isolating that major source of electric power. Electricity was obtained from Bonneville Power Administration in the United States to help meet peak loads until temporary repairs were effected.

B.C. Hydro was serving 984 000 customers with electricity at 31 March 1979, an increase of 32 000 during the year. Average annual consumption per residential customer rose from 8 620 kW·h to 8 747 kW·h. The total number of residential electric space heating customers continued to increase during the year, particularly on Vancouver Island.





Sales of electricity in British Columbia by category of customer and percentage changes from the previous year were:

	Year ended 31 March 1979 kW·h in millions	% Increase from previous year
Residential	7 407	5.2
General	8 793	5.5
Bulk	9 147	7.3
Other systems	217	6.4
	25 564	6.0

The following table shows total requirements for electricity and sources of supply for the year under review:

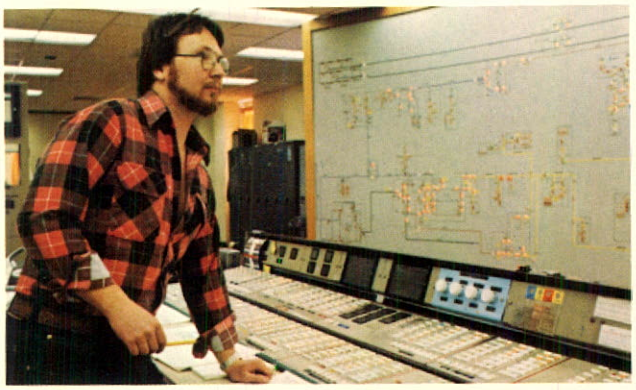
	kW·h in millions	% of total
Requirements:		
Sales in British Columbia	25 564	83.1
Export	1 478	4.8
Line loss and system usage	3 717	12.1
	30 759	100.0
Sources of supply:		
Hydro generation—		
Peace River Project	11 909	38.7
Mica	7 195	23.4
Other	10 120	32.9
Thermal generation	272	0.9
Purchases and miscellaneous	1 263	4.1
	30 759	100.0

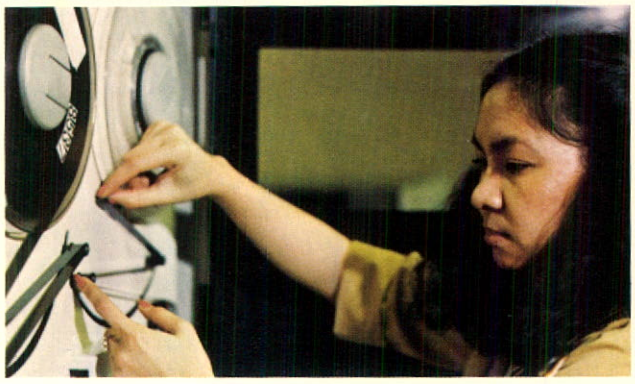
The generating capacity of plants operated by B.C. Hydro at 31 March 1979 was as follows:

	Installed nameplate generating capacity (kW in thousands)
Hydroelectric plants	
Ruskin	105.6
John Hart	120.0
Bridge River	428.0
Cheakamus	140.0
Gordon M. Shrum	2 116.0
Jordan River	150.0
Kootenay Canal	529.2
Mica	1 736.0
Other (21 plants)	558.3
Total hydroelectric	5 883.1
Thermal plants	
Georgia	75.5
Port Mann	100.0
Burrard	912.5
Prince Rupert	57.3
Keogh	99.7
Other (81 plants)	118.1
Total thermal	1 363.1
Total generating capacity	7 246.2

B.C. Hydro receives an annual grant of $3 million from the Province of British Columbia to provide assistance for rural electrification. In the year under review $1.7 million of this grant was used to offset operating losses of electric systems purchased or constructed in isolated areas with such funds. The remaining $1.3 million was used to improve and extend electric service in rural areas.

Subforeman serviceman Bob Maddison (left) and serviceman Don Gallanders working in substation at Terrace.





Clockwise from top left: *District office clerk Flo Ryan, Vernon; production technologist Nick Stevenson, Vernon, (measuring water content of snow in reservoir catchment area); apprentice meterman Bruce Dryden, Victoria; automotive mechanic Brian Moran, Victoria; meter reader Janess Iverson, Prince Rupert; computer microfiche output operator Linda de la Cruz, Vancouver; apprentice operator Trent Wagner, Prince George.*

Gas Service

Revenues from sale of gas to the public were $170 million, up $34 million or 25.2% over the previous year. The increase in revenue resulted from higher sales volumes because of cold winter weather and growth in the number of customers; in addition, it reflects new rates implemented in March 1978.

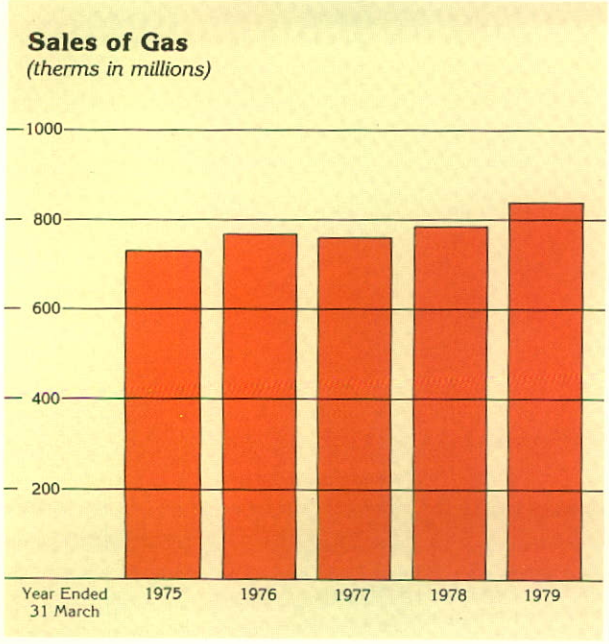
Total sales of gas during the year reached a record 832 million therms, an increase of 5.4% over the previous year. Because of cold weather, almost all the liquefied natural gas from the storage plant on Tilbury Island in Delta was used to help meet peak requirements. A peak one-day output of gas, 4.8 million therms, 26.3% greater than the previous year's peak, occurred on 30 December 1978.

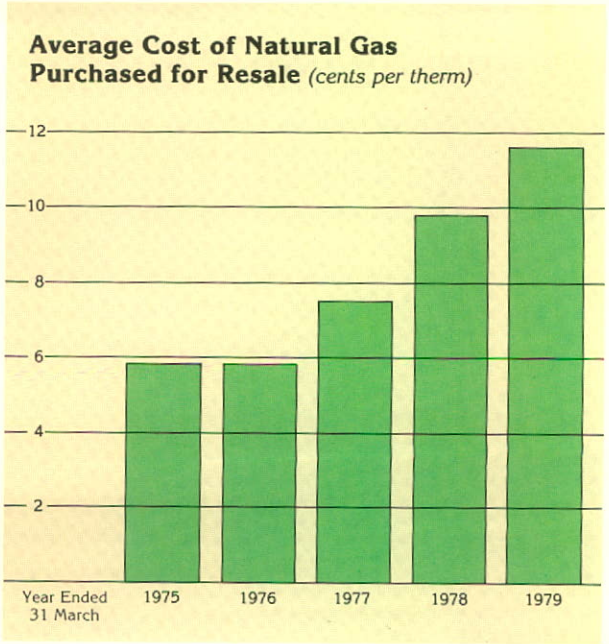
During the year, B.C. Hydro participated in complex and lengthy hearings held by the National Energy Board of Canada as a result of an application by Westcoast Transmission Company Limited for, among other matters, a review of Westcoast's rate base, depreciation allowances and changes to income tax treatment, which would substantially increase Westcoast revenues. B.C. Hydro and other interveners have applied to the Federal Court of Canada for leave to appeal the first two NEB decisions, which dealt with income tax treatment. The implications of the Westcoast hearings include potential increases in B.C.Hydro's cost of gas. At year-end, the hearings were continuing.

Investigations continued during the year into the possibility of developing underground natural gas storage in the Lower Fraser Valley.

At 31 March 1979, the number of customers in Greater Vancouver and the Fraser Valley was 281 000, up 2.8% from the previous year. In Greater Victoria, customers declined 4.8% to 4 828.

Regulator station at Huntingdon, where B.C. Hydro takes 95% of natural gas purchased from Westcoast Transmission Company Limited, was rebuilt to increase its capacity by 53%.





The number of customers served by B.C. Hydro's small butane-air gas system in Greater Victoria has declined steadily over the years. Since 1973, the cost of butane has increased fourfold, forcing the price of gas to B.C. Hydro's customers in Greater Victoria up to the point where it has lost its competitive position relative to other fuels. The replacement of butane with other liquid petroleum fuels does not appear economic. B.C. Hydro is participating in a study undertaken in 1978 by the British Columbia Energy Commission at the request of the Provincial Government to determine the feasibility of extending natural gas service to Vancouver Island.

Passenger Transportation Service

Revenues from passenger transportation rose 15.2% to $43 million. The increase was attributable to new fares introduced on 5 September 1978, as the number of passengers was virtually unchanged from the previous year. Notwithstanding the improvement in revenues, losses on the service were $61 million, the same as in the previous year, because of continuing increases in operating costs.

The Urban Transit Authority Act, enacted by the Provincial Government in June 1978, established the Urban Transit Authority as a Crown corporation to plan and help fund municipal transit systems throughout British Columbia. The Provincial Government has announced policy which will see urban transit operations conducted by another entity contemplated by the new legislation.

In accordance with evolving transit policy, B.C. Hydro began to discontinue all sightseeing, escorted tour and long distance charter services associated with the urban transit operation in Victoria and with B.C. Hydro's interurban bus operation, Pacific Stage Lines. On 5 September 1978, the Honourable Hugh A. Curtis, then Minister of Municipal Affairs and Housing, announced that Pacific Stage Lines and Vancouver Island Coach Lines, a company owned and operated by the Provincial Government, would be replaced by a new company to be named Pacific Coach Lines Limited, which began operation on 1 April 1979. These decisions resulted in B.C. Hydro taking steps to sell a Gray Line sightseeing franchise, seven double-deck sightseeing buses and 40 highway buses.

The SeaBus ferry link between the north shore of Burrard Inlet and downtown Vancouver completed its first year of operation on 17 June 1978, and on 11 December 1978, the five millionth passenger was carried. Operating losses of SeaBus for the year under review were paid by the Provincial Government.

In a major feasibility study conducted and financed by the Greater Vancouver Regional District, both the Central Park and Arbutus-Richmond rail lines between downtown and suburban Vancouver were examined during the year as potential corridors for light rail transit. B.C. Hydro transportation staff took part in the study.

At the close of the year, 736 motor buses, 285 trolley coaches and two ferries were being used in B.C. Hydro passenger transportation operations.

Rail Freight Service

Revenues from rail freight operations amounted to $21 million, an increase of 13.1% over the previous year. Major factors contributing to this increase were higher volumes of freight, chiefly forest products, and general freight rate increases on a wide variety of commodity groups. The volume of freight handled during the year was 2 536 thousand tonnes compared with 2 397 thousand tonnes in the previous year.

A new highway overpass at Chilliwack was completed by the Provincial Ministry of Transportation, Communications and Highways on 22 December 1978, eliminating a hazardous traffic condition.

Above left: *Transit operator Bert Hayes, Vancouver.*

Left: *Mechanic improver Jim Reilly, Vancouver.*

Above: *Helper Mike Francis, railway shops, New Westminster.*

Rates

Under Provincial and Federal laws, B.C. Hydro is responsible for determining rates and collecting revenues for its electric, gas, railway freight, motor bus and trolley coach services. The British Columbia Energy Commission is empowered to review and rule upon complaints of discrimination made by electric and gas customers.

