PROVINCE OF BRITISH COLUMBIA

THIRD ANNUAL REPORT

OF THE

BRITISH COLUMBIA POWER COMMISSION

FOR THE YEAR ENDED MARCH 31ST

1948

VICTORIA, B.C.:
Printed by DON MCDIARMID, Printer to the King's Most Excellent Majesty.
1948.

To Lieutenant-Colonel the Honourable CHARLES ARTHUR BANKS, C.M.G.,
Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present the Annual Report of the British Columbia Power Commission for the fiscal year ended March 31st, 1948.

BYRON I. JOHNSON,
Premier.

Victoria, B.C.,
June 30th, 1948.

The Honourable Byron I. Johnson, M.B.E.,
Premier, Parliament Buildings, Victoria, B.C.

SIR,—The Annual Report of the British Columbia Power Commission, covering the fiscal year 1947–48, is respectfully submitted herewith in accordance with section 93 of the "Electric Power Act."

We have the honour to be
Sir,
Your obedient servants,

F. L. SHAW,
Commissioner.

W. W. FOSTER,
Commissioner.

S. R. WESTON,
Chairman.

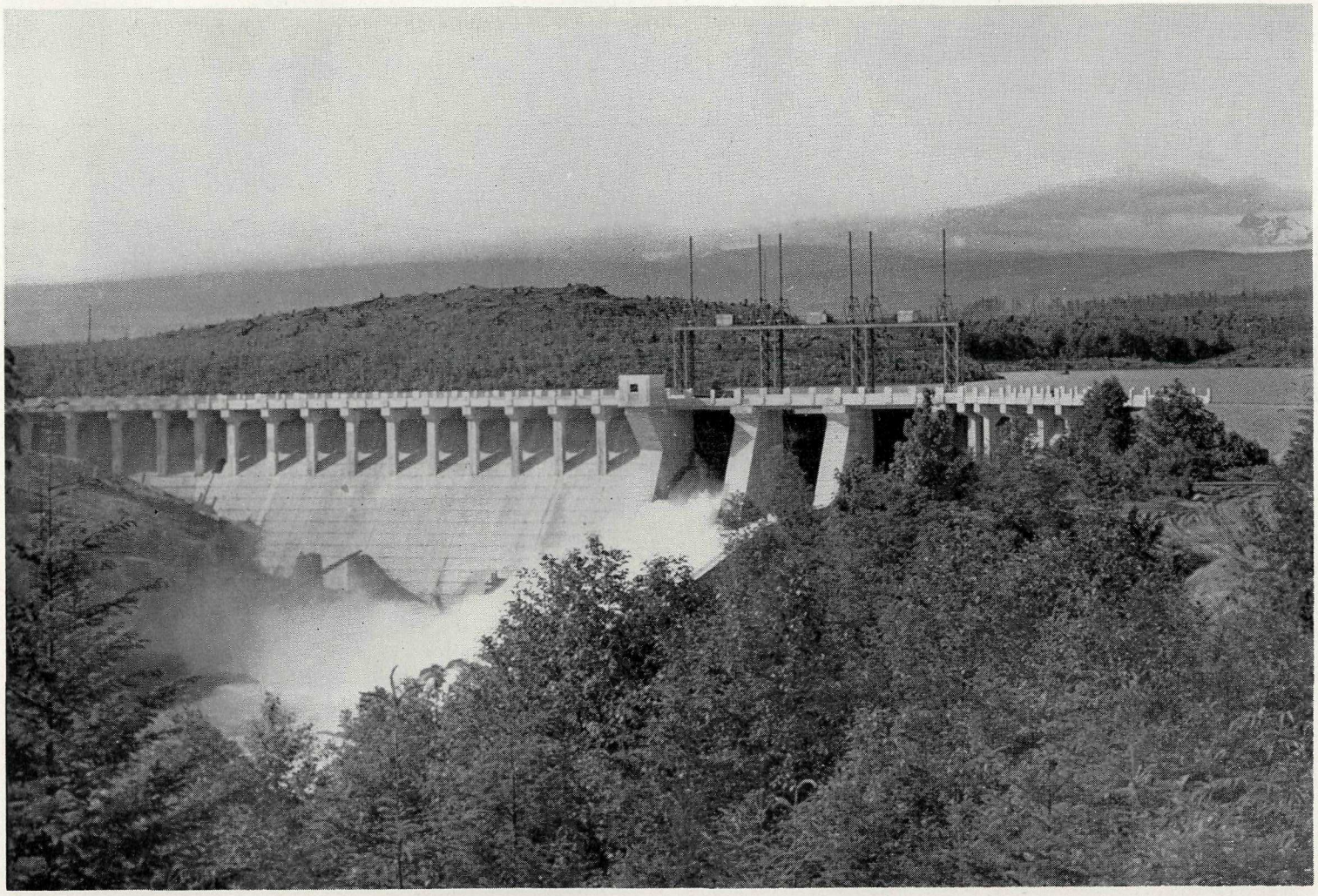
Victoria, B.C.,
June 30th, 1948.

TABLE OF CONTENTS.

Section.	Page.
I. General Review	7
II. Legal—	
1. Legislation	10
2. Regulations	10
3. Acquisition of Electrical Properties	10
4. Rights-of-way and Sites	11
5. Values and Compensations—Expropriated Properties	11
III. Construction—	
1. Production Plant	13
2. Transmission Plant	14
3. Distribution Plant	15
IV. Operation—	
1. Production	19
2. Transmission	21
3. Distribution	22
4. Rate Schedules	22
V. Surveys and Investigations—	
1. Power Projects	26
2. Transmission Projects	26
3. Distribution Projects	27
VI. Financial	28

LIST OF ILLUSTRATIONS.

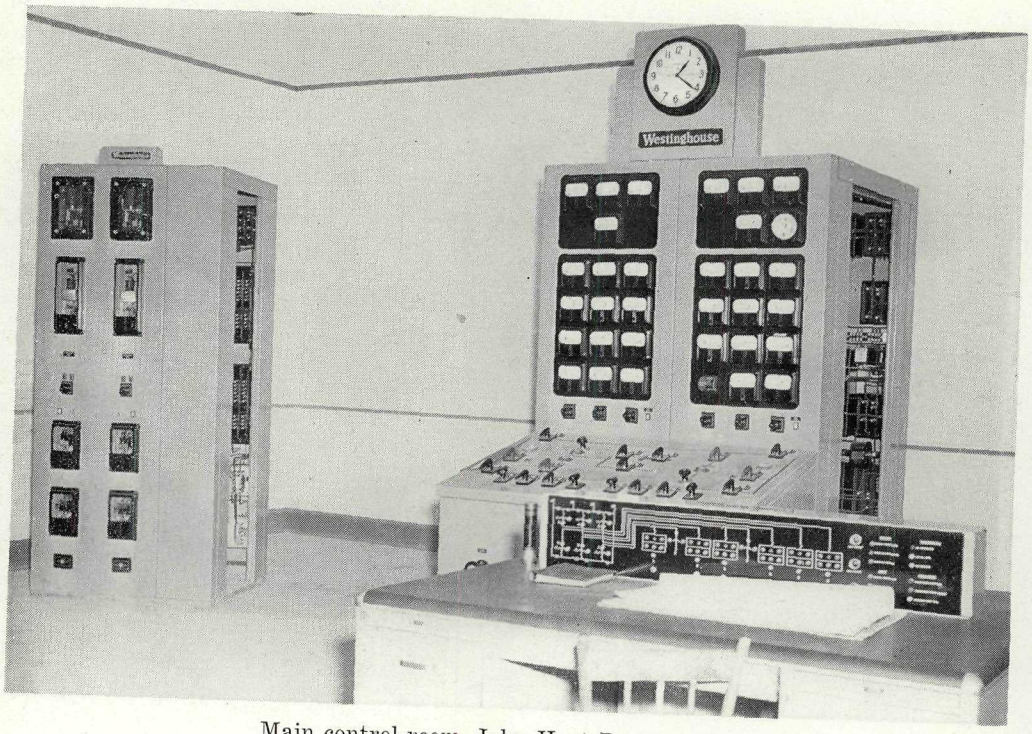
John Hart Development—Concrete dam	Facing 6
Honourable John Hart placing first unit in operation	" 7
John Hart Development—Main control-room	" 7
John Hart Development—Wood-stave pipe-line	" 14
John Hart Development—Substation	" 15
John Hart Development—Power-house	" 20
Map of British Columbia, showing Commission's undertakings	After 37



JOHN HART DEVELOPMENT.

View of concrete dam, showing automobile highway, sluice-gates, and forebay.

Honourable John Hart placing first unit in operation, December 15th, 1947.



Main control-room, John Hart Development.

Third Annual Report of the British Columbia Power Commission, Fiscal Year ended March 31st, 1948.

I. GENERAL REVIEW.

The British Columbia Power Commission, appointed April 17th, 1945, commenced actual operations August 1st, 1945, with the acquisition of five electrical properties with a total of 12,845 customers. By March 31st, 1948, the Commission had acquired, by purchase or expropriation, a total of twenty electrical properties serving 21,421 customers at the respective dates of acquisition. By the installation of 6,049 new services the number of consumers has increased to 27,470.

The Commission acquired during the year operating electrical properties at Cumberland, Lillooet, and Burns Lake, with a total of 1,000 connected services. The latter, together with 3,431 new services installed during the year, increased the number of customers by 4,431. The Commission now supplies 27,470 customers in eighteen power districts. Negotiations are in progress with a view to acquisition of the distribution facilities in Courtenay and Ladysmith.

Comparative figures for the years ended March 31st, 1947 and 1948, illustrate the progress made during the year in accomplishing the purpose of the "Electric Power Act"—"An Act to provide for improving the Availability and Supply of Electrical Power."

	Year ended March 31st, 1947.	Year ended March 31st, 1948.
Number of generating units in operation	55	51
Generating capacity ..... kva	18,450	18,060
John Hart generating plant installed capacity ..... kva	.....	50,000
High-tension transmission-line ..... miles	181	285
Primary distribution circuits ..... miles	905	1,131
Number of power districts in operation	16	18
Kwh generated and purchased	50,951,849	82,533,340
Number of customers—		
Residential	18,705	22,434
Commercial	3,494	4,188
Power	816	818
Street-lighting	24	30
Total number of customers	23,039	27,470
Average monthly consumption, residential customers ..... kwh	74	84
Average cost per kwh paid by residential customers	5.0c.	4.5c.
Average monthly consumption, commercial customers ..... kwh	278	308
Average cost per kwh paid by commercial customers	4.7c.	4.5c.

	Year ended March 31st, 1947.	Year ended March 31st, 1948.
Revenue—		
Energy sales	$1,402,327.99	$2,122,781.04
Miscellaneous	9,506.53	23,908.35
	$1,411,834.52	$2,146,689.39
Operating expenses—		
Labour	$177,903.71	$311,646.50
Fuel	61,037.08	165,705.50
Other operating expenses	49,511.79	108,246.41
Customer accounting and collecting	76,604.16	113,671.05
3-per-cent. gross revenue assessment	39,762.14	62,576.80
Administration and general expense	135,386.97	117,856.33
	$540,205.85	$879,702.59
Interest on capital in operation	148,504.63	224,221.13
Direct expenses	$688,710.48	$1,103,923.72
Purchased power	182,897.12	293,737.00
	$871,607.60	$1,397,660.72
Operating surplus (excluding provision for reserves)	$540,226.92	$749,028.67
Provision for reserves—		
Maintenance and renewals	$162,613.13	$265,873.99
Sinking fund	74,251.81	112,115.08
Contingencies	88,265.00	140,545.54
	$325,129.94	$518,534.61
Net operating surplus (transferred to Stabilization Reserve)	$215,096.98	$230,494.06

Notwithstanding increased cost of labour and materials, it is to be noted that the average cost per kwh to both residential and commercial customers has been reduced. This result has been achieved through increased volume of business, which, it is already apparent, is a direct result of increases in the total number of customers and in the average kwh consumption. Revised rate schedules of a promotional type (already in effect in eleven of the eighteen power districts), improved generating and distribution equipment, and extension of the service to new customers are important factors which have affected and will increasingly improve the volume of service.