B.C. Hydro's policy is to provide service to customers at the lowest practical cost consistent with sound management. Rates for electricity and gas are reviewed on a continuing basis.

Cost of Providing Services

B.C. Hydro's cost of providing all services during the year continued to rise. The total cost was $855 million, an increase of $81 million or 10.5%.

Interest and other costs on bonds and debentures charged to operations during the year totalled $286 million, up $22 million or 8.3%. The increase reflected higher interest rates, the placing in service of new fixed assets and the effect of the decline in the value of the Canadian dollar. Interest on money borrowed to pay for new fixed assets becomes a charge against operations when the assets are placed in service. The decline in value of the Canadian dollar increased the cost of interest on bonds B.C. Hydro has issued in the United States.

Salaries, wages and employee benefits charged to operations amounted to $213 million, an increase of $11 million or 5.2%, reflecting higher rates of pay and increases in employee benefits.

Provision for depreciation, which is directly related to fixed assets in service, amounted to $110 million, an increase of $10 million or 10.2% over the previous year.

Grants, school taxes and water rentals charged to operations totalled $68 million, an increase of $13 million or 24.4%. The sharp increase was caused primarily by revised assessments of B.C. Hydro property, higher mill rates and additions to fixed assets.

Purchases of natural gas for resale to the public totalled $101 million, up $21 million or 25.6% from the previous year. The increase reflected the greater sales volume resulting from higher consumption by customers and an increase in the commodity price paid by B.C. Hydro for natural gas, effective in March 1978.

Financing

B.C. Hydro finances its investment in fixed assets with both self-generated and borrowed funds. Borrowings are made within Canada if funds are available at competitive rates. While most borrowings in the past have been made from Province of British Columbia and Government of Canada trusteed funds, B.C. Hydro has also borrowed in the three main bond markets of Canada, the United States and Europe. As at 31 March 1979, B.C. Hydro's outstanding bonds and debentures totalled $5.1 billion, compared with $4.7 billion a year earlier. Of the $5.1 billion, 72% was in Canadian dollars and the rest in United States dollars.

All long-term borrowings have sinking fund provisions to ensure that funds are available at maturity to repay a portion of the debt. At 31 March 1979, these sinking funds totalled $356 million.

During the year under review, $477 million was borrowed from the following sources, all in Canadian funds:

	Millions
Provincial Government trusteed funds	$425
Canadian Pension Plan Investment Fund	$ 52

The average annual coupon rate of bonds sold during the year was 9.89%, compared with an average of 8.98% for the previous year. The increase reflected generally higher interest rates in the money market. At year-end, the average interest rate on outstanding bonds and debentures was 8.26% in comparison with 8.09% at the end of the previous fiscal year.

During the year, Trustees received $69 million to meet sinking fund requirements of bonds and debentures.

Construction

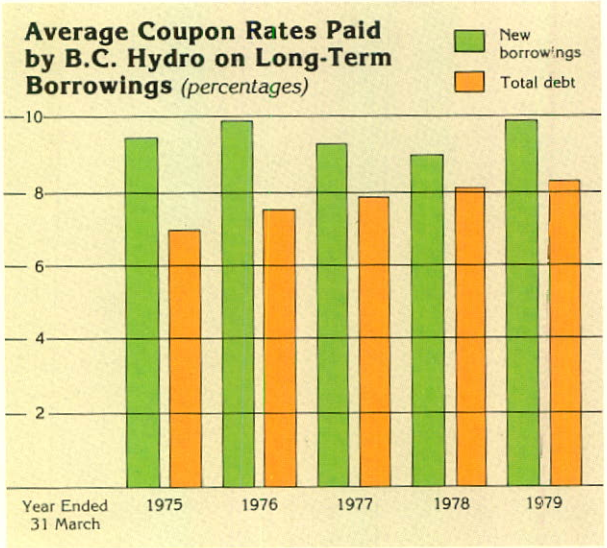
Expenditures on fixed assets totalled $722 million compared with $641 million for the previous year.

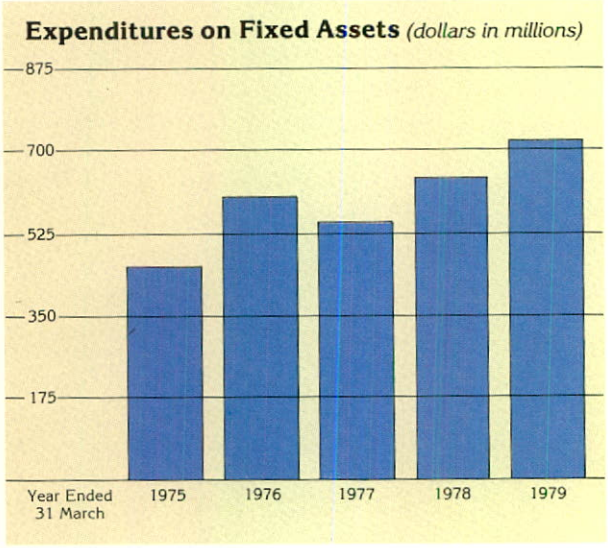
Expenditures for the year, by service and in broad categories, are shown below:

	Millions
Electric service	
Generation	
Hydroelectric	
Peace Canyon project	$114
Revelstoke project	107
Seven Mile project	82
Other	56
Thermal	19
Transmission	
500 kV	96
Other	27
Transformation	68
Distribution	84
General	33
Gas service	24
Transportation services	11
Sundry	1

Work continued on the tenth and final generating unit at Gordon M. Shrum Generating Station on the Peace River. This 300 000 kW unit, which is scheduled to be placed in service in 1980, will bring the total capacity of the generating station to 2 416 000 kW.

All phases of the Peace Canyon hydroelectric project, situated about 22.5 km downstream of Gordon M. Shrum Generating Station, progressed satisfactorily, employing a peak labour force of 1 401. The project consists of a concrete gravity dam 50.3 metres high and a surface powerhouse.





Diversion of the river was completed in May 1978 and placement of concrete for the project's various components continued through the year.

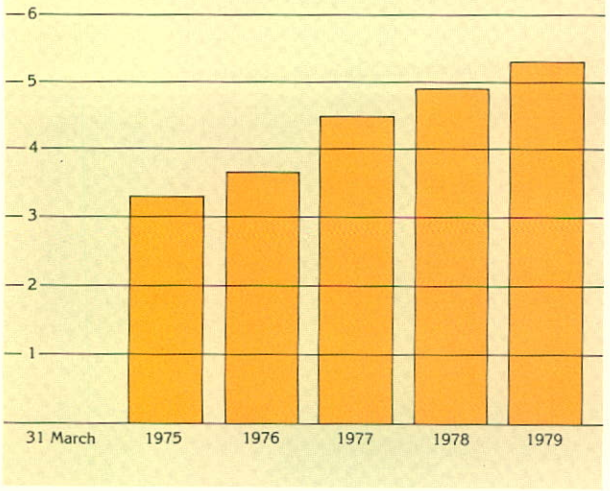
Construction of a 500 kV transmission line linking Gordon M. Shrum Generating Station and the Peace Canyon project with Williston Substation at Prince George continued on schedule, with completion planned for 1979. The Peace Canyon project will have four generating units of 175 000 kW each, the first scheduled for service in 1979 and the others in 1980.

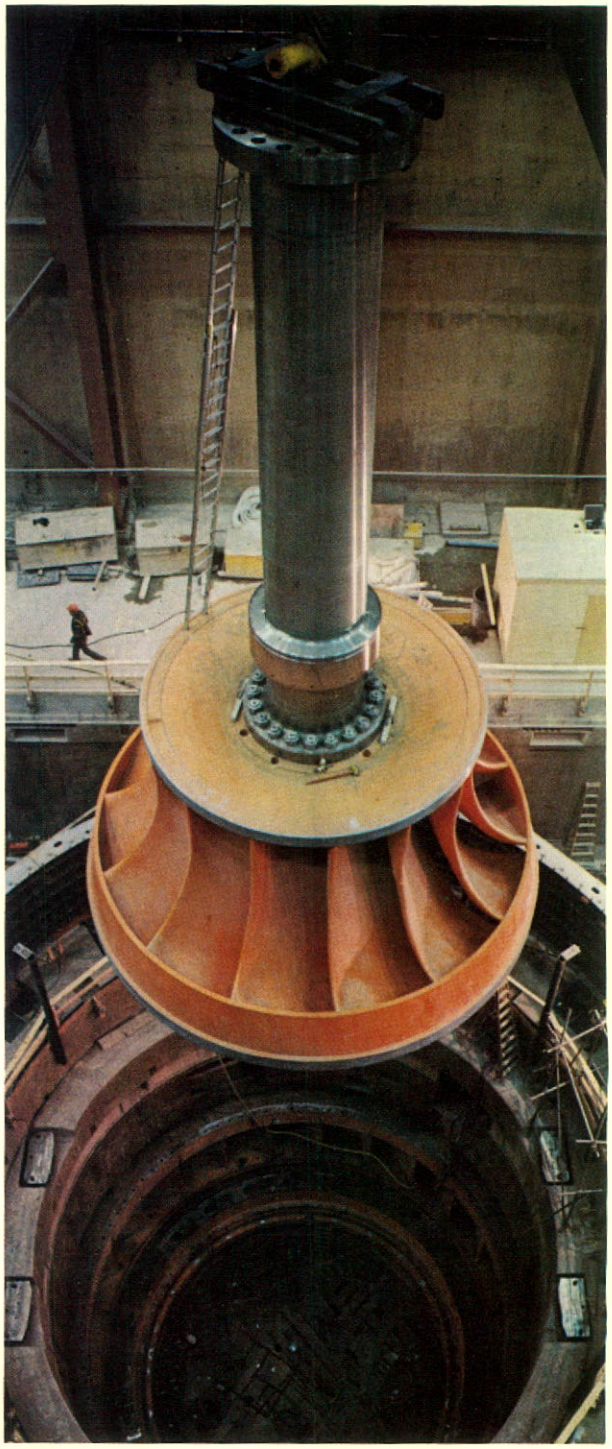
Construction activity at the Seven Mile hydroelectric project was at its peak during the year, with the labour force reaching 1 020. The dam and power plant were virtually completed. The project, on the Pend d'Oreille River about 10 km upstream of its confluence with the Columbia River, includes a concrete gravity dam 85.5 metres high and a surface powerhouse. It will have four 202 500 kW units, three of which are scheduled for service in 1980 and the fourth to be added later as required.

Transmission from the project will be provided by way of nearby Selkirk Substation to the vicinity of Kootenay Canal. Construction of Selkirk Substation is proceeding concurrently with the dam and power plant, with completion scheduled for late 1979.

The Revelstoke hydroelectric project, with an ultimate capacity of 2 700 000 kW, is scheduled to have its first three units installed in 1983 and a fourth in 1984. Two more units are to be added later, as required. The project, situated about 5 km north of Revelstoke on the Columbia River, will consist of a concrete dam 161.5 metres high and a surface powerhouse.

Fixed Assets in Service *(dollars in billions)*





Lifted from hold of Yugoslavian ship, Opatija, in July 1978, this 200-tonne runner travelled nearly 1 600 kilometres by sea, river, lake and logging road before being lowered into position in Peace Canyon powerhouse, 22.5 km downstream from W.A.C. Bennett Dam on Peace River. One of four similar Russian-made units for the project, the runner is the moving part of the turbine. Spun by the force of water falling from the reservoir, the runner is connected by its shaft to rotating component of generating unit to be installed above it.

The river was diverted in November 1978 with the closure of the upstream cofferdam. Work is progressing on two major contracts, one for cofferdams and excavations and the other for the earthfill wing of the dam. Peak labour force during the year was 1 155. At year-end, 1 400 hectares of the reservoir had been cleared and another 6 600 hectares are scheduled to be cleared before the project is placed in service.

The Conditional Water Licence for the project was reissued in consolidated form on 14 August 1978, incorporating the amendments ordered by the Provincial Cabinet appeal tribunal appointed in accordance with Section 39 of the Water Act.

In early 1979, the capacity of the high voltage, direct current interconnection from the mainland to Vancouver Island was increased by 238 000 kW, bringing the total capacity of the existing cable interconnections to 1 076 000 kW.

Design is proceeding on two 500 kV alternating current transmission circuits, between Cheekye Substation near Squamish on the mainland to Dunsmuir Substation near Qualicum Bay on Vancouver Island, to meet anticipated future growth in electric demand on the Island. These lines would introduce the first 500 kV submarine cables in the world. The first circuit is planned for service in 1983 and the second in 1984.

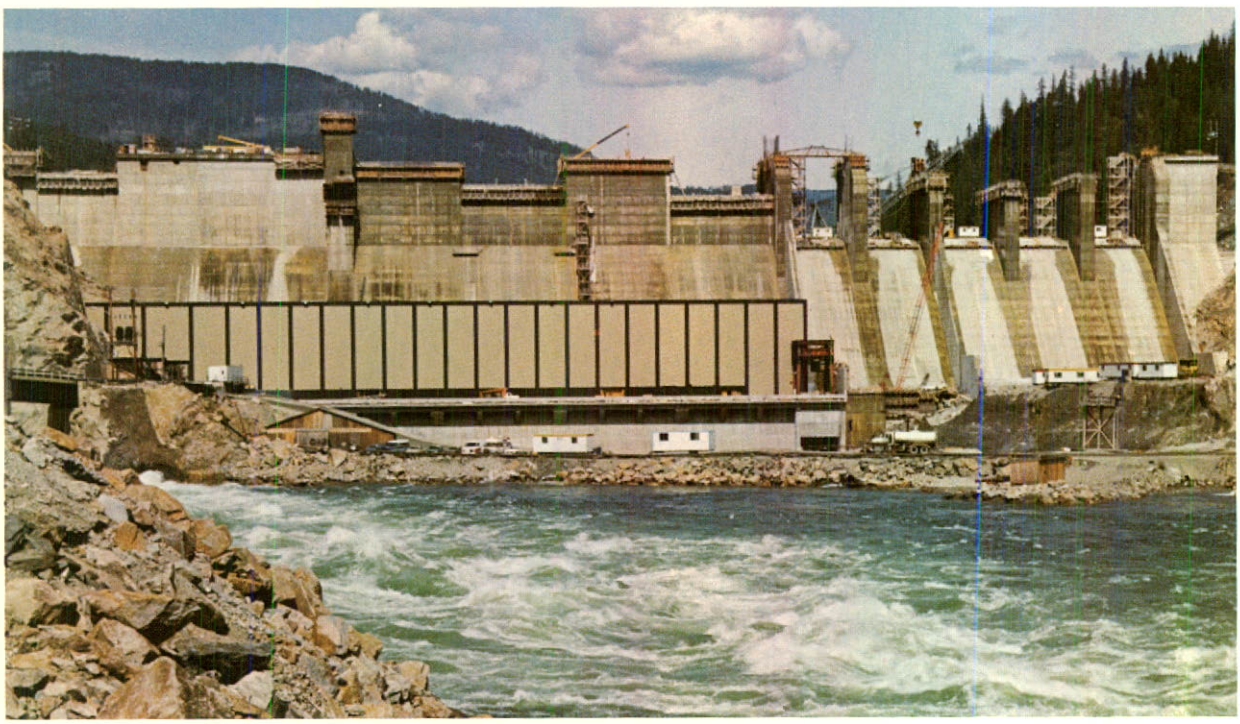
The last links of the 500 kV transmission line from Prince George to Terrace were completed during the year, joining the North Coast region to the integrated electric system.

The 59 200 kW second unit at Keogh Gas Turbine Generating Station, near Port Hardy, was placed in service, bringing that station's generating capacity to 99 700 kW. The Keogh plant provides peaking capacity for Vancouver Island and standby generation for the northern part of the Island.

In the non-integrated system, generating capacity was increased at Ahousat, Anahim Lake, Atlin, Bella Bella, Bella Coola, Dease Lake, Fort Nelson, McBride, Masset, Sandspit, Tatla Lake, Telegraph Creek and Zeballos. Valemount, which had been served by diesel power, was integrated into the system by transmission extension from Blue River.

Various substation capacities were increased and new substations installed to ensure adequate supplies of electricity where needed throughout the Province. An additional 534 km of transmission lines were placed in service, and 1 045 km of distribution lines were added to the electric system.

A total of 141 km of mains was added to the gas distribution system during the year to accommodate new customers.



A new transit centre was opened in Port Coquitlam on 18 August 1978, making it possible for a number of bus routes formerly served from the Kensington and Oakridge transit centres to begin at Port Coquitlam.

Planning and Studies

To fulfill its responsibility to meet customers' requirements for electricity, B.C. Hydro employs a planning process designed to ensure that adequate plant and related facilities will be available when needed. The process begins with preparation of load forecasts which incorporate information and advice from district operations and market specialists, plans of existing and potential large customers and general economic data. Based on these forecasts, the need for new projects is determined. Because major new projects require 10 to 15 years' lead time for planning, design, licensing and construction, detailed planning commences well in advance of anticipated need. The planning process is flexible, with projections reviewed on a continuing basis and construction plans and schedules modified where necessary. The load forecast prepared in fall 1978 estimated that demand for electricity from the B.C. Hydro system, including expected additional requirements by West Kootenay Power and Light Company Limited, would grow at an average annual rate of 6.4% during the next 11 years.

In the selection of sites for new facilities, precautions are taken to mitigate the impact on fish and wildlife, forests, agriculture, archaeology and human settlements. The enhancement of recreational facilities is also considered. To accomplish these objectives, the planning process provides the opportunity for B.C. Hydro and the public to exchange information. Participation at this stage is sought from environmental specialists, appropriate government agencies and the public at large. Various project alternatives are examined and weighed in the search for plans which satisfy environmental, technical and economic concerns.

When a major project is identified and its technical and economic feasibility established, B.C. Hydro commissions studies of environmental factors. Reports are made available to all levels of government and the public for reaction and comment. Open community meetings are held at which questions on any aspect of the project may be raised with the consultants and representatives of B.C. Hydro. Should B.C. Hydro decide to seek approval for a project, a final environmental

Left: *Most of the work force at Seven Mile power project, near Trail, is employed from the surrounding area.*

Above: *Consultants are conducting environmental studies at various potential hydroelectric sites on the Liard River.*

Right: *Encouraging results have been obtained in preliminary studies of the potential Meager Creek geothermal site in Pemberton Valley.*

impact statement is published and made available to interested parties. In this way, the public can be informed prior to public hearings held by government licensing authorities.

During the year under review, engineering and environmental studies were initiated or carried to various stages of completion for potential hydroelectric projects — Murphy Creek and Kootenay Diversion on the Columbia River, Site C on the Peace River, and various sites on the Stikine, Iskut and Liard rivers. Studies were continued of a possible coal-fired thermal generating plant at Hat Creek in the lower Cariboo. Preliminary evaluations were carried out for a potential waste coal-fired electric power plant in the East Kootenay. Studies also were conducted of potential transmission lines that may be required.

In addition to studying conventional energy sources, B.C. Hydro continued during the year to investigate unusual and developing technologies in its search for future sources of electric power. At the Meager Creek potential geothermal site in the Pemberton Valley, encouraging results were obtained in a program of drilling and geophysical surveying funded jointly by B.C. Hydro and Energy, Mines and Resources Canada. Since 1973, B.C. Hydro and the Federal Government agency have spent more than $1.3 million in complementary exploration programs at Meager Creek.

Processed wood waste, commonly known as hog fuel, was the subject of another co-operative study undertaken during the year, involving B.C. Hydro, Energy, Mines and Resources Canada and the British Columbia Council of Forest Industries. The study, which is scheduled for completion in 1979, is intended to determine the feasibility of developing a 50 000 kW hog fuel plant near Quesnel to burn waste from a number of sawmills in the area.

B.C. Hydro and Energy, Mines and Resources Canada have completed preliminary studies on three different advanced coal-conversion alternatives: production of electric power using pressurized fluidized bed combustion of coal (PFBC); production of electric power using coal gasification and production of substitute natural gas from coal. The studies indicate that further investigation should be concentrated on PFBC since this technology offers a number of potential technical, economic and environmental advantages over conventional coal-burning techniques.

Conservation of Energy

B.C. Hydro continued to provide a variety of programs to encourage and assist all classes of customers to conserve energy.

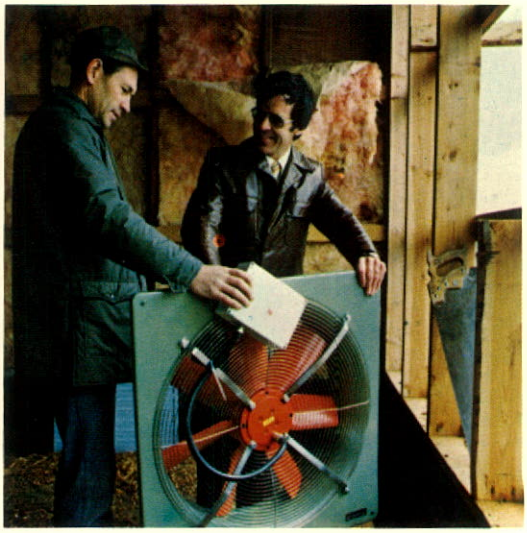
Aerial thermography was employed for the second consecutive year to help focus public attention on the need for adequate insulation. Infrared scanning flights to detect excess loss of heat were conducted over Armstrong, Kamloops, Prince George, Quesnel, Vernon, Victoria and Williams Lake. Thermograms of more than 165 000 homes and buildings in Greater Vancouver, obtained from earlier flights, were displayed and interpreted to owners to identify opportunities to improve insulation and eliminate excessive ventilation. All major centres in B.C. Hydro's service area are expected to be surveyed over the next few years.

A finance program begun in 1977 to help customers wishing to upgrade home insulation or install multiple-glazed windows also was continued. By 31 March 1979, 2 843 customers had taken advantage of the plan and a total of $1,154,750 had been financed by B.C. Hydro.

B.C. Hydro continued to provide services to assist commercial and industrial customers in conserving energy, including advising architects and contractors at the planning stage of new buildings, helping industries select energy-efficient replacement equipment and conducting surveys of lighting and audits of energy efficiency in large buildings. During the year, seminars on efficient energy management in industrial plants were given for senior managers of British Columbia companies. Farm operators and home builders and remodellers also were provided with information designed to help them use energy more efficiently.

Special programs have been initiated to foster conservation of energy by all classes of customers on Vancouver Island. One such project is an experiment using remote radio control of residential electric water heaters to reduce peak electric demand.

A number of internal programs were continued or initiated to reduce B.C. Hydro's use of energy. Lighting and thermostat levels were significantly lowered, and reviews of energy efficiency were undertaken in all B.C. Hydro buildings. The design of new buildings, including regional centres in Terrace and Victoria and district headquarters at Dawson Creek, Hope and Prince Rupert, incorporated special energy-saving features such as multiple glazing and heat pumps.