The first stage of the Campbell River project, comprising all the works for two 25,000-kva generating units and the 138-kv transmission system to Nanaimo and Port Alberni, was practically completed by March 31st, 1948. Power has actually been delivered from this plant, operating as a construction project, since January 11th. The capital investment in the first development stage will be transferred April 1st from "construction work in progress" to "plant in operation." The second development

stage, providing for the third and fourth 25,000-kva units and Ladore Falls storage-dam, will be completed in 1949.

Work was begun on the Whatshan Lake project, near Needles, Lower Arrow Lake. This generating plant, designed to supply the Okanagan and Kamloops areas, will contain initially two, ultimately four, 12,500-kva units.

Notable improvement has been made in the organization of the Commission's undertaking. Administration of the production, distribution, and sales functions has been divided between two regions. The Coastal Region, with office at Nanaimo, includes Vancouver Island, Alert Bay, and Sechelt Peninsula. The Interior Region, with office at Vernon, includes all Mainland operations except Sechelt Peninsula. The head office organization provides over-all administrative services and directs major construction and maintenance projects. The installation of a complete public utility accounting system, with emphasis on unit cost accounting, has enabled the Commission to present more information than was possible in previous reports.

The difficulties in maintaining service to several thousand customers, pending completion of adequate generating facilities, have been mitigated by the co-operation of such organizations as Alberni Pacific Lumber Company, Limited; Bloedel, Stewart and Welch, Limited; Canadian Collieries (D.), Limited; Vancouver Island Power Company, Limited; Victoria Lumber Company, Limited; and West Kootenay Power and Light Company, Limited.

Acknowledgment is made of the devoted work of the Commission's employees, which it has been possible to recognize in part by increased remuneration.

The Third Annual Report covers in detail the year's activities under the function headings—Legal, Construction, Operation, Surveys and Investigations, and Financial.

II. LEGAL.

1. LEGISLATION.

The "Electric Power Act Amendment Act, 1948," was assented to on April 28th, 1948. This amending Act provided the following:—

(*a*) It empowers the Commission to borrow money on its own behalf, subject to approval by the Lieutenant-Governor in Council, and sets up the means whereby this may be done. Previously all borrowings for the Commission's purposes were done by the Provincial Government, moneys so raised being advanced to the Commission. The new powers are complementary to the Government's existing power to borrow within the limitations of the Act.

(*b*) It removes an anomaly previously existing in appeals to the Court of Appeal in matters of compensation for expropriated properties, and clarifies the procedure on appeals to that Court.

(*c*) It requires the Commission to advertise or give notice of tenders for contract construction-work, and provides that the tenders shall be opened in public at a time and place named in the advertisement or notice of tenders.

2. REGULATIONS.

Parts I and II of Regulation No. 5 of British Columbia Power Commission—"Rate Schedules"—comprising a general introduction to the subject of rates and defining the classifications and conditions of service, were made applicable during the year in the following power districts: Terrace, Williams Lake, Vanderhoof, Quesnel, Alert Bay, Nakusp, and Golden. At the same time Part III of Regulation No. 5, setting forth specific rates, was also approved for each of these districts. New rates are thus now in effect in a total of eleven of the eighteen power districts in which the Commission operates.

Other regulations were adopted for the purpose of improving the efficiency of the Commission's organization.

3. ACQUISITION OF ELECTRICAL PROPERTIES.

The Commission acquired during the year the following properties:—

(1) June 5th, 1947, by expropriation, the electrical distribution system of the Cumberland Electric Lighting Company, Limited, serving the City of Cumberland, Minto, and adjoining rural areas. The company supplied 777 customers with 25-cycle energy purchased from the Canadian Collieries (D.), Limited, plant on the Puntledge River. Following expropriation, the compensation was mutually agreed upon at $60,000.

(2) June 24th, 1947, by purchase from War Assets Corporation for $6,105.30, a large building near Nanaimo for regional warehouse.

(3) August 1st, 1947, by agreement dated October 8th, 1947, with the Pacific Great Eastern Railway Company, its diesel-electric generating plant and distribution system supplying 135 customers in Lillooet and vicinity. The agreed price was $20,000. At the same time the Commission obtained for $1 per year a lease of the company's small hydro-electric plant on Seton Creek.

(4) September 13th, 1947, by negotiation with the City of Port Alberni, the electrical distribution system of the former army camp, known as the

"Brigade Military Camp," adjacent to Port Alberni. The city accepted the Commission's valuation of the property in the amount of $10,220.75.

(5) November 1st, 1947, by agreement dated October 15th, 1947, with the joint owners, Jonas B. Glans and The Burns Lake Electric, their diesel-electric generating plant and electrical distribution system supplying 88 customers in Burns Lake. The price paid was $8,000.

(6) November 7th, 1947, by purchase from McGillivray & Company, Limited, for $10,000, a building in the Canadian National Railway yards, Kamloops, for regional warehouse.

(7) March 15th, 1948, by purchase from War Assets Corporation, a diesel-electric generating plant at Dawson Creek. The price paid for the 950-kva plant and accessories was $45,000. Pending the distribution of energy in the Dawson Creek-Pouce Coupe area by the Commission, the plant is leased on a month-to-month basis to Northland Utilities (B.C.), Limited.

4. RIGHTS-OF-WAY AND SITES.

The transmission-line from Campbell River to Nanaimo and from Dunsmuir to Port Alberni required a right-of-way 90 feet wide for a distance of 104 miles. The line crosses 427 parcels of land registered in the names of 114 owners. Easements or outright purchases covering 180 parcels have been completed with 63 owners. Negotiations with the remaining owners are in various stages of completion.

Four radio-station sites, located near Campbell River, Dunsmuir, Port Alberni, and Nanaimo, for the communication system from Campbell River to Nanaimo and Port Alberni, were purchased.

Certain transmission right-of-way easements had not been obtained by the former owners of properties expropriated by the Commission. Necessary surveys have been made and negotiations for the easements are under way.

The Corporation of the Village of Dawson Creek, having acquired from War Assets Corporation the large tract of land upon which the diesel generating plant at Dawson Creek was located, conveyed to the Commission the site of the plant and access road thereto, comprising 13½ acres, for the sum of $117.71.

Surveys for the 60-kv transmission-line from Vernon to Kamloops are nearing completion, and negotiations have been commenced in regard to easements for a 90-foot right-of-way over Crown and private lands. Plans have been deposited with the Dominion Department of Public Works and an application made under the "Navigable Waters Protection Act" for two overhead crossings of the South Thompson River.

Surveys and appraisals of various properties required for the Whatshan Lake development are continuing, and negotiations are under way to purchase land that will be flooded and for structural sites.

5. VALUES AND COMPENSATION—EXPROPRIATED PROPERTIES.

Compensation for certain properties required to obtain access to the John Hart power-development has been settled.

October 1st, 1947, General Appraisal Company, Limited, valuator appointed under the provisions of the "Electric Power Act," notified the companies and the Commission of its finding of compensation to be paid for the electrical property of the British Columbia Electric Railway Company, Limited, at Kamloops; the properties of National Utilities, Limited, at Alberni and Port Alberni and at Parksville-Qualicum; and the property of Royston Light and Power Company, Limited, at Royston. All these properties had been expropriated as at January 1st, 1947. Neither party appealed from the valuator's finding, and payment was made accordingly as follows:—

(1) Kamloops property, including hydro-electric and steam generating plants, transmission and distribution systems, with 2,954 connected services	$1,163,352.00
(2) Alberni and Port Alberni diesel generating plant and distribution system with 2,877 connected services	428,561.00
(3) Parksville-Qualicum diesel generating plant and distribution system with 517 connected services	95,808.70
(4) Royston distribution system with 93 connected services	9,251.00

It was necessary for Bloedel, Stewart & Welch, Limited, to relocate 10½ miles of its logging-railway running between Menzies Bay and Brewster Lake, where the right-of-way was to be flooded by the raising of the level of Lower Campbell Lake. The relocation has been completed by the company and compensation settled.

The litigation over the compensation to be paid to Nanaimo-Duncan Utilities, Limited; Columbia Power Company, Limited; and West Canadian Hydro Electric Corporation, Limited, has continued. The Honourable Mr. Justice Wilson, before whom the appeals against the amount of compensation were pending, held, in the matter of Nanaimo-Duncan Utilities, Limited, that the finding of the valuator was not an effective finding under the "Electric Power Act." From this decision the Commission appealed to the Court of Appeal. The majority of the Court of Appeal held that the Court had no jurisdiction under the "Electric Power Act" to hear the appeal. The Act provides for an appeal from an interlocutory order and from a "judgment whereby an award is made." The majority of the Court of Appeal held that the order or judgment of the Honourable Mr. Justice Wilson, dismissing the Commission's appeal, was neither an interlocutory order nor a "judgment whereby an award is made."

From the judgment of the Court of Appeal the Commission has appealed to the Judicial Committee of the Privy Council. This appeal is pending.

At the last session of the Legislature two Acts were passed, the one entitled "Nanaimo-Duncan Utilities Limited Compensation Act," the other, "West Canadian Hydro Electric Corporation Limited and Columbia Power Company Limited Compensation Act." The purpose of these Acts is to ensure the hearing on their merits of the appeals of the Commission and the companies.

The matter of compensation for the property expropriated for a power-house site at Alert Bay has not yet been settled, the Official Administrator, as administrator of the estate of the deceased owner, not having been able to obtain instructions from the next of kin.

III. CONSTRUCTION.

1. PRODUCTION PLANT.

ALERT BAY.

The diesel generating-station, referred to in the last Annual Report, was completed and placed in operation August 6th, 1947. It comprises three diesel-electric units, having a total rating of 437.5 kva.

BURNS LAKE.

When acquired by the Commission, the generating equipment consisted of one 25-kw diesel unit and a smaller gasoline-driven unit. A second 25-kw generating set, duplicate of the first, was installed and was ready for operation November 15th, 1947.

CAMPBELL RIVER.

The project at Campbell River, the Commission's largest single undertaking, was sufficiently advanced to permit the official opening of the plant on December 15th, 1947. On that date Honourable John Hart, who was about to retire as Premier of the Province, set in motion the first 25,000-kva unit. Early in January power was delivered to Port Alberni. The second 25,000-kva unit will be in operation early in the coming year, thus substantially completing the first stage of this 150,000-kva project. On the opening day a bronze tablet on the doorway of the power-house was unveiled. It bears the following inscription:—

> *This tablet commemorates the naming of the first major hydro-electric project of the British Columbia Power Commission as*
>
> *"THE JOHN HART DEVELOPMENT"*
>
> *so named after the Premier of British Columbia whose vision and initiative brought into being the Commission for the purpose of improving the availability and supply of electrical power to the people of British Columbia.*
>
> *December 15, 1947.*

The head dam, pipe-line, surge-tank, penstocks, and power-house for the first two units are complete, except for interior finishing of the power-house.

Ten operators' dwellings situated near the power-house were constructed during the year.

Work is under way in preparation for the installation of the third and fourth 25,000-kva units. This consists of another 12-foot diameter pipe-line, surge-tank, penstocks, intake gates, and power-house extension.

Work on the storage-dam at Ladore Falls, below the outlet of Lower Campbell Lake, has not been according to schedule. The diversion-tunnel has been completed and preparation of the foundation for the dam is under way. It is anticipated the dam will be completed by the end of 1948.

Some 2½ miles of the existing road on the south shore of Campbell Lake will be flooded by the Ladore Falls dam. Construction was commenced on a higher location. Surveys and plans have been made for diverting a section of the Brewster Lake highway on the north shore of Campbell Lake.

GOLDEN.

A new diesel-electric generating-station of three units, 562.5 kva total capacity, was completed and placed in operation October 18th, 1947.

QUESNEL.

A three-unit diesel-electric generating-station, 687.5 kva total capacity, began operation June 19th, 1947.

SMITHERS.

A third diesel generating set, rated at 312 kva, was installed and in operation February 2nd, 1948, thus providing a total capacity of 749 kva in this new standard plant.

TERRACE.

The installation of the diesel generating units in the power-plant building acquired from the Department of National Defence, referred to in the Report for 1946–47, was completed on May 7th, 1947. Two units, one rated at 62.5 kva, the second at 187.5 kva, were installed initially, all auxiliary equipment for the ultimate three-engine plant being set in place.

VANDERHOOF.

The new power-house installation at Vanderhoof, referred to in the 1946–47 Report, was completed and was placed in operation on April 20th, 1947. The plant is rated at 437.5 kva in three units.

WESTBANK.

A 150-kva diesel set was added to the plant capacity on August 4th, 1947, making the total installed capacity 427 kva.

WHATSHAN.

The Commission received the approval of the Government for the construction of a hydro-electric development at Whatshan, near Needles, on the west shore of Lower Arrow Lake. This plant will supply the power requirements of the Arrow Lake areas and the Okanagan and Kamloops Power Districts. It will replace the uneconomical Barriere and Kamloops plants and provide reserve capacity to meet the growing demands for power in those districts.

The plant will utilize over 700 feet difference in elevation between Whatshan Lake and Lower Arrow Lake. The initial installation will be two units of 12,500 kva each, the plant being designed for a further two units of the same size to be installed as load conditions require.

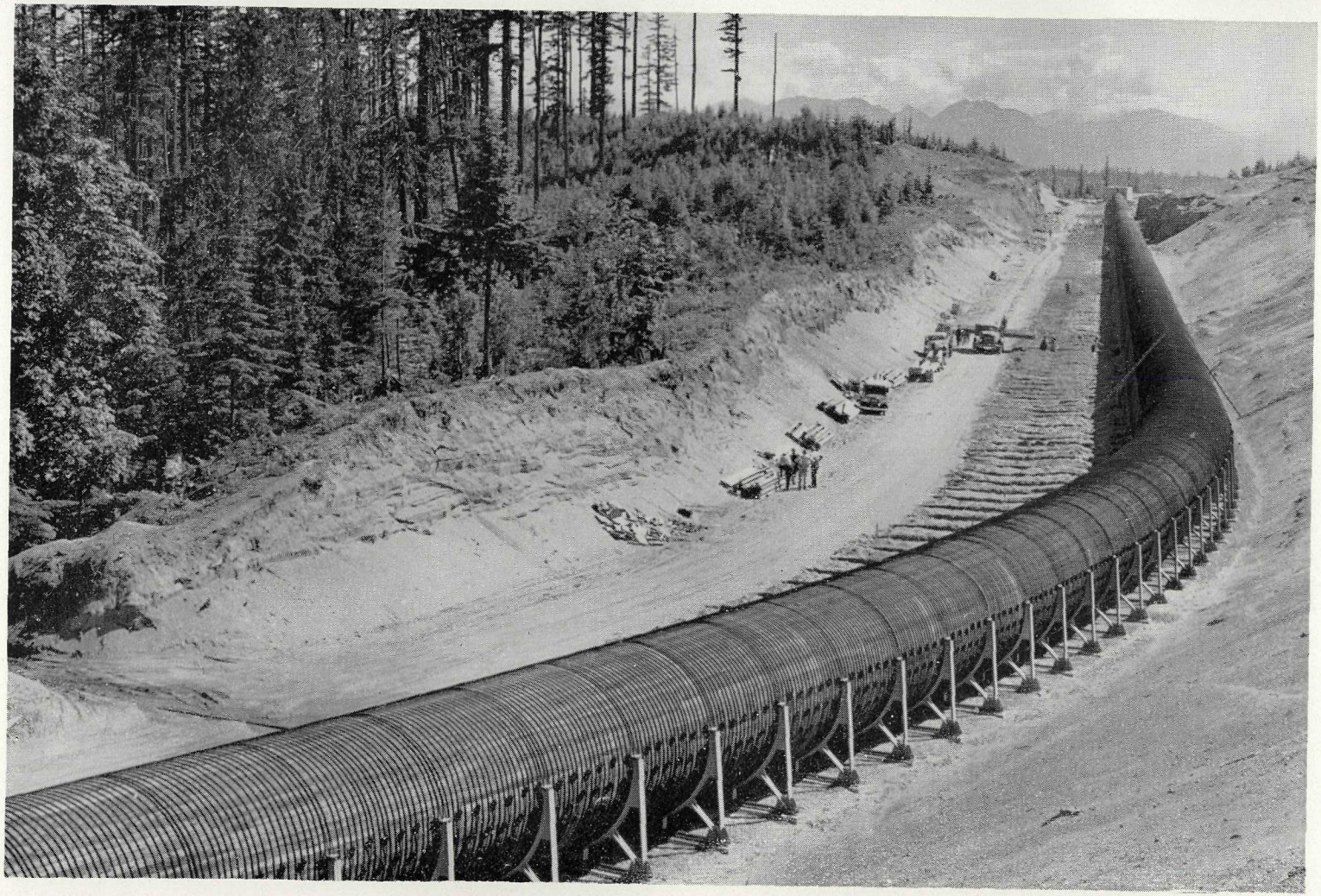
The water will be carried from Whatshan Lake to the power-house, on the shore of Lower Arrow Lake, through a tunnel 12,500 feet long and 12 feet in diameter. A small dam at the outlet of Whatshan Lake will store water in the lake for use during periods of low natural run-off. Surveys and preparation of plans for this development have been carried on during the year, and it is expected that construction will be commenced in May, 1948.

2. TRANSMISSION PLANT.

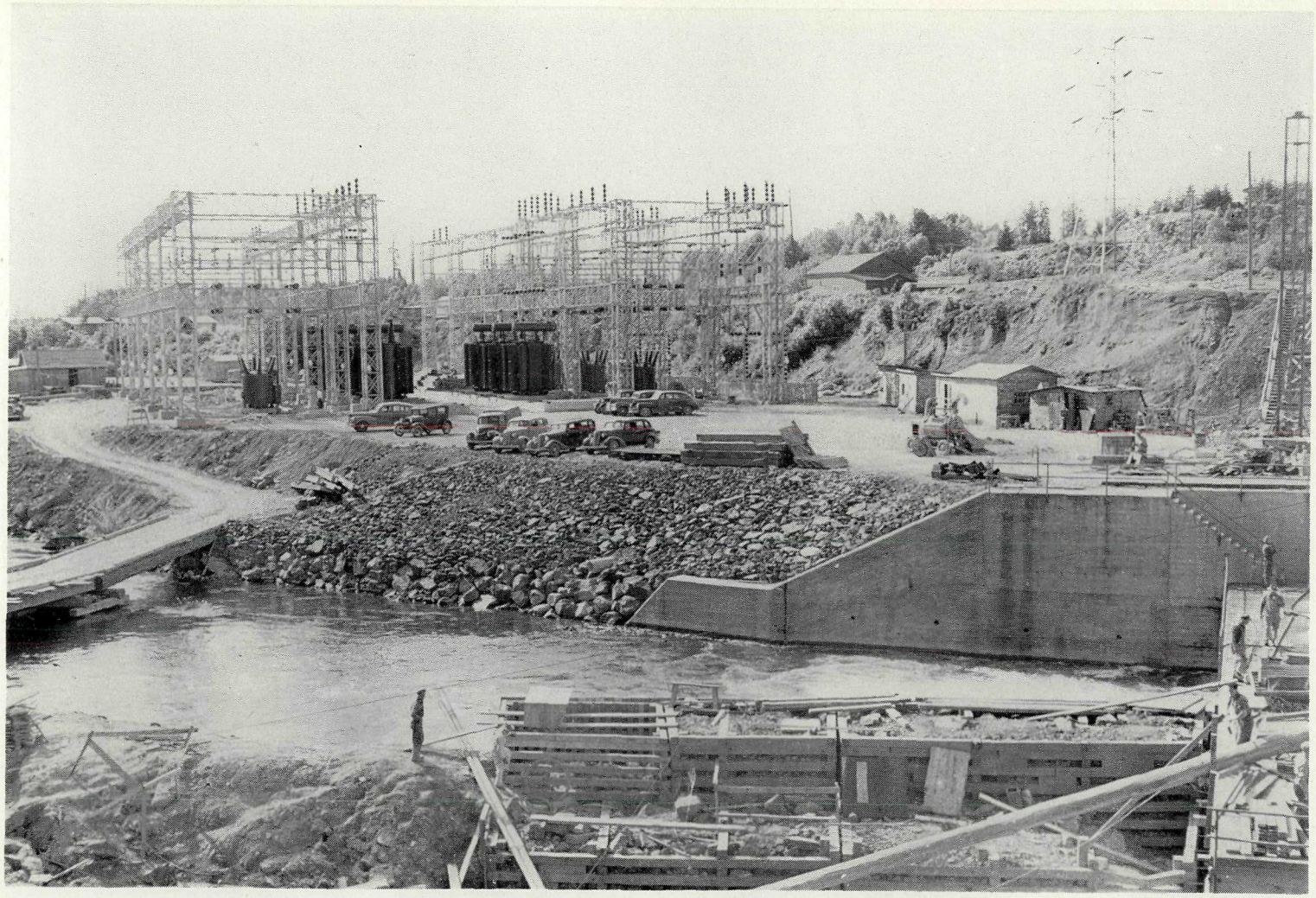
VANCOUVER ISLAND SYSTEM.

The 138-kv transmission-line from the John Hart plant to Nanaimo, with a branch from Dunsmuir to Port Alberni, was completed late in 1947. The transmission-line is 104 miles in length and is a double circuit of 397,500 c/m A.C.S.R. conductor supported on 652 steel towers. The standard towers are 85 feet high.

Two substations have been installed—at Nanaimo (Jinglepot) and at Port Alberni. The Jinglepot substation transforms from 138 kv to 60 kv. The presently installed capacity is 15,000 kva, with provision for expansion. The Port Alberni substation



JOHN HART DEVELOPMENT.
View of wood-stave pipe-line showing general excavation and bed for second pipe-line.



JOHN HART DEVELOPMENT.
View of transformation substation adjacent to power-house. Tail-race in foreground.

transforms from 138 kv to 12 kv, with initial capacity of 15,000 kva. A masonry building houses the control equipment.

The transmission-line to Alberni was energized and power delivered early in January, 1948. Delays in delivery of steel and adverse weather conditions deferred operation of the Jinglepot substation until March 7th, 1948.

From Jinglepot substation 3½ miles of 60-kv line have been constructed to deliver power to Pine Street substation in Nanaimo. This is a pole-line with two circuits of No. 2/0 A.C.S.R. At Pine Street substation the system ties in with the 60-kv line to Duncan. During the year the No. 4 C.C.S.R. conductor on the latter line was replaced with No. 2/0 A.C.S.R. to improve voltage regulation and provide additional capacity at Duncan.

VERNON-KAMLOOPS.

Materials were ordered for the projected 60-kv transmission-line between Vernon and Kamloops, a distance of 69.5 miles. This line is designed as a single circuit of No. 4/0 A.C.S.R. to be supported on twin-pole structures. The right-of-way is 90 feet wide and the line will be erected 30 feet from one side to permit the later construction of a second line on the same right-of-way. When completed, this transmission-line will permit parallel operation of the Shuswap Falls plant with the Barriere and Kamloops plants. Upon completion of the Whatshan development it will be used to transmit power from Vernon to Kamloops, thus eliminating the uneconomical operation of the Barriere hydro-station and the Kamloops steam plant.

The right-of-way is now being cleared, and construction will be commenced as soon as weather conditions permit.

3. DISTRIBUTION PLANT.

Improved availability of materials, time for completion of detailed plans, and the organization of available man-power and transportation equipment made possible extensive improvements to distribution facilities in the eighteen power districts operated by the Commission. The distribution systems in six power districts, acquired in 1945, were completely reconstructed.

Substantial progress was made in expanding all power districts to include adjacent rural areas, particularly in North Okanagan where an extensive rural electrification programme has been planned.

During the year 3,431 new services were added. Modern street-lighting systems were installed in Hope, Smithers, Terrace, Vanderhoof, Williams Lake, and Peachland.