Left: *Gas industrial technician Stuart McDonald investigating the performance of a commercial boiler. Savings of up to 15% in fuel consumption have been achieved for the customer.*

Above: *Advisory services representative Danny White (left), of Courtenay, explains insulation levels to a customer.*

Above right: *Farm advisory representative Chris Dyble (right), Abbotsford, discusses efficient barn ventilation fan with a customer.*

Right: *Commercial/industrial advisory representative Roger Aitchison helps customer locate her home at thermography display in Victoria.*

Environment

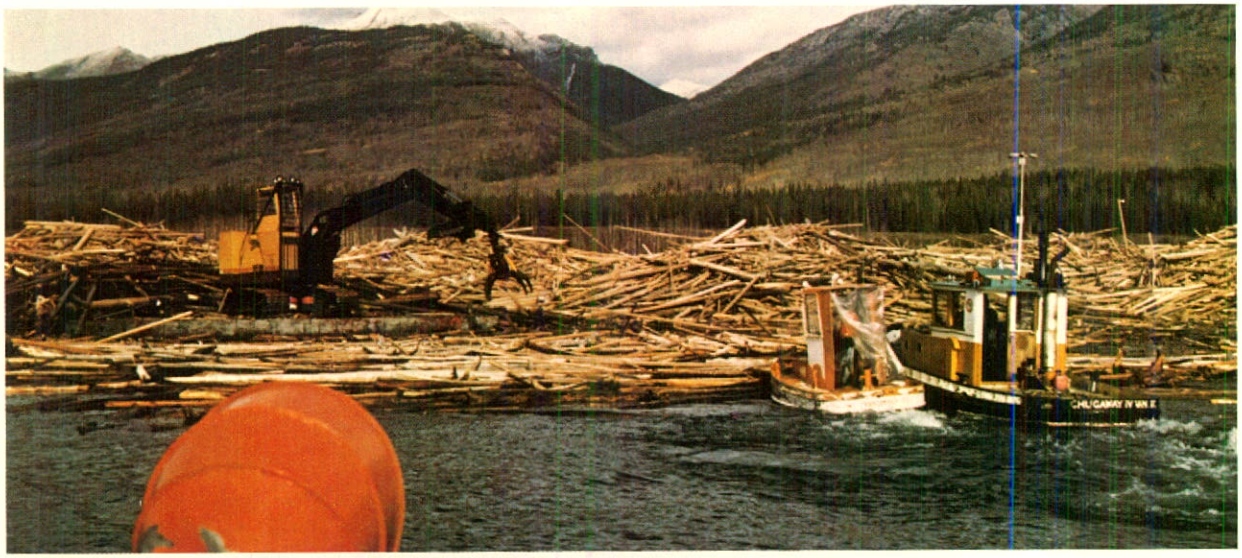
Progress continued on environmental and socio-economic impact studies of possible future major projects, and on a number of programs to mitigate adverse effects of B.C. Hydro operations on the environment.

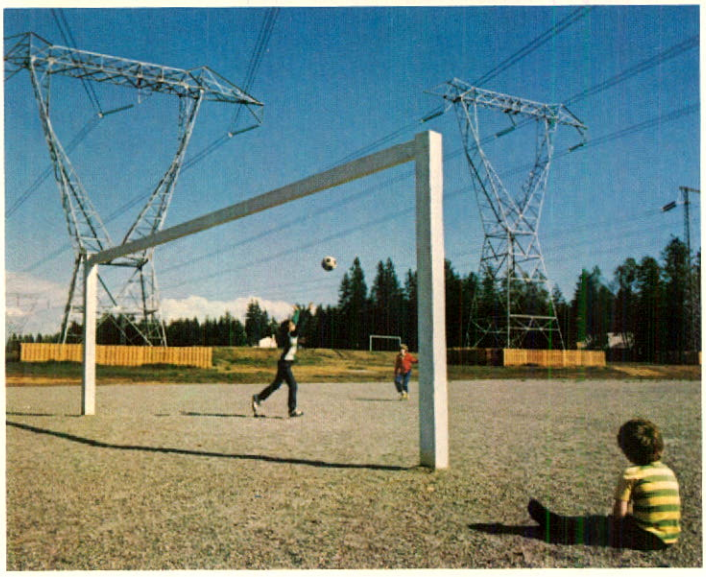
Favourable water levels and weather conditions facilitated the disposal of approximately one-third of the remaining debris in Williston Lake reservoir. Work also continued on reservoir clearing programs at Carpenter, Duncan, McNaughton and Stave lakes.

Substation facilities installed in established residential, commercial or rural settings during the year were enclosed within buildings where possible or built to low profiles and screened by landscaping. Design was completed for an underground substation in downtown Vancouver, which is expected to be the first such installation in Canada. The City of Vancouver plans to develop a park on the street-level roof of the substation.

Multiple use of transmission line rights-of-way for pursuits such as agriculture and recreation continued to be encouraged. During the year, soccer fields were developed and a two-hectare park was established on 500 kV rights-of-way.

B.C. Hydro cooperated in a number of programs under the Provincial Power and Telephone Line Beautification Fund Act to remove overhead distribution lines and place the circuits underground, including downtown beautification projects initiated by the cities of Chilliwack and Kamloops. Of the new distribution lines placed in service during the year, 161 km were placed underground.





Left: *Soccer field at Langley is located on 500 kV transmission line right-of-way.*

Above: *Disposal crews were able to remove one-third of the remaining debris on Williston Lake during 1978 due to favourable water and weather conditions.*

Right: *Lineman Larry Nichol, Abbotsford, demonstrates dangers of electricity to elementary school class, as part of Be Electrically Alert safety program.*

Communications

B.C. Hydro has intensified its communications with customers and the public in an effort to bring about a better understanding of its policies and objectives, particularly as they relate to the use of energy in British Columbia.

A number of films are being produced on existing and potential alternative sources of energy. A new 32-page publication, Power Perspectives '79, which describes B.C. Hydro's approach in planning to meet customers' present and future requirements for electricity, was produced during the year.

In addition to placing a variety of television, radio and newspaper advertisements concerning efficient management of energy, B.C. Hydro introduced a bimonthly leaflet, Service Digest, to provide all residential customers with useful information on such subjects as energy conservation, safety and alternative sources of energy.

A variety of educational programs related to safety were developed for use in schools. New filmed and printed material with the theme "Be Electrically Alert," directed primarily at children in grades two to eight, was seen by a large number of audiences in schools throughout B.C. Hydro's service area.

During the year, B.C. Hydro initiated development of an educational program to help teachers in both elementary and secondary schools address questions on energy. Assistance is being recruited from teachers and others interested in energy for the preparation of suitable classroom material, which is expected to be available for schools beginning in fall 1979.

A major focus during the past four years has been communication with residents and representatives of areas that would be affected by potential new B.C. Hydro projects. Some 300 meetings with government bodies and the public have been attended by B.C. Hydro officials, engineers and consultants during this period.

Research and Development

Construction of a new research and development centre in Surrey, which will consolidate and expand existing facilities, proceeded on schedule towards a planned completion in late 1979. The new centre, estimated to cost $15 million, will enable B.C. Hydro to test high-voltage equipment, which at present must be sent to Eastern Canada or outside the country. It also will permit more effective evaluation of material and equipment, provide special test programs not currently available in Western Canada and allow more sophisticated research and development projects in cooperation with other Canadian utilities. The new centre will include a solar water heating system, which is expected to provide 25% of the facility's hot water needs. In conjunction with this system, a research program will be carried out to assess the efficiency and long-term performance of various types of designs of solar collectors. Meanwhile, B.C. Hydro is monitoring more than 20 solar installations in the Province, including one of its own which supplies part of the hot water requirements at the natural gas headquarters in Burnaby.

B.C. Hydro also participates in joint research programs of the Canadian Electrical Association, which permit maximum utilization of the funds available to Canadian utilities for research by avoiding duplication, and conducts investigations under contract to the CEA and other organizations. Matters studied under contract to the CEA during the year included projects to determine the on-line efficiency of hydroelectric generation and to improve techniques for reclaiming used insulating oils.

Employees

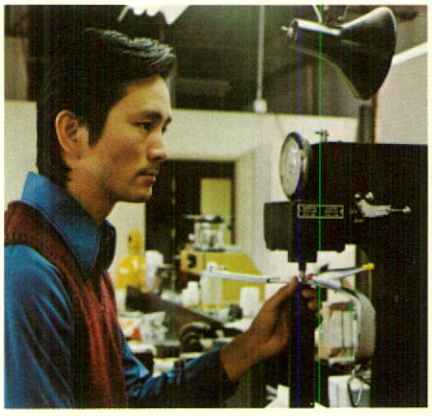
B.C. Hydro's personnel development policy encourages employees to improve their skills through internal and external training courses and career counselling. More than 2 500 employees took advantage of such training and counselling sessions during the year.

A steering committee to ensure equal opportunities for men and women reviews hiring and promotional practices throughout B.C. Hydro.

B.C. Hydro continued its internal apprenticeship training program involving eight electrical trades while also providing training, under contract to the Provincial ministries of Labour and Education, Science and Technology, for all linemen apprentices in British Columbia.

Emphasis on safety continued, and special British Columbia Safety Council awards for accident-free records were made to Queen Charlottes district staff, metropolitan Vancouver vehicle garage staff and a Prince George distribution construction crew.

The Federal anti-inflation program continued to influence the collective bargaining process, but in most cases, where the terms of settlement were for more than one year, only the first year was subject to Anti-Inflation Board guidelines. Eight agreements were reached during the year, all requiring at least partial Anti-Inflation Board approval. Agreements covered periods of 12 to 24 months, and settlement levels were generally 6% in the first year and 4% in the second year or portion. The ultimate annual impact on operating costs of these settlements is estimated at $14 million.



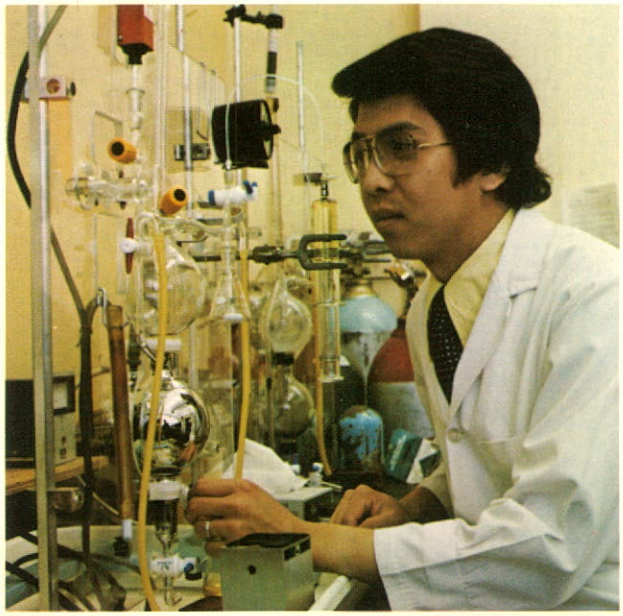
Above: *Metallurgical technologist Dave Kung, Vancouver.*

Right: *Senior paint technician John Inch, Vancouver.*

Contracts with all major bargaining units had expired by 1 April 1979. B.C. Hydro anticipates a difficult year for collective bargaining.

Only a nominal increase in the number of regular employees was recorded during the year under review, reflecting the continuation of a program for controlling staff additions which was instituted in 1976.

A total of 200 employees retired on pension during the year, of whom 16 had each accumulated 40 or more years' service.



Above: *Senior cashier Rhoda Chilton, Victoria.*
Top right: *Chemical technician John Sy, Vancouver.*
Centre right: *Meter shop helper Stan Milum, Vernon.*
Right: *Telecontrol technician Grieg Wilke, Terrace.*

Corporate Organization

Board of Directors

The Directors of B.C. Hydro are appointed by the Lieutenant-Governor-in-Council of the Province of British Columbia. As at 31 March 1979, there were four Directors, including two members of the Provincial Cabinet.

On 6 April 1978, the Honourable Evan M. Wolfe replaced the Honourable John Davis, and served as a Director until 5 December 1978. On 5 December 1978, following the appointment of the Honourable James J. Hewitt as Minister of Energy, Mines and Petroleum Resources and also as Minister responsible for B.C. Hydro, he and the Honourable Patrick L. McGeer were appointed Directors of B.C. Hydro.

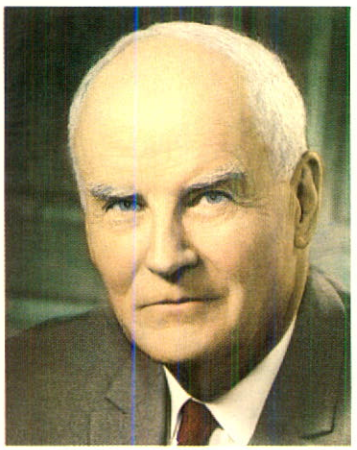
Mr. John H. Steede served as a Director until his death on 14 November 1978.

Mr. Robert W. Bonner, Q.C., Chairman, and Mr. Charles W. Brazier, Q.C., served as Directors throughout the year.

Senior Management

On 9 June 1978, the Board of Directors appointed J. Norman Olsen to the position of President and Chief Operating Officer. In addition the following appointments were made: John P. Sheehan, Vice-President, Administration and Finance; Charles W. Nash, Vice-President, Corporate Affairs; William A. Best, Vice-President, Electrical Operations; Eric H. Martin, Vice-President, Engineering; R. Keith Kidd, Vice-President, Gas Operations and Energy Conservation; William A. Duncan, Vice-President, Transportation; William D. Mitchell, Vice-President and General Counsel and William M. Walker, Vice-President and Chief Engineer. The appointments were a redesignation of officers and did not involve changes in responsibilities.

Mr. Duncan retired on 31 March 1979, after 40 years and 6 months service with B.C. Hydro and its predecessor. Lawrence E. Wight was appointed Vice-President, Transit, effective 1 April 1979.



John H. Steede

A distinguished career, spanning more than half a century in the electric utility industry of British Columbia, ended on 14 November 1978 with the death of John H. Steede at the age of 74.

Mr. Steede was a man of integrity and outstanding personal and professional standards. His contribution to the industry was likely unparalleled in the Province and widely recognized across Canada and in many parts of the United States.

Mr. Steede joined B.C. Hydro's predecessor, B.C. Electric, in 1925, following his graduation from the University of British Columbia with a bachelor's degree in applied science and electrical engineering. He rose through the ranks to become Vice-President and Chief Engineer in 1958.

With formation of B.C. Hydro in 1962, Mr. Steede became Manager, Engineering Division as well as Chief Engineer. He was appointed an Executive Director in 1967 and retained the position until 1974. He was a Director of B.C. Hydro from 1967 until his death.

In 1962, Mr. Steede was elected as a Fellow of the Institute of Electrical and Electronics Engineers. He was a member of the Association of Professional Engineers of British Columbia and a former member of that association's council. He also was active in many other professional and community groups.

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 1979, and the statements of income and earnings employed in the business and changes in financial position for the year then ended and the statement of bonds and debentures as at 31 March 1979. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

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

Vancouver, British Columbia
25 May 1979

PRICE WATERHOUSE & CO.
Chartered Accountants

Statement of Income and Earnings Employed in the Business

for the year ended 31 March 1979

	1979	1978
	(in thousands)	
Revenues *(Note 7)*	**$904,036**	$801,843
Expenses:		
Salaries, wages and employee benefits	**212,592**	202,018
Materials and services	**178,985**	153,857
Grants, school taxes and water rentals	**67,536**	54,300
Depreciation	**110,157**	99,960
Interest *(Note 8)*	**286,143**	264,208
	855,413	774,343
Net income for the year	**48,623**	27,500
Earnings employed in the business:		
At beginning of year	**228,720**	201,220
At end of year	**$277,343**	$228,720

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

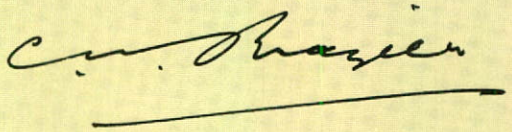
Balance Sheet

as at 31 March 1979

	1979	1978
	(in thousands)	
FIXED ASSETS:		
Fixed assets in service, at cost	**$5,339,303**	$4,920,538
Less—		
Accumulated depreciation	**980,507**	877,938
	4,358,796	4,042,600
Unfinished construction	**1,030,256**	750,819
	5,389,052	4,793,419
CURRENT ASSETS:		
Cash	**1,439**	6,005
Temporary investments, at cost *(Note 2)*	**392,484**	514,632
Accounts receivable and unbilled revenues	**166,722**	151,702
Materials and supplies, at average cost	**49,572**	55,485
Prepaid expenses	**2,022**	2,564
	612,239	730,388
OTHER ASSETS:		
Mortgages and other deferred accounts receivable	**3,468**	4,258
Insurance fund	**5,000**	5,000
Payment in respect of litigation *(Note 3)*	**—**	36,500
Unamortized discount and expense on bonds and debentures	**28,706**	28,169
	37,174	73,927
	$6,038,465	$5,597,734

APPROVED BY THE DIRECTORS:

Robert W. Bonner, Q.C., Director



Charles W. Brazier, Q.C., Director

	1979	1978
	(in thousands)	
LONG-TERM LIABILITIES:		
Bonds and debentures, per statement *(Note 4)*	**$4,739,482**	$4,337,463
Deferred liabilities	**35,270**	34,898
	4,774,752	4,372,361
PARITY DEVELOPMENT BONDS, payable on demand *(Notes 4 and 5)*	**50,000**	75,000
CURRENT LIABILITIES:		
Bank indebtedness	**12,674**	8,209
Accounts payable	**201,230**	203,558
Accrued interest	**122,788**	111,229
Bond and debenture payments due within one year—		
Sinking fund instalments	**48,100**	44,180
Maturities, less sinking fund	**—**	7,341
	384,792	374,517
CONTRIBUTIONS ARISING FROM COLUMBIA RIVER TREATY	**423,826**	433,039
CONTRIBUTIONS IN AID OF CONSTRUCTION	**127,752**	114,097
EARNINGS EMPLOYED IN THE BUSINESS	**277,343**	228,720
COMMITMENTS *(Note 9)*		
	$6,038,465	$5,597,734

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

Statement of Changes in Financial Position

for the year ended 31 March 1979

	1979	1978
		(in thousands)
SOURCE OF FUNDS:		
Operations—		
Net income for the year	**$ 48,623**	$ 27,500
Charges not affecting current funds:		
Depreciation	**110,157**	99,960
Other	**1,019**	858
	159,799	128,318
Bonds	**473,722**	799,598
Contributions in aid of construction	**18,815**	21,855
Return of payment in respect of litigation *(Note 3)*	**36,500**	—
Miscellaneous	**2,610**	12,294
	$691,446	$962,065
APPLICATION OF FUNDS:		
Fixed assets	**$721,611**	$641,120
Sinking funds—		
Instalments	**43,771**	42,777
Income *(Note 8)*	**25,568**	20,102
Retirement of bonds and debentures	**7,341**	39,892
Retirement of Parity Development Bonds	**25,000**	25,000
	823,291	768,891
INCREASE (DECREASE) IN WORKING CAPITAL exclusive of changes in current portion of bonds and debentures	**(131,845)**	193,174
	$691,446	$962,065

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

Statement of Bonds and Debentures

as at 31 March 1979

Interest Rate %	Series	Date of Maturity		1979	1978
				(in thousands)	
PAYABLE IN CANADIAN CURRENCY:					
Issued by British Columbia Hydro and Power Authority—					
Bonds:					
3¼	B	1 October	1979	$ 10,000	$ 10,000
9¾	EH	16 December	1981	100,000(1)	100,000(1)
8⅞	DT	2 January	1982	25,000	25,000
5¼	A	1 May	1982	32,496	32,496
9¾	DV	3 December	1982	100,000	100,000
8⅝	DW	19 February	1985	100,000(2)	100,000(2)
5.46	W-A	1 February	1987	80,396	80,396
5.71	W-B	1 February	1988	95,001	95,001
6.68	W-C	3 February	1989	65,862	65,862
7.32	WD	2 September	1989	68,396	68,396
7.77	WE	2 March	1991	110,949	110,949
5¾	U	18 April	1991	40,000	40,000
5¾	X	1 July	1991	5,000	5,000
6¼	AG	1 December	1991	20,000	20,000
7.10	WF	2 March	1992	109,182	109,182
6	AJ	15 March	1992	25,000	25,000
6	BA	29 May	1992	2,500	2,500
6.10	AL-A	2 July	1992	10,000	10,000
6¼	AM	4 July	1992	25,000	25,000
6¼	BB	19 July	1992	4,000	4,000
6½	AP	1 November	1992	20,000	20,000
6¾	BC	1 February	1993	10,200	10,200
6¾	Z-S	15 February	1993	3,300	3,300
6¾	Z-T	15 February	1993	4,200	4,200
5	C	1 March	1993	15,000	15,000
7.33	WG	9 March	1993	73,847	73,847
6⅞	AR	29 March	1993	10,000	10,000
5¼	D	1 May	1993	25,000	25,000
5¼	F	1 June	1993	10,000	10,000
7¼	AS	1 June	1993	10,000	10,000
7¼	BD	2 July	1993	5,500	5,500
7	AU	5 August	1993	10,000	10,000
7	AV	1 October	1993	10,000	10,000
5¼	G	15 October	1993	15,000	15,000
7	BE	1 December	1993	12,800	12,800
7	Z-G	15 December	1993	7,000	7,000
5¼	H	15 December	1993	10,000	10,000
5¼	J	1 March	1994	10,000	10,000
7.54	WH	4 March	1994	91,105	91,105
7½	AW	31 March	1994	10,000	10,000
7½	AX	2 June	1994	25,000	25,000
5¼	L	2 July	1994	10,000	10,000
7⅝	AY	1 October	1994	30,000	30,000
8	CA	1 December	1994	10,000	10,000
5¼	M	15 December	1994	20,000	20,000
8	CB	30 December	1994	15,000	15,000
8.78	WJ	7 February	1995	66,609	66,609
5¼	N	15 March	1995	10,000	10,000
8	CC	31 March	1995	20,000	20,000
8	CD	31 March	1995	5,000	5,000
9½	ET	1 June	1995	25,000	—
8.92	WK	2 July	1995	26,546	26,546
	Carried forward			$1,654,889	$1,629,889