The most important items of distribution plant construction are described under the various power districts.

ALBERNI.

The extension programme in progress when the Commission acquired the system, January 1st, 1947, was completed to add 34.18 miles of primary distribution-line and 521 new services. A distribution substation, 12/4/2.3 kv, was established for the utilization of power from the John Hart Development.

ALERT BAY.

Plans were completed for the reconstruction of the distribution system in 1948. Actual construction was limited to the addition of fourteen new services.

BURNS LAKE.

The Village of Burns Lake was served when acquired, November 1st, 1947, by a 115/230-volt distribution system. Voltage conditions were unsatisfactory, and

approximately three-quarters of a mile of 2,300-volt distribution circuit was erected, with necessary transformers. This work will form a part of the projected reconstruction of the whole system which is scheduled for next year. Eleven new services were connected.

CUMBERLAND-ROYSTON.

This district comprises the properties acquired from Royston Power & Light Company, Limited, January 1st, 1947, and from Cumberland Electric Lighting Company, Limited, June 5th, 1947. Plans were completed for connecting the two by means of a short primary line. Forty-six new services were added during the year.

GOLDEN.

The distribution system was completely rebuilt and expanded by the addition of an eighty-pole extension to the Swiss Village area west of Golden. Two main feeders from the new diesel plant provide service—one to the section of Golden north of the Columbia River, the other to the residential section south of the river.

The system operates at 2,300/4,000 volts, 4-wire, there being 290 poles in use, equivalent to about 9.5 miles of line, utilizing 250 kva in distribution transformer capacity.

In addition, supply and control wiring for a street-lighting system was installed.

During the year twenty-four customers were added to the system.

HOPE.

The Hope distribution system was rebuilt and expanded by the addition of several single-phase extensions. Approximately 13.3 miles of primary line, containing 470 poles, were constructed as a 2,300-volt delta system. In addition, a street-lighting system of thirty-six 300-watt units was provided. During the year 107 customers were added in this district.

KAMLOOPS.

This distribution system, when acquired by the Commission on January 1st, 1947, had reached the point where effective measures were required to take care of the rapidly growing load. Accordingly, studies were undertaken leading to the preparation of a long-range plan based on the future supply of energy from the Whatshan development.

The plan calls for the ultimate construction of an 11.5-kv ring circuit around Kamloops and North Kamloops, with radial extensions east, south-west to Tranquille Sanatorium, if required, and north up the North Thompson River valley.

During the year certain initial steps were taken, as part of the plan, to relieve overload conditions and to provide new services where urgently required. This work consisted of a projection of the 11.5-kv ring circuit in and through North Kamloops and Brocklehurst to the Thompson River, and the reinforcement of some 2,300-volt primary lines in the city system.

A distribution substation tapping the 44-kv Barriere line at Halston Crossing was to have been rebuilt with increased capacity, but delay in the receipt of the required transformers did not permit the completion of this project, although all necessary line alterations had been constructed by March 31st, 1948.

During the year 279 customers were added to the district system.

LILLOOET.

This distribution system was acquired August 1st, 1947. Six new services were added to the end of the fiscal year.

NAKUSP.

The distribution system was completely reconstructed and expanded by the addition of 7 miles of single-phase line extending into adjacent rural areas. In all, 371 poles were set, equivalent to 15.7 miles of primary line. A new street-lighting system was installed in Nakusp. Meters were installed in the many cases where service had been supplied at flat rates by the former owners. During the year nineteen new service connections were added.

NANAIMO-DUNCAN-SALTSPRING-PARKSVILLE-QUALICUM.

This power district includes the areas supplied by Nanaimo-Duncan Utilities, Limited, and National Utilities Corporation, Limited, the latter having operated in Parksville and Qualicum. The district now contains 510 miles of primary distribution.

Considerable reconstruction and additions were necessary to amalgamate the various operations and to prepare for the receipt and distribution of power from the John Hart Development. Work was commenced on a three-year programme which provides for a 13.2/23-kv ring feeder from the Pine Street substation.

Construction of a 23-kv feeder-line from Craig's Crossing to Qualicum was commenced and will be ready for operation in June, 1948. In all, 39.52 miles of primary distribution-line were constructed during the year, and 970 new services were installed.

NORTH OKANAGAN.

A total of 61.2 miles of primary distribution circuits were built for a net increase of 736 customers. A new street-lighting system of forty-one units was built at Lumby. A start was made on a voltage change from 6.9 kv. to 6.9/12 kv in the Winfield and Swan Lake areas. Of the construction-work accomplished during the year, approximately 50 per cent. was directed toward electrification of the important rural areas surveyed during the previous fiscal year.

PEACHLAND-WESTBANK.

Work of rebuilding the Peachland distribution system, begun in the previous year, was completed. The number of new services added was eighty-one.

QUESNEL.

Reconstruction of the inadequate distribution system was of necessity postponed until the summer of 1948. In the meantime, temporary measures were taken to remedy poor voltage conditions. The reconstruction programme will include a modern street-lighting system. New services to the number of sixty-seven were added.

SECHELT.

The work completed during the year included the construction of 1 mile of 6,900-volt line along the Pratt Road to serve thirteen customers, the installation of six street-lighting units at Gibsons Landing, the alteration of the Sechelt end of the system to 6,900 volts and its extension to Porpoise Bay—a distance of 2.5 miles—to supply a sawmill and other customers, and the erection of a control-panel and sectionalizing switch in the generating-station whereby the north and south sections can be segregated for control purposes. During the year 229 new services were added.

SMITHERS.

Reconstruction of the village distribution system was completed, as was the new street-lighting system of thirty-six units. The 11-mile line from Smithers to Telkwa was finished, together with the Telkwa distribution system. A street-lighting system of fourteen units was designed for Telkwa, and construction was commenced. Several

short extensions were built; in all, a total of 16.4 miles of primary circuits were completed during the year; eighty-six new service connections were made.

A Department of Transport line 3½ miles long, running north-west from Smithers to the airport, was acquired, permitting service to the airport and to certain consumers en route, making possible future extension in the Lake Kathryn area. This line was converted from 2.3-kv 3-wire to 4-kv 4-wire.

TERRACE.

The construction of the distribution system planned for the Terrace area was completed, as was a street-lighting system, consisting of ten 300- and eight 200-watt units. This work made it possible to add 148 services during the year.

VANDERHOOF.

Reconstruction of the distribution system was completed, involving construction of 3 miles of primary circuits. An adequate and modern street-lighting system of eighteen units was designed, and material was delivered; contractual arrangements were completed, and installation will proceed as soon as weather permits. Thirty-six new services were connected.

WILLIAMS LAKE.

The distribution system acquired by the Commission was reconstructed, 125 new poles being set for this purpose. Additional transformer capacity was installed.

Supply and control wiring for thirty street-lighting units was installed. Fifty-one new services were added.

Extensions were undertaken, as follows:—

To the airport area, 0.7 mile to supply seven customers.

To the north side of Williams Lake, 3.1 miles to supply sixteen customers.

To the south side of Williams Lake, 0.8 mile to supply eight customers and an auto court.

These extensions were not completed by the end of the fiscal year.

SUMMARY OF CIRCUIT MILES OF DISTRIBUTION AND NUMBER OF CUSTOMERS AS AT MARCH 31ST, 1948.

District.	Miles of Line.	Number of Customers.	Customers per Mile.
Alberni	81.3	3,464	42.7
Alert Bay	3.7	205	55.2
Burns Lake	0.8	99	124.0
Cumberland-Royston	25.7	916	35.7
Golden	9.5	201	21.8
Hope	13.3	429	32.3
Kamloops	58.9	3,359	57.0
Lillooet	4.8	141	29.4
Nakusp	15.7	300	19.0
Nanaimo-Duncan	510.1	9,793	19.1
North Okanagan	294.9	5,932	20.1
Peachland-Westbank	27.6	384	13.9
Quesnel	11.4	427	37.5
Sechelt	26.0	730	28.0
Smithers	25.0	426	17.0
Terrace	12.0	246	20.5
Vanderhoof	4.2	164	39.1
Williams Lake	6.4	254	40.0
Totals	1,131.3	27,470	26.7

IV. OPERATION.

1. PRODUCTION.

As at March 31st, 1948, the Commission was operating nine hydro-electric plants with twelve units, one steam-electric plant with three units, and thirteen diesel-electric plants with thirty-six units. The twenty-three generating plants in operation have a total capacity of 18,060 kva. Six of these are new standard diesel stations that have been installed by the Commission at Terrace, Smithers, Vanderhoof, Quesnel, Alert Bay, and Golden. These six plants have a total capacity of 3,124 kva, replacing equipment rated at 1,149 kva.

As a result of the bringing into operation of more efficient generating equipment, the Commission has twenty-four inactive generating units with a combined rated capacity of 3,670 kva. Some of the equipment, acquired from former owners, may be reconditioned for temporary installation in new areas.

Power became available from the first unit of the John Hart plant January 11th, 1948. Thereafter steam-plant operation at Nanaimo was unnecessary, and the operation of the two small hydro-plants was curtailed and will be discontinued early in the next year.

GENERATING CAPACITY AS AT MARCH 31ST, 1948.

Plant Location.	Active.			Inactive.		
	Type.*	Number of Units.	Capacity in Kva.	Type.*	Number of Units.	Capacity in Kva.
Alert Bay	D	3	437.5	D	3	230.0
Barriere	H	2	1,695.0	.....	....	.....
Burns Lake	D	2	62.5	.....	....	.....
Golden	D	3	562.5	D	2	150.0
Hope	DH	5	527.0	.....	....	.....
Kamloops	S	3	2,750.0	.....	....	.....
Lillooet	DH	3	337.5	.....	....	.....
Nakusp	HD	2	250.0	.....	....	.....
Nanaimo	H	3	1,275.0	S	2	1,080.0
Peachland	H	1	62.0	.....	....	.....
Port Alberni	.....	....	.....	D	4	1,335.0
Qualicum	.....	....	.....	D	1	125.0
Quesnel	D	3	687.5	DH	6	462.0
Sechelt	DH	3	575.0	.....	....	.....
Shuswap Falls	H	2	6,500.0	.....	....	.....
Smithers	D	3	749.0	D	2	105.0
Terrace	D	2	250.0	.....	....	.....
Vanderhoof	D	3	437.5	D	3	152.0
Westbank	D	4	427.0	D	1	31.0
Williams Lake	D	4	475.0	.....	....	.....
Totals	.....	51	18,060.0	.....	24	3,670.0

* NOTE.—D=diesel; H=hydro; S=steam.

Through month-to-month arrangements for purchase of power the following additional capacity was made available to the Commission:—

	Kva.
Vancouver Island Power Co., Ltd., at Duncan	6,750
Victoria Lumber Co., Ltd., at Chemainus	500
Bloedel, Stewart & Welch, Ltd., at Port Alberni	1,140
Alberni Pacific Lumber Co., Ltd., at Port Alberni	623
Canadian Collieries (D.), Ltd., at Royston and Cumberland	350
Total purchased capacity available	9,363
Commission's active generating capacity	18,060
No. 1 unit, John Hart Development	25,000
Total	52,423

POWER GENERATED AND PURCHASED.

I. *Generated.*

Station.	Kwh.	Kwh.
Alert Bay	438,944	
Barriere	10,041,876	
Burns Lake	43,415	
Golden	254,875	
Hope	708,010	
Kamloops	2,076,900	
Lillooet	234,455	
Nakusp	369,400	
Nanaimo (three plants)	4,984,540	
Peachland and Westbank (two plants)	743,024	
Port Alberni	1,990,224	
Quesnel	841,110	
Sechelt	654,830	
Shuswap Falls	21,019,150	
Smithers	739,677	
Terrace	257,667	
Vanderhoof	275,297	
Williams Lake	589,140	
John Hart	8,039,096	
Carried forward		54,301,630

JOHN HART DEVELOPMENT.

View of first section of power-house, showing surge-tank and penstock.
Extension to contain additional units under construction at right.