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

STATEMENT OF BONDS AND DEBENTURES *(Continued)*

as at 31 March 1979

Interest Rate %	Series	Date of Maturity		1979	1978
				(in thousands)	
	Brought forward			**$1,654,889**	$1,629,889
8	CE	1 August	1995	**10,000**	10,000
5 3/8	S	15 September	1995	**10,000**	10,000
7.54	CF	30 December	1995	**15,000**	15,000
6.90	CH	30 March	1996	**10,000**	10,000
6.90	CJ	30 March	1996	**20,000**	20,000
7.25	CK	1 October	1996	**20,000**	20,000
7.25	CL	1 October	1996	**5,000**	5,000
6.93	CM	15 December	1996	**20,000**	20,000
6.93	CN	15 December	1996	**5,000**	5,000
6.90	CP	1 March	1997	**7,000**	7,000
7.38	CR	15 June	1997	**10,000**	10,000
7.76	CT	3 November	1997	**25,000**	25,000
8.95	WL	10 November	1997	**40,353**	40,353
7.76	CU	15 November	1997	**4,000**	4,000
7.63	CV	15 December	1997	**5,000**	5,000
7.63	CW	15 December	1997	**25,000**	25,000
10 3/4	EB	29 December	1997	**29,000**	29,000
7.48	CX	30 March	1998	**25,000**	25,000
9.40	VF	10 April	1998	**16,897**	—
9.49	VG	10 May	1998	**18,905**	—
9.41	VH	9 June	1998	**16,031**	—
8	CZ	3 July	1998	**20,000**	20,000
8	DA	1 September	1998	**30,000**	30,000
8 1/8	DB	1 November	1998	**13,000**	13,000
8 1/8	DC	1 November	1998	**7,000**	7,000
8.30	DD	1 December	1998	**7,000**	7,000
8.30	DE	15 December	1998	**5,000**	5,000
8.30	DF	15 December	1998	**15,000**	15,000
8.55	DG	15 February	1999	**15,000**	15,000
8.55	DH	15 February	1999	**5,000**	5,000
8.70	DJ	29 March	1999	**25,000**	25,000
8.70	DK	29 March	1999	**5,000**	5,000
9.45	DL	15 May	1999	**25,000**	25,000
9.45	DM	15 May	1999	**5,000**	5,000
10 1/2	DR	30 August	1999	**12,000**	12,000
10.40	DS	15 October	1999	**15,000**	15,000
10	DU	2 January	2000	**50,000**	50,000
9 3/4	DZ	10 February	2000	**10,000**	10,000
9 7/8	DX	1 May	2000	**45,000**	45,000
10 1/2	EE	18 August	2000	**10,000**	10,000
10 1/2	ED	1 September	2000	**50,000**	50,000
10	EC	15 October	2000	**50,000(3)**	50,000(3)
10	EF	17 February	2001	**50,000**	50,000
10 3/8	EG	29 March	2001	**60,000**	60,000
9	EL	24 January	2002	**50,000**	50,000
9 1/2	EO	2 June	2002	**100,000**	100,000
9 1/4	EP	15 August	2002	**100,000**	100,000
9 1/4	EQ	1 November	2002	**75,000**	75,000
9 3/8	ER	15 December	2002	**100,000**	100,000
9 3/4	ES	1 March	2003	**100,000**	100,000
9 3/4	EU	5 July	2003	**150,000**	—
10	EV	1 December	2003	**150,000**	—
10 1/4	EW	15 February	2004	**100,000**	—
	Carried forward			**$3,446,075**	$2,969,242

Interest Rate %	Series	Date of Maturity		1979	1978
				(in thousands)	
	Brought forward			**$3,446,075**	$2,969,242
Issued by the former British Columbia Electric Company Limited—					
First Mortgage Bonds, after deducting bonds redeemed in accordance with sinking fund requirements:					
4¾	"I"	1 February	1979	—	7,341
3¾	"J"	1 June	1980	**7,761**	8,199
4¼	"K"	1 February	1981	**14,996**	15,982
5	"L"	1 February	1982	**20,687**	22,114
5⅛	"M"	2 January	1988	**25,395**	27,468
5½	"N"	1 March	1989	**16,496**	17,683
6½	"O"	1 April	1990	**18,865**	19,943
5¾	"P"	1 May	1991	**9,743**	10,275
4	"F"	1 July	1991	**881**	1,087
Perpetual Callable Bonds:					
4				**179**	183
4¼				**67**	70
4½				**92**	96
4¾				**262**	274
5				**247**	260
5½				**145**	161
25-year Callable Bonds:					
4	AA	1 August	1986	**11,821**	11,817
4¼	AB	1 August	1986	**10,933**	10,930
4½	AC	1 August	1986	**14,908**	14,904
4¾	AD	1 August	1986	**26,151**	26,140
5	AE	1 August	1986	**24,753**	24,740
5½	AF	1 August	1986	**14,855**	14,839
Issued by the former British Columbia Power Commission—					
Bonds:					
5	MC	15 September	1982	**5,149**	5,149
3¾	C	15 September	1991	**3,000**	3,000
4	D	21 May	1992	**1,000**	1,000
4	E	15 June	1992	**1,000**	1,000
4	F	15 September	1992	**1,500**	1,500
5	MD	15 September	1992	**18,724**	18,724
5	N	15 September	1992	**10,000**	10,000
Total payable in Canadian currency				**3,705,685**	3,244,121
	Carried forward			**$3,705,685**	$3,244,121

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY
STATEMENT OF BONDS AND DEBENTURES *(Continued)*
as at 31 March 1979

Interest Rate %	Series	Date of Maturity		1979	1978
					(in thousands)
	Brought forward			**$3,705,685**	$3,244,121
PAYABLE IN UNITED STATES CURRENCY:					
Issued by British Columbia Hydro and Power Authority—					
Bonds:					
7 3/4	EM	15 May	1985	**75,000**	75,000
5 5/8	Y	2 July	1991	**40,000**	41,250
5 7/8	AH	2 January	1992	**50,000**	50,000
6 1/4	AK	1 June	1992	**50,000**	50,000
9 5/8	EJ	15 July	1996	**500,000**	500,000
10 1/4	DN	1 October	1999	**100,000**	100,000
9 5/8	DY	1 June	2005	**150,000**	150,000
8 5/8	EK	1 December	2006	**175,000**	175,000
8 3/8	EN	15 June	2007	**200,000**	200,000
Issued by the former British Columbia Power Commission—					
Bonds:					
4	G	1 November	1988	**10,000**	10,000
3 1/4	H	15 July	1989	**6,300**	6,300
Debentures:					
3 3/4	K	15 June	1986	**20,000**	20,000
4 3/8	L	15 April	1987	**25,000**	25,000
3 7/8	P	1 February	1988	**20,000**	20,000
Total payable in United States currency				**1,421,300**	1,422,550
Exchange premium at date of issue				**16,554**	16,648
				1,437,854	1,439,198
Total bonds and debentures outstanding				**5,143,539**	4,683,319
Less—					
Sinking funds on deposit with Trustee, Minister of Finance for the Province of British Columbia				**355,957**	294,335
				4,787,582	4,388,984
Less—					
Bond and debenture payments due within one year:					
Sinking fund instalments				**48,100**	44,180
Maturities, less sinking fund				**—**	7,341
				48,100	51,521
				$4,739,482	$4,337,463

(1) $50,000,000 payable 16 December 1980 (selected by lot).
(2) $50,000,000 payable 19 February 1984 (selected by lot).
(3) Redeemable at option of holder on 15 October 1983.

Total maturity and sinking fund requirements for the years ending 31 March 1981 to 1984 amount to $93,300,000, $139,200,000, $161,200,000 and $135,500,000 respectively.

Notes to Financial Statements

as at 31 March 1979

Note 1 — Significant accounting policies:

The accounting policies of B.C. Hydro conform to accounting principles generally accepted in Canada for public utilities. A description of significant accounting policies follows.

Fixed assets and depreciation—

Fixed assets consist principally of land, 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.

Fixed assets include the cost of plant financed by contributions in aid of construction and contributions arising from the Columbia River Treaty. Contributions in aid of construction, which include grants for rural electrification from the Government of the Province of British Columbia and amounts paid by customers towards construction of plant, are being amortized over the estimated service lives of the related assets, and the credit resulting therefrom is offset against the corresponding provision for depreciation. Contributions arising from the Columbia River Treaty are being amortized over the remaining term of the Treaty, which expires in 2025, and the credit resulting therefrom is offset against and is equal to the annual provision for depreciation of the related assets.

B.C. Hydro charges interest to unfinished construction at rates equivalent to the cost of borrowing funds.

The depreciation policy of B.C. Hydro is to charge the original cost of fixed assets to income over the estimated service lives of the assets. Depreciation is provided on all depreciable assets in service at the beginning of each year and is computed on the straight-line method. Composite rates by service were as follows—

	1979	1978
	(%)	*(%)*
Electric	**2.56**	2.55
Gas	**2.65**	2.60
Passenger transportation	**4.09**	4.15
Rail freight	**3.20**	3.11

Non-owned equipment—

Approximately 33% (32% at 31 March 1978) of the buses and trolley coaches operated and maintained by B.C. Hydro, as well as the two Burrard Inlet ferries and associated terminals, are provided by the Provincial Government without charge. (See Note 10.)

Insurance—

B.C. Hydro generally follows a policy of self-insurance for damage to plant and equipment and for general liability, and any losses incurred are charged to income. An insurance fund of $5,000,000, invested in government and municipal bonds and short-term deposits with financial institutions, is maintained to provide funding for uninsured losses up to that amount. To protect against losses in excess of $5,000,000, B.C. Hydro carries catastrophe insurance which provides coverage up to $100,000,000.

Insurance coverage on major projects under construction is purchased either by B.C. Hydro or by its contractors as required by B.C. Hydro. Fire insurance coverage on certain plant and equipment is also purchased to comply with trust deed requirements. Motor buses, trolley coaches, service vehicles and the Burrard Inlet ferries are insured for public liability.

Unamortized discount and expense on bonds and debentures—

These costs are amortized by charges to income over the life of the respective issues.

Rural electrification assistance grant—

B.C. Hydro receives an annual grant of $3,000,000 from the Provincial Government for rural electrification assistance. These funds are used to offset operating losses of electric systems purchased or constructed in isolated areas with such funds and to improve and extend electric service in rural areas.

Foreign exchange—

The liability for bonds and debentures payable in United States currency is translated to Canadian currency at the rates of exchange prevailing at the date the debt was incurred. Translated at the rates prevailing at 31 March 1979, the liability for bonds and debentures

payable in United States currency would have been increased by approximately $210,000,000 (1978 — $174,000,000). Current assets and current liabilities in United States currency, including bonds and debentures payable within one year, are translated at the rate of exchange prevailing at the date of the balance sheet. Foreign exchange adjustments are included in income.

Note 2 — Temporary investments:

	1979	1978
	(in thousands)	
Deposits with banks and other financial institutions . .	**$265,014**	$330,650
Notes of banks and other financial institutions	**123,282**	177,861
Bonds held for sinking fund	**4,188**	6,121
	$392,484	$514,632

Note 3 — Payment in respect of litigation:

The lawsuit started on 17 July 1967 in the Supreme Court of British Columbia by the contractors constructing the underground powerhouse and associated works at Gordon M. Shrum Generating Station, alleging breach of contract, was settled on 4 August 1978 by direct payment to the contractors of $33,950,000. The $36,500,000 previously paid into Court by B.C. Hydro was then returned.

Note 4 — Guarantee by Province of British Columbia:

The Government of the Province of British Columbia has unconditionally guaranteed the principal of and premium, if any, and interest on the bonds, debentures and Parity Development Bonds.

Note 5 — Parity Development Bonds:

	1979	1978
	(in thousands)	
8½% Series CY due 3 August 1978 . . .	**$ —**	$25,000
8½% Series DP due 1 September 1979	**25,000**	25,000
8½% Series EA due 1 September 1980	**25,000**	25,000
	$50,000	$75,000

Note 6 — Pension Plans:

Employees of B.C. Hydro are covered under contributory pension plans, and provisions are being made for current service according to the requirements of the various plans.

B.C. Hydro is funding the estimated past service costs of a contributory plan introduced effective 1 January 1965 by equal annual payments of $394,000 over a period of 15 years which commenced 1 April 1967. Actuarial reports received subsequently indicated an evaluated accrued deficit in the plan of $41,057,000 at 31 December 1974, largely resulting from changes in the plan, and an additional $3,000,000 at 31 December 1976, relating primarily to indexed supplements to be paid to existing pensioners. The former deficit is being funded by equal annual payments of $3,061,000 over a period of 25 years which commenced with the year ended 31 March 1976. The additional deficit is estimated to be approximately $8,500,000 at 31 March 1979.

The charge to income in respect of pension plans, including provision for supplementary payments and B.C. Hydro's share of Canada Pension Plan costs, for the year ended 31 March 1979 was $15,579,000 (1978 — $14,930,000).

Note 7 — Sales of surplus electricity to the United States:

Revenues for the year ended 31 March 1979 include $34,500,000 from sales of surplus electricity to the United States (1978 — $77,700,000).

Note 8 — Interest:

	1979	1978
	(in thousands)	
Interest on bonds and debentures . .	**$424,556**	$366,126
Amortization of discount and expense	**2,574**	2,419
Interest charged to construction	**(72,790)**	(50,472)
	354,340	318,073
Less—		
Income from sinking fund investments held by Trustee	**25,568**	20,102
Income from temporary investments . . .	**42,629**	33,763
	68,197	53,865
	$286,143	$264,208

Note 9 — Commitments:

Purchase commitments and contracts of B.C. Hydro for capital projects aggregated approximately $552,000,000 at 31 March 1979.

Note 10 — Passenger transportation:

In 1978, the British Columbia Legislative Assembly enacted the Urban Transit Authority Act, establishing the Urban Transit Authority as a new corporation to provide and maintain urban passenger transportation systems in the Province, and the Provincial Government has announced its intention to remove the urban transit function from B.C. Hydro.

Notes continued on next page

Note 11 — Segment information:

B.C. Hydro is engaged in the operation of four principal services: generation, transmission and distribution of electricity; distribution of gas; operation of passenger transportation systems; and operation of a railway freight system.

Intersegment revenues, derived from electric, gas and transportation services provided to other segments, are accounted for on the same basis as comparable revenues earned from sales to the public and are eliminated in arriving at the combined operating results.

Most expenses are directly attributable to specific segments. Common expenses are allocated among the segments using appropriate bases established by regular review and analysis.

Identifiable assets are those assets that are used in each segment's operations. Corporate assets are principally temporary investments and unamortized discount and expense on bonds and debentures.

Year ended 31 March 1979 *(in millions)*	Electric	Gas	Passenger Transportation *(Note 10)*	Rail Freight	Sundry	Eliminations	Combined
Revenues from sales to public *(Note 7)*	$ 668.8	$ 170.1	$ 43.2	$20.7	$ 1.2	$ —	$ 904.0
Intersegment revenues	4.0	.4	1.6	—	—	(6.0)	—
Total revenues	672.8	170.5	44.8	20.7	1.2	(6.0)	904.0
Expenses:							
Salaries, wages and employee benefits	102.3	20.8	81.7	9.1	—	(1.3)	212.6
Materials and services	55.8	106.7	16.4	4.8	—	(4.7)	179.0
Grants, school taxes and water rentals	61.3	3.7	1.1	1.4	—	—	67.5
Depreciation	97.6	7.4	3.9	1.3	—	—	110.2
Total expenses	317.0	138.6	103.1	16.6	—	(6.0)	569.3
Operating income before interest	355.8	31.9	(58.3)	4.1	1.2	—	334.7
Interest charges *(Note 8)*	322.8	23.4	3.8	3.4	.9	—	354.3
Interest income *(Note 8)*	(62.3)	(4.5)	(.7)	(.7)	—	—	(68.2)
Interest charged to operations	260.5	18.9	3.1	2.7	.9	—	286.1
Net income (loss) for the year	$ 95.3	$ 13.0	$ (61.4)	$ 1.4	$ .3	$ —	$ 48.6
Identifiable assets as at 31 March 1979	$5,210.0	$ 287.0	$ 43.7	$52.0	$11.5	$ —	$5,604.2
Corporate assets as at 31 March 1979							434.3
Total assets as at 31 March 1979							$6,038.5
Expenditures on fixed assets	$ 686.1	$ 24.2	$ 3.1	$ 7.4	$ .8	$ —	$ 721.6

Note 11 — Segment information *(Continued)*:

Year ended 31 March 1978 *(in millions)*	Electric	Gas	Passenger Transportation *(Note 10)*	Rail Freight	Sundry	Eliminations	Combined
Revenues from sales to public *(Note 7)*	$ 609.8	$135.9	$ 37.5	$18.3	$ .3	$ —	$ 801.8
Intersegment revenues	3.2	.3	1.3	—	—	(4.8)	—
Total revenues	613.0	136.2	38.8	18.3	.3	(4.8)	801.8
Expenses:							
Salaries, wages and employee benefits	97.8	19.8	77.2	8.2	—	(1.0)	202.0
Materials and services	51.0	85.3	16.7	4.6	—	(3.8)	153.8
Grants, school taxes and water rentals	49.6	2.9	.9	.9	—	—	54.3
Depreciation	90.0	6.3	2.7	1.0	—	—	100.0
Total expenses	288.4	114.3	97.5	14.7	—	(4.8)	510.1
Operating income before interest	324.6	21.9	(58.7)	3.6	.3	—	291.7
Interest charges *(Note 8)*	291.5	20.5	3.1	2.2	.8	—	318.1
Interest income *(Note 8)*	(49.5)	(3.5)	(.5)	(.4)	—	—	(53.9)
Interest charged to operations	242.0	17.0	2.6	1.8	.8	—	264.2
Net income (loss) for the year	$ 82.6	$ 4.9	$(61.3)	$ 1.8	$ (.5)	$ —	$ 27.5
Identifiable assets as at 31 March 1978	$4,635.2	$265.6	$ 44.4	$40.6	$10.7	$ —	$4,996.5
Corporate assets as at 31 March 1978							601.2
Total assets as at 31 March 1978							$5,597.7
Expenditures on fixed assets	$ 595.8	$ 29.8	$ 9.1	$ 6.4	$ —	$ —	$ 641.1

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

Financial Statistics *(in millions)*

year ended 31 March

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
Sources of Revenue											
Electric	$ 668.8	609.8	461.0	341.4	296.8	268.0	235.0	211.4	193.0	162.8	149.4
Gas	170.1	135.9	104.1	89.1	77.6	60.7	55.2	51.7	47.5	41.0	40.6
Passenger transportation	43.2	37.5	35.6	33.1*	30.5*	27.7*	25.1*	24.2*	21.3*	20.7*	19.5*
Rail freight	20.7	18.3	15.9	14.6	13.1	12.1	10.8	10.2	8.0	8.4	7.4
Sundry	1.2**	.3**	7.1	5.5	3.3	2.1	1.9	2.1	2.2	1.4	1.4
Provincial Government special subsidy	—	—	32.6	32.6	—	—	—	—	—	—	—
Total	$ 904.0	801.8	656.3	516.3	421.3	370.6	328.0	299.6	272.0	234.3	218.3
Disposition of Revenue											
Salaries, wages and employee benefits	$ 212.6	202.0	179.2	157.0	117.9	88.5	72.7	67.6	57.9	55.1	49.6
Materials and services	179.0	153.8	122.7	102.4	87.3	75.3	52.3	50.4	44.7	40.0	44.9
Grants, school taxes and water rentals	67.5	54.3	46.2	39.5	28.8	25.0	22.2	20.0	18.6	17.0	15.0
Depreciation	110.2	100.0	80.7	72.8	65.8	61.7	57.7	52.9	50.2	44.7	38.6
Interest charged to operations	286.1	264.2	188.9	143.3	117.1	104.9	101.1	91.3	83.9	77.5	60.9
Employed in the business	48.6	27.5	38.6	1.3	4.4	15.2	22.0	17.4	16.7	—	9.3
Total	$ 904.0	801.8	656.3	516.3	421.3	370.6	328.0	299.6	272.0	234.3	218.3
Fixed Assets											
Fixed assets in service, at cost	$5,339.3	4,920.5	4,541.3	3,606.7	3,254.4	3,002.3	2,887.1	2,423.8	2,242.2	2,131.1	1,899.7
Accumulated depreciation	980.5	877.9	784.3	706.1	634.1	568.7	511.9	463.5	417.2	371.1	332.0
	$4,358.8	4,042.6	3,757.0	2,900.6	2,620.3	2,433.6	2,375.2	1,960.3	1,825.0	1,760.0	1,567.7
Bonds and Debentures	$4,739.5	4,337.5	3,604.7	2,990.3	2,514.7	2,055.1	1,862.4	1,726.4	1,588.3	1,443.8	1,305.9
Expenditures on Fixed Assets	$ 721.6	641.1	548.5	590.5	463.8	332.3	230.2	217.9	216.0	189.6	227.3

*Includes metropolitan transit subsidy received from Provincial Government.

**Reflects reclassification of miscellaneous revenues to services.

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

Operating Statistics

year ended 31 March

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
Electric											
Generating nameplate capacity at year-end (rated kW in thousands)*											
Hydro	**5 883**	5 883	5 449	3 882	3 618	3 318	3 318	2 814	2 455	2 455	2 001
Thermal	**1 363**	1 293	1 301	1 299	1 104	1 061	1 041	1 038	1 059	1 056	1 055
Total	**7 246**	7 176	6 750	5 181	4 722	4 379	4 359	3 852	3 514	3 511	3 056
Peak one-hour demand, integrated system (kW in thousands)	**5 091**	4 621	4 258	4 063	3 791	3 578	3 499	2 970	2 769	2 499	2 357
Customers at year-end (in thousands)	**984**	952	917	875	843	801	765	726	690	652	605
Electricity sold (kW·h in millions)											
Sales in British Columbia	**25 564**	24 106	22 882	20 511	20 688	19 902	17 938	15 953	14 369	13 351	12 233
Other sales	**1 478**	3 908	1 961	85	808	2 038	1 165	221	464	305	4
Total	**27 042**	28 014	24 843	20 596	21 496	21 940	19 103	16 174	14 833	13 656	12 237
Increase (decrease) over previous year (%)	**(3.5)**	12.8	20.6	(4.2)	(2.0)	14.9	18.1	9.0	8.6	11.6	10.4
By class of customer (%)											
Residential	**27**	25	27	30	27	24	25	28	28	27	28
General	**33**	30	31	36	32	30	31	34	32	32	33
Bulk	**34**	30	33	33	36	36	37	36	36	37	37
Other systems	**1**	1	2	1	1	1	1	1	1	2	2
Export to United States**	**5**	14	7	—	4	9	6	1	3	2	—
Residential service											
Average annual kW·h use per customer	**8 747**	8 620	8 452	8 370	7 928	7 694	7 365	7 342	6 949	6 651	6 674
Average revenue per kW·h (cents)	**3.4**	3.1	2.7	2.3	2.1	1.9	1.9	1.9	1.9	1.7	1.7
Lines in service											
Distribution (kilometres)	**37 094**	36 049	35 084	33 853	32 700	32 631	29 734	27 859	26 578	25 186	24 018
Transmission (circuit kilometres)	**14 793**	14 259	14 082	12 733	12 424	12 435	12 374	12 040	11 555	10 824	10 079