POWER GENERATED AND PURCHASED—*Continued.*

		Kwh.
Brought forward		54,301,630

II. *Purchased.*

From.	Kwh.	
Vancouver Island Power Co., Ltd.	22,278,000	
Victoria Lumber Co., Ltd.	2,195,780	
Bloedel, Stewart & Welch, Ltd.	867,700	
Alberni Pacific Lumber Co., Ltd.	1,996,900	
Canadian Collieries (D.), Ltd.	889,130	
West Kootenay Power and Light Co., Ltd.	4,200	
		28,231,710
Total generated and purchased		82,533,340
Less station service		1,153,489
Net generated and purchased		81,379,851

DISPOSITION OF POWER.

		Kwh.
Net generated and purchased		81,379,851
Transmission and transformation losses (6.5 per cent.)		5,250,423
Delivered, wholesale		76,129,428
Special contract sales—		
Construction, John Hart Development	16,779	
Bloedel, Stewart & Welch, Ltd.	4,273,900	
		4,290,679
Delivered to power districts and municipalities for distribution		71,838,749
Distribution losses (10.5 per cent.)		7,524,941
Distribution sales on consumers' meters		64,313,808

2. TRANSMISSION.

One circuit of the 138-kv system connected with the John Hart generating-station was energized January 11th, 1948, on a test basis, and has since been supplying energy to the Port Alberni substation. The Nanaimo substation (Jinglepot) was energized March 7th, 1948. The permanent control equipment on this transmission system is not yet completed.

There having been very little maintenance-work performed by the former owners during the war years, an unusual amount of this work has been necessary. On the former Nanaimo-Duncan transmission system 18 miles of right-of-way were recleared. Over 100 insulator replacements were made, 90 per cent. of which were occasioned by hunters or others with firearms.

Highway relocations necessitated considerable reconstruction of transmission-poles.

The physical and electrical characteristics of transmission-lines are tabulated below:—

TRANSMISSION SYSTEMS.

Location.	Length.	Voltage.	Type.	Supports.	Conductor.	Number of Circuits.
1. Vancouver Island System.	Miles.	Kv.				
Duncan-Nanaimo	32.6	60	Pin	Wood pole	No. 2/0 A.C.S.R.	1
Campbell River to Nanaimo and Port Alberni	103.54	138	Suspension	Steel towers	397,500 C/M, A.C.S.R.	2
2. Okanagan System.						
Shuswap to Vernon and Winfield	42.7	63	Pin	Wood pole	No. 0 and No. 1 copper	1
Shuswap to Vernon to Salmon Arm to Canoe	61.0	33	Pin	Wood pole	No. 0 copper	1
3. Kamloops System.						
Barriere to Kamloops	45.0	44	Pin	Wood pole	No. 2/0 A.C.S.R.	1

3. DISTRIBUTION.

On March 31st, 1948, the Commission was supplying electrical service to 27,470 customers in eighteen power districts, an increase of 4,431 during the year. Of this number, 3,431 represent new service connections and 1,000 were acquired with operations taken over by the Commission.

Two new power districts, Burns Lake and Lillooet, were created around the electrical operations acquired from Burns Lake Electric and Pacific Great Eastern Railway respectively.

The Cumberland Electric Lighting Company operation, acquired during the year, was combined with the Royston operation to form the Cumberland-Royston Power District.

All distribution systems required heavy maintenance expenditures owing to the age of the equipment and in most cases neglect of adequate maintenance by the previous owners. This work resulted in numerous interruptions to service, particularly in the Nanaimo-Duncan Power District. However, it was considered essential to place the distribution systems in good operating condition to deliver power in greater volume from the John Hart Development. While it is impossible to guarantee uninterrupted service in rural areas, a marked reduction in the number of outages is anticipated for the next year.

A total of 71,838,749 kwh were delivered to the power districts for distribution. Consumers' meters showed total sales of 64,313,808 kwh. The difference, 7,524,941 kwh, represented loss in distribution. The distribution loss, 10.5 per cent. of the power delivered, may be considered exceptionally low and reflects the improvement already made in the distribution lines and equipment.

The tabulation "Statistics Relating to the Supply of Electrical Energy," immediately following, contains interesting comparisons with the preceding year. It is to be noted that the average kwh cost to residential consumers has been reduced by 10 per cent. Notwithstanding higher operating costs, this result has been obtained through greater volume of production and sales.

4. RATE SCHEDULES.

During the fiscal year revised rates in accordance with the Commission's Regulation No. 5 were made effective in seven more power districts. This regulation, adopted in 1946, provides for a uniform structure for each classification of service, with rates to vary with the costs of supplying the service in each power district.

STATISTICS RELATING TO THE SUPPLY OF ELECTRICAL ENERGY.

POWER DISTRICT.	Fiscal Year ended March 31st	RESIDENTIAL SERVICE.						COMMERCIAL SERVICE						POWER SERVICE.				STREET-LIGHTING SERVICE			TOTALS.			
		Revenue	Consumption	Number of customers	Av. Monthly consumption	Average monthly bill	Revenue per kwh.	Revenue	Consumption	Number of customers	Av. Monthly consumption	Average monthly bill	Revenue per kwh.	Revenue	Consumption	Number of customers	Revenue per kwh.	Revenue	Consumption	Number of customers	Revenue	Consumption	Number of customers	Revenue per kwh.
		$	KWH		KWH	$	¢	$	KWH		KWH	$	¢	$	KWH		¢	$	KWH		$	KWH		¢
ALBERNI												Date	of	acquisition:	Jan. 1st 1947								2,877	
	1947	29,556.13	662,644	2,474	90	4.00	4.5	18,405.25	530,739	427	425	14.70	3.5	3,456.37	32,633	40	10.6	1,732.96	26,148	2	53,150.71	1,252,164	2,943	4.2
	1948	122,940.07	2,907,171	2,938	90	3.80	4.2	77,132.03	2,010,020	484	365	14.00	3.8	15,913.73	431,583	40	3.7	6,776.41	134,571	2	222,762.24	5,483,345	3,464	4.1
ALERT BAY												Date	of	acquisition:	Aug. 1st 1945								152	
	1947	5,858.78	53,000	110	43	4.70	11.0	9,219.72	119,000	55	180	13.95	7.7	3,734.55	73,700	25	5.1	180.00	3,600	1	18,993.05	249,300	191	7.6
	1948	6,848.87	96,520	132	68	4.85	7.1	10,076.96	199,110	65	274	13.80	5.1	2,610.06	54,640	7	4.8	134.00	300	1	19,669.89	350,570	205	5.6
BURNS LAKE												Date	of	acquisition:	Nov. 1st 1947								88	
	1948	2,567.51	14,650	66	48	8.35	17.5	2,488.95	17,195	28	126	18.30	14.5	392.85	2,803	4	14.0	125.00	3,872	1	5,574.31	38,520	99	14.5
CUMBERLAND-ROYSTON								Date	of	acquisition:	Royston.	Jan. 1st 1947;		Cumberland.	June 5th 1947								870	
	1947	1,255.30	21,247	93	76	4.50	5.9														1,255.30	21,247	93	5.9
	1948	28,846.60	381,012	837	45	3.40	7.6	9,409.21	221,106	75	295	12.50	4.3	2,021.40	78,362	2	2.6	1,422.52	40,175	2	41,699.73	720,655	916	5.8
GOLDEN												Date	of	acquisition:	Sept. 1st 1945								158	
	1947	6,275.26	44,200	124	31	4.35	14.2	7,513.21	74,000	46	135	13.75	10.2	861.04	8,700	7	9.9	954.60	25,000	-	15,604.11	151,900	177	10.2
	1948	6,855.41	53,994	141	34	4.30	12.7	8,488.36	98,407	54	162	14.00	8.6	745.06	5,914	6	12.6	500.45		-	16,589.28	158,315	201	10.5
HOPE												Date	of	acquisition:	Aug. 1st 1945								190	
	1947	11,103.42	107,300	269	37	3.80	10.3	10,076.62	141,300	48	284	20.20	7.1	252.60	4,800	4	5.3	286.00	27,676	1	21,718.64	281,076	322	7.7
	1948	11,470.01	184,792	342	51	3.20	6.2	12,647.95	291,137	84	316	13.75	4.4	195.04	5,437	2	3.6	749.00	27,867	1	25,062.00	509,233	429	4.9
KAMLOOPS												Date	of	acquisition:	Jan. 1st 1947								2,954	
	1947	29,586.47	835,165	2,354	118	4.25	3.6	34,612.54	656,614	609	392	20.60	5.3	11,258.70	452,823	116	2.5	1,553.75	62,870	1	77,011.46	2,007,472	3,080	3.9
	1948	113,315.36	3,176,827	2,588	107	3.80	3.6	136,481.20	2,647,482	650	355	18.25	5.2	72,421.50	3,473,306	120	2.1	4,809.85	199,320	1	327,027.91	9,496,935	3,359	3.5
LILLOOET												Date	of	acquisition:	Aug. 1st 1947								135	
	1948	3,643.72	46,091	82	68	5.35	7.9	3,872.34	109,177	45	316	11.20	3.5	781.38	13,545	14	5.8				8,297.44	168,813	141	4.9
NAKUSP												Date	of	acquisition:	Sept. 1st 1945								250	
	1947	7,952.72	75,000	217	30	3.20	10.6	3,804.34	48,400	52	76	6.00	7.9	529.68	7,500	12	7.1				12,286.74	130,900	281	9.4
	1948	9,347.76	99,211	230	37	3.45	9.4	5,317.30	79,093	65	114	7.70	6.7	383.11	2,440	5	15.7				15,048.17	180,744	300	8.4
NANAIMO - DUNCAN			Date	of	acquisition:	Nanaimo-	Duncan etc.	Aug. 1st 1945;		Parksville,	Qualicum	Jan. 1st 1947;		Chemainus.	Mar. 15th 1947								7,737	
	1947	299,777.93	5,933,381	7,477	72	3.65	5.1	140,757.69	3,506,220	1,048	310	12.45	4.0	198,306.40	13,187,560	294	1.5	12,563.58	446,398	4	651,405.60	23,073,559	8,823	2.8
	1948	378,033.10	7,839,393	8,278	83	4.00	4.8	188,970.81	4,394,887	1,203	320	13.80	4.3	223,901.54	14,448,894	307	1.5	13,680.38	474,242	5	804,585.83	27,157,416	9,793	3.0
NORTH OKANAGAN												Date	of	acquisition:	Aug. 1st 1945.								4,477	
	1947	173,236.77	4,169,895	4,167	87	3.60	4.2	112,465.09	2,715,790	795	303	12.55	4.2	125,087.98	7,566,512	226	1.7	9,571.83	434,708	8	420,361.67	14,886,905	5,196	2.8
	1948	203,025.85	5,242,519	4,791	97	3.75	3.9	133,269.83	3,107,124	889	306	13.15	4.3	138,914.71	8,205,735	244	1.7	9,900.79	449,066	8	485,111.18	17,004,444	5,932	2.9

STATISTICS RELATING TO THE SUPPLY OF ELECTRICAL ENERGY.