**Excludes electricity available from other systems. Rated capacity has been exceeded on occasion.*
***Less than ½ of 1% 1969 and 1976.*

Gas											
One-day capacity at year-end (therms in thousands)											
Mainland—firm pipeline contracts*	**4 000**	4 000	4 000	4 000	3 900	3 260	2 660	2 400	2 460	2 360	2 529
—plant	**1 000**	1 000	1 000	1 000	1 000	1 000	1 000	1 000	1 000	250	250
Greater Victoria—plant	**56**	56	56	50	60	60	60	53	53	45	45
Peak one-day demand (therms in thousands)											
Mainland system—including interruptible	**4 838**	3 830	3 573	4 080	3 491	3 640	3 461	3 279	2 939	2 770	3 108
—excluding interruptible	**4 816**	3 813	3 463	3 456	3 379	3 136	3 359	3 065	2 762	1 962	2 889
Greater Victoria system	**19**	18	18	22	22	24	29	29	22	19	24
Customers at year-end (in thousands)	**286**	278	270	259	249	238	227	215	205	197	186
Gas sold (therms)											
Total (in millions)	**832**	790	759	764	731	711	649	601	554	485	470
Increase (decrease) over previous year (%)	**5.4**	4.1	(.7)	4.5	2.8	9.6	8.0	8.5	14.2	3.1	20.2
Average revenue per therm (cents)	**20.4**	17.1	13.7	11.7	10.6	8.5	8.5	8.6	8.6	8.4	8.6

**On basis of 2.83 cubic metres to one therm.*

Passenger Transportation											
Vehicles in operation at year-end											
Urban—buses	**658**	668	664	648	558	447	335	326	353	340	339
—trolley coaches	**285**	311	312	312	301	293	293	298	298	296	296
—total	**943**	979	976	960	859	740	628	624	651	636	635
Interurban buses	**78**	132	141	125	134	98	91	90	85	66	71
Passengers carried (in millions)											
Urban	**100.8**	100.3	106.4	104.0	94.3	85.5	76.7	72.6	65.9	78.7	77.4
Interurban	**2.2**	2.1	2.1	2.4	2.9	2.8	2.6	2.5	2.2	2.3	2.2
Revenue kilometres run—urban (in millions)	**59.7**	58.8	58.6	54.1	44.5	38.0	32.9	32.2	31.0	34.1	33.6
Passenger revenue per kilometre—urban (cents)	**55.1**	47.2	44.7	42.8	47.1	50.0	52.6	51.9	48.7	44.3	44.6

Rail Freight											
(tonnes in thousands)	**2 536**	2 397	2 393	2 321	2 494	2 539	2 426	2 364	1 996	2 237	2 055

Employees At Year-End											
Regular	**11 618**	11 611	11 339	11 226	10 361	8 945	7 474	7 173	7 205	7 056	6 905
Temporary	**932**	946	1 001	807	1 255	1 080	772	669	481	810	717
Total	**12 550**	12 557	12 340	12 033	11 616	10 025	8 246	7 842	7 686	7 866	7 622

British Columbia Hydro and Power Authority

Directors

Robert W. Bonner, *Q.C.*
*Charles W. Brazier, *Q.C.*
The Honourable John Davis
(to 6 April 1978)
The Honourable James J. Hewitt
(from 5 December 1978)
The Honourable Patrick L. McGeer
(from 5 December 1978)
*John H. Steede
(to 14 November 1978)
The Honourable Evan M. Wolfe
(from 6 April to 5 December 1978)

**Member of the Audit Committee*

Officers

Robert W. Bonner, *Q.C. Chairman*
J. Norman Olsen, *President and Chief Operating Officer*
William D. Mitchell, *Secretary, Vice-President and General Counsel*
Elizabeth B. Fulwell, *Associate Secretary*
William M. Walker, *Vice-President and Chief Engineer*

Group Organization

OFFICE OF THE CHAIRMAN

W.D. Mitchell, *Vice-President and General Counsel*

OFFICE OF THE PRESIDENT

H.M. Ellis, *Director, Research and Development*

ADMINISTRATION AND FINANCE

J.P. Sheehan, *Vice-President*

DIVISION MANAGERS:
L.E. Beard, *Financial Planning*
E.S. Collins, *Properties*
R. Johnson, *Purchasing and Supply*
I.R.A. Mills, *Treasurer*
T.A. Nordstrom, *Computer and Management Systems*
G.A. Woodbury, *Comptroller*

CORPORATE AFFAIRS

C.W. Nash, Vice-President *(also Executive Assistant to the Chairman)*
J.A. MacCarthy, *Public and Customer Relations*

CORPORATE SERVICES

R.H. Hunt, *Manager*

DIVISION MANAGERS:
R.H. Downey, *Personnel*
B.A. Hawrysh, *Manpower Planning and Development*
P.J. McAllister, *Labour Relations*
D.G. McKillop, *General Services*

ELECTRICAL OPERATIONS

W.A. Best, *Vice-President*

DIVISION MANAGERS:
W.A. Bateman, *Fraser Valley*
E.T. Davis, *North Coast*
T.V. Farmer, *South Interior*
W.B. Gale, *Operations Administration*
W.D. Gill, *Operations Engineering*
D.J. McLennan, *Metropolitan Vancouver*
G.J. Roper, *Vancouver Island*
P.D. Swoboda, *Central Interior*

ENGINEERING

E.H. Martin, *Vice-President*
W.M. Walker, *Vice-President and Chief Engineer*

DIVISION MANAGERS:
E. Crowley, *System Design*
M.A. Favell, *Thermal*
H.J. Goldie, *System Engineering*
J.W. Milligan, *Construction*
F.J. Patterson, *Hydroelectric Design*

GAS OPERATIONS AND ENERGY CONSERVATION

R.K. Kidd, *Vice-President*

DIVISION MANAGERS:
K.S. Henderson, *Gas Operations*
A.H. MacPherson, *Gas Engineering*
T.J. Newton, *Energy Conservation*

TRANSPORTATION

W.A. Duncan, *Vice-President*
L.E. Wight, *General Manager*

DIVISION MANAGERS:
J.G. Stethem, *Pacific Stage Lines*
G.I. Stevenson, *Railway Operations*
D.T. Suttie, *Transit Operations*
J.H. Wright, *Transportation Maintenance*


British Columbia Hydro and Power Authority
Electric Transmission System at 31 March 1979 with planned additions
LEGEND
Hydroelectric Generating Stations
Diesel-Electric Generating Stations
Gas-Turbine-Electric Generating Stations
Substations
Transmission Lines 60 kV-360 kV (existing and under construction)
Transmission Lines 500 kV (existing and under construction
Transmission Lines 60 kV-360 kV (planned)
Transmission Lines 500 kV (planned)
Vancouver Area
MAJOR GENERATING PLANTS
Alouette: Hydroelectric
Burrard: Steam-Turbine
Lake Buntzen: Hydroelectric
Port Mann: Gas-Turbine
Ruskin: Hydroelectric
Stave Falls: Hydroelectric
MAJOR SUBSTATIONS
Arnott
Atchelitz
Barnard
Cambie
Camosun
Cypress
Dal Grauer
Horne-Payne
Ingledow
Kidd, Nos. 1 and 2
Mainwaring
Meridian
Murrin
Newell
Sperling
Strawberry Hill
Walters
Victoria Area
MAJOR SUBSTATIONS
Colwood
Esquimalt
George Tripp
Goward
Horsey
Prince George Area
MAJOR SUBSTATIONS
Beaverley
Canreed
Chief Lake
Northwood
Patricia
Pineview
Prince George
Williston
FORT NELSON
WILLISTON LAKE
W.A.C. BENNETT DAM
GORDON M. SHRUM
FORT ST. JOHN
BOUNDARY LAKE
PEACE RIVER
PORTAGE PASS
PEACE CANYON
CHETWYND
DAWSON CREEK
MORFEE LAKE
KENNEDY
FIRTH
FORT ST. JAMES
BURNS LAKE
GLENANNAN
TACHICK
FRASER LAKE
McEWAN
SALMON VALLEY
VANDERHOOF
UPPER FRASER
PRINCE GEORGE (See Legend)
BRITISH
COLUMBIA
COLEBANK
BARLOW
McBRIDE
QUESNEL
MARGUERITE
GIBRALTAR
VALEMOUNT
ANAHIM LAKE
SODA CREEK
TATLA LAKE
WILLIAMS LAKE
BOSS MOUNTAIN
BLUE RIVER
MICA
AVOLA
MICA DAM
ALBERTA
100 MILE HOUSE
VAVENBY
KELLY LAKE
BARRIERE
GOLDEN
LA JOIE
HEFFLEY CREEK
REVELSTOKE
COLUMBIA RIVER
SAVONA
KAMLOOPS
SPILLIMACHEEN
BRIDGE RIVER
SETON
ASHCROFT
WALTER HARDMAN
ATHALMER
HIGHLAND
LYTTON
SPENCES BRIDGE
ASHTON CREEK
SHUSWAP
NICOLA
MERRITT
VERNON
NAKUSP
POWELL RIVER
FOREST VIEW
CHEAKAMUS
CHEEKYE
DUNCAN DAM
CANAL FLATS
BOSTON BAR
WESTBANK
MONASHEE
NEW DENVER
ELKFORD
GREATA
WHATSHAN
KIMBERLEY
PRINCETON
KOOTENAY CANAL
NATAL
CRANBROOK
FERNIE
ABERFELDIE
HOPE
GEORGIA
WAHLEACH
HUGH KEENLEYSIDE DAM
ELKO
DOUGLAS
ROSEDALE
TRAIL
7 MILE
SELKIRK
KINGSGATE - YAHK
NELWAY
VANCOUVER (See Legend)
VICTORIA (See Legend)
UNITED STATES OF AMERICA
50 40 30 20 10 0 50 100 150 200 250 KILOMETRES
N


TELEGRAPH CREEK
ATLIN
DEASE LAKE
EDDONTENAJON
ALASKA (U. S. A.)
STEWART
KITSAULT
HAZELTON
AIYANSH
SMITHERS
PRINCE RUPERT
OLDFIELD
RUPERT
TERRACE
TELKWA
BABINE
MASSET
SKEENA
HOUSTON
FALLS RIVER
KITIMAT
QUEEN CHARLOTTE ISLANDS
SANDSPIT
BELLA COOLA
BELLA BELLA
PORT HARDY
KEOGH
PORT McNEILL
JEUNE LANDING
DUNCAN BAY
ZEBALLOS
CAMPBELL
TAHSIS VILLAGE
GOLD RIVER
ASH RIVER
DUNSMUIR
AHOUSAT
ALBERNI
TOFINO
BAMFIELD
VANCOUVER ISLAND
CANADA

Corporate Information

HEAD OFFICE:
970 Burrard Street, Vancouver,
British Columbia, Canada, V6Z 1Y3

AUDITORS
Price Waterhouse & Co.

BANKERS
Canadian Imperial Bank of Commerce

REGISTRARS
Securities issued by
British Columbia Hydro and Power Authority:
Canadian issues:
B.C. Hydro
United States issues:
The Canadian Bank of Commerce
Trust Company, New York

Securities issued by the former
British Columbia Electric Company Limited:
Callable Bonds:
Montreal Trust Company
First Mortgage Bonds:
Montreal Trust Company
Debentures:
The Royal Trust Company

Securities issued by the former
British Columbia Power Commission:
B.C. Hydro

◁ *Diversion tunnel, shown under construction, diverted Columbia River around Revelstoke damsite in November 1978.*

LITHO IN CANADA
AGENCY PRESS LIMITED