POWER DISTRICT.	Fiscal Year ended March 31st	RESIDENTIAL SERVICE.						COMMERCIAL SERVICE						POWER SERVICE.				STREET-LIGHTING SERVICE			TOTALS.			
		Revenue	Consumption	Number of customers	Av. Monthly consumption	Average monthly bill	Revenue per kwh.	Revenue	Consumption	Number of customers	Av. Monthly consumption	Average monthly bill	Revenue per kwh.	Revenue	Consumption	Number of customers	Revenue per kwh.	Revenue	Consumption	Number of customers	Revenue	Consumption	Number of customers	Revenue per kwh.
		$	KWH		KWH	$	¢	$	KWH		KWH	$	¢	$	KWH		¢	$	KWH		$	KWH		¢
PEACHLAND-WESTBANK												Date of acquisition: Aug. 7th 1946.											288	
	1947	5,984.54	68,059	244	36	3.15	8.8	3,212.77	41,002	45	114	8.90	7.8	2,841.19	79,335	12	3.6	325.01	10,952	2	12,363.51	199,348	303	6.2
	1948	11,098.89	180,318	312	53	3.25	6.2	5,943.78	116,398	55	192	9.80	5.1	4,372.84	297,533	15	1.5	660.00	23,946	2	22,075.51	618,195	384	3.6
QUESNEL												Date of acquisition: Aug. 1st 1945.											289	
	1947	9,856.63	127,000	252	45	3.50	7.7	13,962.69	171,200	85	174	14.20	8.2	3,451.98	104,260	22	3.3	374.00	50,808	1	27,645.30	453,268	360	6.1
	1948	11,726.60	172,363	312	51	3.50	6.8	15,086.51	316,178	101	279	13.30	4.8	2,315.88	102,581	13	2.3	518.40	50,112	1	29,647.39	641,234	427	4.6
SECHELT												Date of acquisition: Sept. 1st 1945.											337	
	1947	15,609.09	139,159	423	30	3.40	11.2	5,747.09	70,300	74	91	7.40	8.2	2,228.27	83,400	4	2.7				23,584.45	292,859	501	8.1
	1948	20,850.30	255,328	628	40	3.25	8.2	7,488.11	139,777	94	139	7.45	5.3	776.33	11,993	6	6.5	38.50	1,500	2	29,153.24	408,598	730	7.1
SMITHERS												Date of acquisition: Sept. 1st 1945.											293	
	1947	10,920.33	102,000	245	36	3.85	10.7	9,737.67	75,000	66	88	11.40	12.9	3,178.94	47,000	28	6.8	684.00	8,758	1	24,520.94	232,758	340	10.5
	1948	10,577.48	158,769	308	49	3.30	6.7	10,867.63	247,854	102	237	10.40	4.4	3,343.17	154,791	15	2.2	707.00	13,580	1	25,495.28	574,994	426	4.5
TERRACE												Date of acquisition: Sept. 20th 1945.											59	
	1947	2,850.84	17,100	62	26	4.30	16.7	3,692.31	33,100	35	80	8.95	11.1					93.00	9,000	1	6,636.15	59,200	98	11.2
	1948	4,736.81	52,155	186	38	3.50	9.1	5,984.98	93,072	56	149	9.60	6.5	279.98	6,145	3	4.6	152.50	7,450	1	11,154.27	158,822	246	7.0
VANDERHOOF												Date of acquisition: Sept. 1st 1945.											106	
	1947	4,462.45	43,800	78	49	5.00	10.2	7,917.34	70,000	45	129	14.65	11.3	1,008.31	12,200	4	8.3	180.00	3,285	1	13,568.10	129,285	128	10.5
	1948	4,424.41	64,373	106	60	4.15	6.9	6,138.75	101,171	52	168	10.20	6.0	621.87	9,106	5	6.8	180.00	2,250	1	11,365.03	176,900	164	6.4
WILLIAMS LAKE												Date of acquisition: Sept. 1st 1945.											161	
	1947	7,324.45	85,300	116	66	5.70	8.6	11,386.30	150,600	64	207	15.20	7.6	3,059.51	53,000	22	5.8	452.00	3,689	1	22,222.26	292,589	203	7.6
	1948	7,184.58	126,285	157	76	4.30	5.7	13,546.73	292,938	86	311	14.40	4.6	1,269.63	38,452	10	3.3	461.40	8,400	1	22,462.34	466,075	254	4.8
TOTAL:												At respective dates of acquisition.											21,421	
	1947	621,611.11	12,484,250	18,705	74	3.70	5.0	392,510.63	8,403,265	3,494	278	13.00	4.7	359,255.52	21,713,423	816	1.7	28,950.73	1,112,892	24	1,402,327.99	43,713,830	23,039	3.2
	1948	957,493.33	21,051,771	22,434	84	3.80	4.5	653,211.43	14,482,126	4,188	308	13.90	4.5	471,260.08	27,343,260	818	1.7	40,816.20	1,436,651	30	2,122,781.04	64,313,808	27,470	3.3

NOTE: The average monthly consumption and the average monthly bill are based on the average number of customers for the whole year rather than on the actual number shown, which is as at the end of the fiscal year.

In a number of the power districts it has been considered necessary to define more than one rate zone. Zone No. 1 comprises an incorporated municipality or a village, while Zone No. 2 refers to adjoining rural areas where the capital investment per customer is higher than in the more thickly populated Zone No. 1. The resultant higher capital carrying costs are guaranteed by means of an increased minimum monthly bill. As the actual rates are, with two slight exceptions, the same in both zones of each power district, the customer may with advantage use energy to the amount of the minimum bill.

In summary form the promotional rates in effect on March 31st, 1948, are shown in the tables following:—

I. RESIDENTIAL SERVICE RATES.

Power District.	Block I (First 20 Kwh per Month per Kw of Demand).	Block II (Next 60 Kwh per Month per Kw of Demand).	Block III (Balance of Monthly Consumption).	Monthly Minimum per Kw of Demand.
	Cents per Kwh.	Cents per Kwh.	Cents per Kwh.	$
Alert Bay	12	2½	8/10	1.00
Golden	12	2½	8/10	1.00†
Hope	10	2½	8/10	1.00
Nakusp	12	2½	8/10	1.00
Quesnel	10*	2½	8/10	1.00‡
Sechelt	12	2½	8/10	1.00
Smithers	10	2½	8/10	1.00
Terrace	12	2½	8/10	1.00‡
Vanderhoof	12	2½	8/10	1.00‡
Westbank-Peachland	10	2½	8/10	1.00
Williams Lake	10*	2½	8/10	1.00‡

* In Zone 2 of this power district the rate for the first block is 12 cents.
† Minimum bill in Zone 2 of this district is $1.50 per kw.
‡ Minimum bill in Zone 2 of this district is $1.25 per kw.
Minimum demand rating is 2 kw.
Discount, 10 per cent. for prompt payment.

II. SUMMER SERVICE RATES, RESIDENTIAL AND COMMERCIAL.
(Applicable to five-month period, May 1st to September 30th.)

Power District.	Annual Fixed Charge per Kw. of Demand.	Block I (First 50 Kwh per Season per Kw of Demand).	Block II (Next 50 Kwh per Season per Kw of Demand).	Block III (Balance of Consumption per Season).
	$	Cents per Kwh.	Cents per Kwh.	Cents per Kwh.
Alert Bay	6.00	12	2½	½
Golden	6.00	12	2½	½
Hope	6.00	10	2½	½
Nakusp	6.00	12	2½	½
Quesnel	6.00	10*	2½	½
Sechelt	6.00	12	2½	½
Smithers	6.00	10	2½	½
Terrace	6.00	12	2½	½
Vanderhoof	6.00	12	2½	½
Westbank-Peachland	6.00	10	2½	½
Williams Lake	6.00	10*	2½	½

* In Zone 2 of this power district the rate for the first block is 12 cents.
Minimum demand rating is 2 kw.
Discount, 10 per cent. for prompt payment.

The following rates are applicable to commercial services in each of the power districts named in Tables I and II:—

III. Commercial Service Rates.

Minimum Demand in Kw.	Block I (First 30 Kwh per Month per Kw of Demand).	Block II (Next 60 Kwh per Month per Kw of Demand).	Block III (Balance of Monthly Consumption).	Monthly Minimum per Kw of Demand.
	Cents per Kwh.	Cents per Kwh.	Cents per Kwh.	$
2	12	4	½	1.00*

* In Zone 2 of Golden the minimum bill is $1.50 per kw of demand; in Zone 2 of Quesnel, Terrace, Vanderhoof, and Williams Lake, $1.25 per kw.

Discount, 10 per cent. for prompt payment.

The following rates are applicable to power service in each of the power districts named in Tables I and II:—

IV. Power Service Rates.

	Minimum Demand in Kw.	Service Charge per Kw of Demand.	Block I (First 50 Kwh per Month per Kw of Demand).	Block II (Next 50 Kwh per Month per Kw of Demand).	Block III (Balance of Monthly Consumption).	Monthly Minimum per Kw of Demand.
		$	Cents per Kwh.	Cents per Kwh.	Cents per Kwh.	$
Power*	4	1.00	3	1½	½	1.00
Primary power†	50	.85	3	1½	½	.85

* Power delivered at 550/220/110 volts.

† Power delivered at primary distribution voltage—2,300 volts or higher.

Discount, 10 per cent. for prompt payment.

Two classifications of street-lighting service are supplied by the Commission—Overhead and Ornamental.

The Commission installs, owns, operates, and maintains overhead street-lighting equipment and supplies energy for the operation of lights daily from one hour after sunset until one hour before sunrise. The customer municipality pays the actual cost of materials for renewal of lamps and glassware.

Ornamental street-lighting equipment is owned by and maintained at the expense of the customer municipality. The Commission supplies energy for the operation daily from one hour after sunset until one hour before sunrise.

V. Street-Lighting Rates—All Districts.

Capacity Rating of Lamps.	Net Rate per Month per Lamp. Overhead Lamps.	Ornamental Lamps.
(*a*) Multiple system—		
100 watts	$1.50	$0.75
200 ,,	2.00	1.25
300 ,,	2.50	1.75
500 ,,	3.50	2.75
1000 ,,	6.00	5.25
(*b*) Series system—		
100 candle-power	1.30	0.55
250 ,, ,,	1.75	1.00
400 ,, ,,	2.10	1.35
600 ,, ,,	2.60	1.85

With the coming into production of the John Hart Development, revised schedules, conforming to the framework as set out above for each service classification, will be adopted in the Nanaimo-Duncan and Alberni Power Districts during the next fiscal year. The whole of the Coastal Region, with the exception of the Cumberland-Royston Power District, which is on 25-cycle current, will then be operating under promotional rates.

In the Interior Region the shortage of power in both the North Okanagan and Kamloops Power Districts precludes the adoption of revised schedules designed to encourage the use of electrical energy until increased power capacity is available. The only other power districts where rate revisions have not yet been considered are the latest acquisitions—namely, Burns Lake and Lillooet.

V. SURVEYS AND INVESTIGATIONS.

1. POWER PROJECTS.

Surveys for a hydro-electric power-development at Whatshan Lake, near Needles, were resumed and completed during the early part of the year, following which designs and estimates for a plant having an initial capacity of 30,000 horse-power and an ultimate capacity which may reach 60,000 horse-power were prepared.

The urgent need for an augmented power-supply in the Kamloops-Okanagan area became increasingly evident as the year progressed. Accordingly, the project was recommended and received the assent of the Lieutenant-Governor in Council in December, 1947.

The proposed plant is expected to come into operation during the summer of 1950. To assist in meeting anticipated peak power demands prior to this date, studies were made covering the installation in Kamloops of the 625-kva steam-electric generating unit now in Nanaimo and made available by the supply of power to that centre from the John Hart generating plant.

Surveys, preliminary designs, and estimates have been prepared covering two power-sites on the Quesnel River and one on Swamp River, a tributary of Quesnel River in the Wells-Barkerville area. Diamond-drilling was carried out to establish rock foundations at the most promising of these power-sites. The surveys established the possibility of developing a total of at least 150,000 continuous horse-power in several developments on Quesnel River. This power can conveniently be developed in stages if required.

In the Second Annual Report of the Commission, mention was made of a preliminary survey covering a potential hydro-electric development on Kicking Horse River to supply Golden and vicinity. This power-site was found to have several undesirable features. Accordingly, surveys have been made and a scheme developed for utilizing a potential power-site on the Spillimacheen River in the Columbia Valley, approximately 40 miles south of Golden. If developed, this site would serve to supply power to perhaps 80 miles of the Columbia River valley, extending from Golden southwards to Windermere.

Surveys of potential power-sites on Scuzzy Creek and Nahatlatch River, near North Bend in the Fraser Canyon, were made to determine the economic possibility of developing hydro-electric power to supply communities at North Bend, Boston Bar, and Lytton.

During the winter of 1947 a small survey party established a location for a diversion of the Brewster Lake road, which will be flooded when water is impounded in Lower Campbell Lake. This party also made a preliminary topographical survey of the outlet of Buttle Lake on Campbell River. This survey will serve as a basis for preliminary studies relating to future storage of water in this lake for river-regulation purposes.

2. TRANSMISSION PROJECTS.

Final location of property-lines and right-of-way easements were established for the high-tension transmission-line between Kamloops and Vernon.

Aerial survey was made covering the proposed route for a 138-kv line from Whatshan to Vernon, a distance of approximately 75 miles. Ground location for approximately one-third of this line was made during the summer of 1947.

Preliminary studies for additional substation facilities and for 60-kv transmission-lines to supply contemplated industrial developments on the east coast of Vancouver Island have been continued during the year, so that proper provision for these developments can be made without delay when requirements are definitely established.

3. DISTRIBUTION PROJECTS.

Surveys were made during the year to determine the cost and feasibility of electrical distribution in the following areas:—

(*a*) The Columbia Valley from Golden to Cranbrook.

(*b*) From Nakusp through New Denver, Slocan City to Crescent Valley, and in the neighbourhood of Kaslo.

(*c*) Along the Canadian National Railway from Prince George to Prince Rupert.

(*d*) The Queen Charlotte Islands.

(*e*) From Campbellton to Sayward and Kelsey Bay.

In addition to these investigations, a study was completed to determine the nature of the technical problems and the cost of changing the Courtenay-Comox system from 25 to 60 cycles.

Studies were also carried out in respect to permanent and expanded distribution systems for the Kamloops-North Kamloops district and for the City of Nanaimo.

The North Okanagan Valley rural electrification scheme was surveyed in detail in the Woods Lake, Armstrong, Enderby, Salmon Arm, Canoe, and Sicamous-Malakwa areas. A similar study in the Coldstream Valley-Okanagan Landing territory is in progress.

An extensive survey of certain of the Gulf Islands was carried out, including methods of making connections to the Vancouver Island system.

Customer demands and ratings were studied in Alberni, Port Alberni, Nanaimo-Duncan, Alert Bay, Golden, Nakusp, Quesnel, Terrace, Vanderhoof, and Williams Lake in connection with the application of new rates. Similar investigations are being carried out in other districts at the present time.

VI. FINANCIAL.

In this section statements are presented showing the financial position of the undertakings of the Commission as at close of its third fiscal period, the activities of which have been covered in the preceding sections of the report. The statements include:—

1. Balance-sheet as at March 31st, 1948.
2. Revenue and expenses, combined operations, for the year ended March 31st, 1948.
3. Distribution revenue and expenses, all power districts, for the year ended March 31st, 1948.
4. Distribution by individual power districts:—
   (*a*) Revenue and expenses for the year ended March 31st, 1948.
   (*b*) Accumulated stabilization reserve as at March 31st, 1948.
5. Plant and equipment in operation and related maintenance and renewals reserves as at March 31st, 1948.
6. Construction-work in progress as at March 31st, 1948.

The plant and equipment totals include valuations established by the Commission in respect of plants and equipment acquired by expropriation proceedings in August and September, 1945, but for which the compensation is still not determined. This matter was referred to in previous Annual Reports, and proceedings toward such determination are in progress under the terms of the "Electric Power Act."

Operating statements for the initial period of eight months to March 31st, 1946, and the twelve months ended March 31st, 1947, were presented in tentative form only in the First and Second Annual Reports, with qualifying remarks that the nominal surpluses shown therein were subject to later adjustment for charges which could not be properly determined at date of those reports. This adjustment has now been made and the revised comparative results of the three periods to date, including the year ended March 31st, 1948, are given in condensed form below:—

	8 Months, Aug. 1, 1945, to Mar. 31, 1946.	12 Months ended Mar. 31, 1947.	12 Months ended Mar. 31, 1948.	Total (32 Months) to Mar. 31, 1948.
Revenue	$815,823.93	$1,411,834.52	$2,146,689.39	$4,374,347.84
Operating expenses	417,299.48	871,607.60	1,397,660.72	2,686,567.80
Operating surplus	$398,524.45	$540,226.92	$749,028.67	$1,687,780.04
Provision for reserves	201,437.87	325,129.94	518,534.61	1,045,102.42
Net operating surplus transferred to Stabilization Reserve	$197,086.58	$215,096.98	$230,494.06	$642,677.62

Further details relative to revenue and operating expenses, allocation of the cost of power, distribution expenses, etc., for the year ended March 31st, 1948, are shown in Statements 2, 3, and 4 herewith, and the classification of the accumulated Stabilization Reserve to March 31st, 1948, is also included in Statement 4.

The adjustments referred to above in respect of operating surpluses of prior periods and the reconciliation of the credit balance of $730,856.72 in that connection shown in the interim balance-sheet as at March 31st, 1947, published in the Second Annual Report, and the balance of $642,677.62 at credit of the Stabilization Reserve as at March 31st, 1948, is summarized below:—

	Operating Surpluses as published.	Adjustments.	Revised Balances.
Eight months ended March 31st, 1946	$329,219.51		
Interest and sinking fund charges		$130,470.62	
Maintenance, etc., adjustment increases		1,662.31	$197,086.58
Twelve months ended March 31st, 1947	401,637.21		
Interest and sinking fund charges		222,756.44	
Maintenance, etc., adjustment decreases		*—36,216.21*	215,096.98
	$730,856.72	$318,673.16	$412,183.56
Add operating surplus for twelve months ended March 31st, 1948, as per Statement 2 herewith			230,494.06
Balance at credit, Stabilization Reserve, March 31st, 1948			$642,677.62

Accounts receivable as at March 31st, 1948, include amounts totalling $59,056 shown as due from sundry debtors. The greater portion of this sum is represented by advances and debit balances connected with current construction, and these will be cleared in due course as the work progresses. The remainder of the miscellaneous items and customers' light and power accounts are considered collectable in the total amounts recorded.

Advances totalling $18,895,000 have been received from the Government of the Province of British Columbia under the terms of the " Electric Power Act," and interest to March 31st, 1948, on these advances has been paid in the amounts determined and charged by the Department of Finance. The Act requires repayment of the principal sums by sinking fund instalments over a period of not more than forty years from the date of the advances, with a provision under which the commencement of instalment payments may be deferred for a period of ten years in regard to advances for acquisitions or new construction. While the Commission has provided, as a charge to operation, for sinking fund requirements on capital invested in plant in operation, payment to the Government has been made on the basis of two years' deferment. Accordingly, an initial instalment was paid as at March 31st, 1948, by deposit of $23,250 with the Minister of Finance. Negotiations are now under way with a view to obtaining approval of the Lieutenant-Governor in Council for such deferment.

A contributory Superannuation Fund for the Commission employees was established during the year under review, and the required contributions from employees and the Commission in the total sum of $180,456.44 to March 31st, 1948, were deposited in trust with the Superannuation Commissioner appointed under the terms of the regulations covering the operation of the Fund. No pension claims or payments from the Fund had been made as at March 31st, 1948.

In accordance with the provisions of the " Electric Power Act," the accounts of the Commission have been verified by auditors appointed by the Lieutenant-Governor in Council.

BALANCE-SHEET AS

ASSETS.

Capital assets—			
Plant and equipment in operation, at values estimated by the Commission as at dates of acquisition, plus subsequent rehabilitations and additions at cost—			
Generation			$3,324,946.21
Transmission			821,182.00
Distribution			4,082,785.62
General			370,291.74
			$8,599,205.57
Construction-work in progress—			
Generation		$7,768,134.01	
Transmission		3,463,138.90	
Distribution		116,203.43	
General		985.97	
			11,348,462.31
Total plant and equipment			$19,947,667.88
Surveys and investigations			29,040.49
Acquisition costs and adjustments			229,429.98
Total capital assets			$20,206,138.35
Current assets—			
Cash on hand and in banks		$117,933.41	
Accounts receivable—			
Light and power customers	$145,128.84		
Miscellaneous	59,056.71		
		204,185.55	
Inventories of construction and operating stores and supplies		513,222,52	
Unexpired insurance, etc.		31,546.03	
			866,887.51
Deferred charge—			
Unamortized organization and preliminary expenses			159,060.28
Sinking fund for retirement of Treasury advances—Deposit with Provincial Minister of Finance			23,250.00
			$21,255,336.14

AT MARCH 31ST, 1948. Statement 1.

LIABILITIES.

Advances from the Government of the Province of British Columbia			$18,895,000.00
Liability (estimated, net) in respect of acquired plant and equipment for which compensation has not been determined			458,671.44
Current and accrued liabilities—			
Accounts payable		$239,194.27	
Gross revenue taxes in respect of power service in municipal areas (sec. 62)		44,793.57	
Customers' deposits		103,925.30	
			387,913.14
Reserves—			
Maintenance and renewals		$186,388.42	
Sinking fund—			
Balance at credit March 31st, 1947	$117,741.68		
Add provision for year	112,115.08		
		229,856.76	
Gross revenue assessments, unorganized areas (sec. 64)		38,984.98	
Interest		181,168.96	
Contingencies		234,674.82	
			871,073.94
Stabilization Reserve—			
Balance at credit March 31st, 1947		$412,183.56	
Surplus from operations, year to March 31st, 1948		230,494.06	
			642,677.62
Employees' Superannuation Fund	*$180,456.44*		
(This sum is held in trust by the Superannuation Commissioner appointed per the terms of the regulations covering the Fund.)			
			$21,255,336.14

The Chairman and Commissioners,
British Columbia Power Commission,
Victoria, B.C.

Gentlemen,—We have examined the balance-sheet of the British Columbia Power Commission as at March 31, 1948, and the attached statement of combined operations for the year ended on that date, and have obtained all the information and explanations which we required. In connection therewith we examined or tested accounting records of the Commission and other supporting evidence but we did not make a detailed audit of the transactions.

Proceedings are in progress under the terms of the "Electric Power Act" to determine the compensation to be paid for certain properties expropriated. Until such time as these proceedings are completed the liability in respect of these properties must be considered as an estimate only.

No provision has been made for any additional liability that may be incurred as a result of a reference, to be heard by a Judge, in connection with a certain request for increased costs for capital works performed during the period under review.

The Operating Surplus as reported in the Interim Balance-sheet at March 31, 1947, has been adjusted by provisions for Interest, Sinking Fund and Maintenance and Renewals.

Sinking Fund payments have been made to the Provincial Government on a two-year deferment basis. Negotiations are now being conducted with a view to obtaining the authorization of the Lieutenant-Governor in Council for deferment as provided under subsection (2) of section 52 of the "Electric Power Act."

Subject to the foregoing comments, we report that, in our opinion, the attached balance-sheet and related statement of combined operations have been drawn up so as to exhibit a true and correct view of the state of the affairs of the British Columbia Power Commission as at March 31, 1948, and the results of their operations for the year ended on that date, according to the best of our information and the explanations given to us and as shown by the books of the Commission.

Respectfully submitted,

ISMAY, BOISTON, DUNN & CO.,
Chartered Accountants, Auditors.

Victoria, B.C.,
June 30th, 1948.

Statement 2.

COMBINED OPERATIONS FINANCIAL SUMMARY—REVENUE AND EXPENSES—FOR THE YEAR ENDED MARCH 31ST, 1948.

	Operating Costs.			
	Generation.	Transmission.	Distribution.	
Revenue—				
Electrical energy sales				$2,122,781.04
Miscellaneous income				23,908.35
				$2,146,689.39
Expenses—				
Direct expenses—				
Labour	$200,161.94	$4,289.43	$107,195.13	$311,646.50
Fuel	165,705.50			165,705.50
Other operating expenses	69,285.76	1,162.85	37,797.80	108,246.41
Customer accounting			113,671.05	113,671.05
Gross revenue, 3-per-cent. assessments			62,576.80	62,576.80
Administrative and general expenses	68,285.32	827.40	48,743.61	117,856.33
	$503,438.52	$6,279.68	$369,984.39	$879,702.59
Interest on investments in operated plants	109,759.54	23,812.65	90,648.94	224,221.13
Direct expenses	$613,198.06	$30,092.33	$460,633.33	$1,103,923.72
Purchased power	293,737.00			293,737.00
	$906,935.06			$1,397,660.72
Operating surplus (excluding provisions for reserves)				$749,028.67
Provisions for reserves—				
Maintenance and renewals	$103,573.08	$22,001.67	$140,299.24	$265,873.99
Sinking fund	54,884.42	11,906.37	45,324.29	112,115.08
Contingencies	66,829.46	15,126.36	58,589.72	140,545.54
Provisions for reserves	$225,286.96	$49,034.40	$244,213.25	$518,534.61
Net Operating Surplus, year ended March 31st, 1948 (transferred to Stabilization Reserve)				$230,494.06

Statement 3.

POWER DISTRIBUTION, ALL DISTRICTS: SUMMARY OF REVENUE AND EXPENSES FOR THE TWELVE-MONTH PERIOD ENDED MARCH 31ST, 1948.

REVENUE—			
Electrical energy sales			$2,122,781.04
Miscellaneous income			23,908.35
Total revenue			$2,146,689.39
EXPENSES (summarized on Statement 2)—			
Cost of power, direct expenses—			
Generation		$613,198.06	
Transmission		30,092.33	
		$643,290.39	
Provision for reserves—			
Generation	$225,286.96		
Transmission	49,034.40		
		274,321.36	
		$917,611.75	
Purchased power		293,737.00	
Cost of power delivered to distribution systems			$1,211,348.75
Distribution services—			
Operating and administrative direct expenses		$369,984.39	
Interest		90,648.94	
		$460,633.33	
Provision for reserves—			
Maintenance and renewals	$140,299.24		
Sinking fund	45,324.29		
Contingencies	58,589.72		
		244,213.25	
			704,846.58
			$1,916,195.33
NET OPERATING SURPLUS (transferred to Stabilization Reserve)			$230,494.06

NOTE.—Revenue and expense totals for each power district separately are shown on Statement 4.

POWER DISTRIBUTION BY DISTRICTS.

Statement 4.

(*a*) SUMMARY OF REVENUE AND EXPENSES FOR THE TWELVE-MONTH PERIOD ENDED MARCH 31ST, 1948, AND (*b*) ACCUMULATED STABILIZATION RESERVE AS AT THAT DATE.

Power Districts.	Revenue.	Expenses.							Stabilization Reserve.		
		Power Production Cost allocated.	Direct Expenses—Distribution.		Provisions for Reserves—Distribution.			Total Expenses.	Surplus for Year ended March 31st, 1948.	Balance brought forward from Prior Years.	Accumulated as at March 31st, 1948.
			Operating and Administrative.	Interest on Distribution Investment.	Maintenance and Renewals.	Sinking Fund.	Contingencies.				
Coast Region.											
Alert Bay	$19,780.27	$6,809.79	$3,919.90	$420.00	$393.36	$210.00	$266.67	$12,019.72	$7,760.55	$15,800.84	$23,561.39
Alberni	223,507.36	119,404.42	35,619.27	13,200.33	13,200.33	6,595.65	8,800.23	196,820.23	26,687.13	13,527.72	40,214.85
Cumberland-Royston	42,176.63	14,992.31	10,964.47	1,725.61	6,725.61	859.32	1,145.72	36,413.04	5,763.59	.....	5,763.59
Nanaimo-Duncan	812,358.96	502,197.40	115,083.47	33,317.06	61,170.93	16,657.53	21,316.52	749,742.91	62,616.05	158,562.49	221,178.54
Sechelt	29,495.71	10,443.06	10,061.57	2,738.79	2,662.08	1,373.85	1,793.52	29,072.87	422.84	11,548.36	11,971.20
Interior Region.											
Burns Lake	5,596.44	721.89	1,192.74	36.50	36.50	18.25	24.99	2,030.87	3,565.57	.....	3,565.57
Golden	16,632.78	3,968.84	6,382.97	553.17	537.57	281.10	363.99	12,087.64	4,545.14	13,630.58	18,175.72
Hope	25,424.19	11,682.37	7,283.70	1,026.63	989.94	517.77	672.84	22,173.25	3,250.94	15,826.49	19,077.43
Kamloops	333,825.91	185,688.15	43,183.82	5,306.52	24,054.75	2,653.26	3,537.69	264,424.19	69,401.72	24,857.07	94,258.79
Lillooet	8,298.10	3,741.71	3,732.86	176.51	176.51	88.27	119.32	8,035.18	262.92	.....	262.92
Nakusp	15,090.53	6,124.80	7,558.80	727.20	694.56	363.60	471.48	15,940.44	*—849.91*	5,738.93	4,889.02
North Okanagan	490,797.91	291,175.03	86,982.89	26,713.89	25,059.00	13,356.90	16,996.20	460,283.91	30,514.00	70,935.32	101,449.32
Peachland-Westbank	22,546.51	11,801.22	6,088.07	1,628.67	1,628.67	809.85	1,079.79	23,036.27	*—489.76*	4,062.05	3,572.29
Quesnel	30,004.00	13,172.28	7,145.95	844.98	795.87	422.52	538.77	22,920.37	7,083.63	20,878.44	27,962.07
Smithers	25,696.16	12,053.30	7,291.36	812.94	788.82	406.41	532.89	21,885.72	3,810.44	21,544.95	25,355.39
Terrace	11,284.96	3,761.95	5,152.50	384.06	384.06	192.03	256.05	10,130.65	1,154.31	5,138.66	6,292.97
Vanderhoof	11,454.23	4,049.57	5,718.87	416.49	397.38	208.17	271.14	11,061.62	392.61	11,853.49	12,246.10
Williams Lake	22,718.74	9,560.66	6,621.18	619.59	603.30	309.81	401.91	18,116.45	4,602.29	18,278.17	22,880.46
Totals	$2,146,689.39	$1,211,348.75	$369,984.39	$90,648.94	$140,299.24	$45,324.29	$58,589.72	$1,916,195.33	$230,494.06	$412,183.56	$642,677.62

Statement 5.

PLANT AND EQUIPMENT IN OPERATION AS AT MARCH 31ST, 1948.

Undertaking.	Book Values.			Maintenance and Renewals Reserves as at March 31, 1948.
	Totals as at March 31, 1947.	Additions, Year ended March 31, 1948.	Totals as at March 31, 1948.	
Generating Plant.				
Coastal Region.				
Alberni	$159,212.50	.....	$159,212.50	$11,936.62
Alert Bay	99,370.72	$32,892.39	132,263.11	237.95
Nanaimo-Duncan	293,797.70	.....	293,797.70	11,481.00
Sechelt	52,246.48	.....	52,246.48	4,513.32
Interior Region.				
Barriere	351,062.00	17,318.30	368,380.30	6,117.51
Burns Lake	.....	5,170.34	5,170.34	*—127.08*
Dawson Creek	.....	45,118.74	45,118.74	3,750.00
Golden	85,675.95	51,804.95	137,480.90	*—1,565.31*
Hope	77,549.23	2,012.72	79,561.95	3,457.91
Kamloops	277,550.93	5,497.30	283,048.23	3,789.39
Lillooet	.....	13,887.42	13,887.42	*—293.46*
Nakusp	28,754.84	479.32	29,234.16	*—2,433.40*
Quesnel	142,867.29	32,291.21	175,158.50	3,855.50
Shuswap-Vernon	1,052,146.88	.....	1,052,146.88	26,733.72
Smithers	103,950.56	24,395.48	128,346.04	2,208.15
Terrace	53,728.19	18,502.12	72,230.31	*—672.05*
Vanderhoof	117,861.63	24,352.04	142,213.67	4,197.15
Westbank-Peachland	60,092.78	23,254.38	83,347.16	456.54
Williams Lake	68,402.61	3,699.21	72,101.82	*—6,854.72*
Totals	$3,024,270.29	$300,675.92	$3,324.946.21	$70,788.74
Transmission Plant.				
Coastal Region.				
Vancouver Island	$130,746.16	.....	$130,746.16	*—$18,724.79*
Interior Region.				
Kamloops	176,600.00	$237.50	176,837.50	722.14
Okanagan	493,422.40	20,175.94	513,598.34	24,575.04
Totals	$800,768.56	$20,413.44	$821,182.00	$6,572.39
Distribution Plant.				
Coastal Region.				
Alberni	$232,630.66	$134,379.70	$367,010.36	$4,077.99
Alert Bay	12,396.65	911.45	13,308.10	221.74
Cumberland-Royston	6,783.50	42,916.53	49,700.03	1,462.81
Nanaimo-Duncan	1,077,329.18	186,645.25	1,263,974.43	3,980.32
Sechelt	85,175.48	39,465.41	124,640.89	549.64
Meters	231,478.15	86,318.03	317,796.18	5,331.02
Interior Region.				
Burns Lake	.....	2,107.21	2,107.21	*—2.51*
Golden	13,661.25	34,579.75	48,241.00	*—346.83*
Hope	29,421.31	35,965.30	65,386.61	259.28
Kamloops	265,023.18	43,870.95	308,894.13	4,096.61
Lillooet	.....	4,669.11	4,669.11	37.34
Nakusp	18,180.77	43,544.67	61,725.44	388.27
Okanagan	634,811.82	187,449.37	822,261.19	22,225.15
Carried forward	$2,606,891.95	$842,822.73	$3,449,714.68	$42,280.83

Statement 5—*Continued.*

PLANT AND EQUIPMENT IN OPERATION AS AT MARCH 31ST, 1948—*Continued.*

Undertaking.	Book Values.			Maintenance and Renewals Reserves as at March 31, 1948.
	Totals as at March 31, 1947.	Additions, Year ended March 31, 1948.	Totals as at March 31, 1948.	
DISTRIBUTION PLANT—*Continued.*				
Interior Region—Continued.				
Brought forward	$2,606,891.95	$842,822.73	$3,449,714.68	$42,280.83
Peachland-Westbank	58,442.78	44,752.96	103,195.74	124.39
Quesnel	25,340.52	3,809.93	29,150.45	1,053.47
Smithers	36,243.06	57,150.24	93,393.30	294.41
Terrace	18,874.14	25,305.49	44,179.63	308.33
Vanderhoof	14,631.58	22,524.32	37,155.90	351.75
Williams Lake	14,240.95	21,144.63	35,385.58	200.69
Meters	213,698.56	76,911.78	290,610.34	1,978.51
Totals	$2,988,363.54	$1,094,422.08	$4,082,785.62	$46,592.38
GENERAL PLANT.				
Head Office.				
Victoria	$62,847.10	$5,328.49	$68,175.59	$21,675.26
Coastal Region.				
Alberni	23,051.90	1,428.73	24,480.63	1,129.85
Alert Bay	503.00	88.49	591.49	106.65
Cumberland-Royston	.....	10,655.06	10,655.06	1,048.41
Nanaimo-Duncan	107,750.02	31,450.97	139,200.99	19,292.61
Sechelt	3,244.02	2,329.80	5,573.82	1,366.24
Interior Region.				
Burns Lake	.....	121.46	121.46	.....
Golden	1,888.47	544.81	2,433.28	654.25
Hope	1,851.19	91.44	1,942.63	314.66
Kamloops	38,145.36	13,582.40	51,727.76	6,346.29
Lillooet	.....	481.04	481.04	50.49
Nakusp	1,847.93	55.48	1,903.41	358.66
Okanagan	32,755.68	17,767.65	50,523.33	9,501.66
Peachland-Westbank	100.00	671.53	771.53	248.88
Quesnel	2,459.37	162.25	2,621.62	273.97
Smithers	484.25	1,792.16	2,276.41	56.76
Terrace	.....	1,947.00	1,947.00	*—108.27*
Vanderhoof	1,863.16	242.84	2,106.00	*—29.41*
Williams Lake	129.00	2,629.69	2,758.69	147.95
Totals	$278,920.45	$91,371.29	$370,291.74	$62,434.91

SUMMARY.

Plant and Equipment in Operation as at March 31st, 1948.

Generating plant	$3,024,270.29	$300,675.92	$3,324,946.21	$70,788.74
Transmission plant	800,768.56	20,413.44	821,182.00	6,572.39
Distribution plant	2,988,363.54	1,094,422.08	4,082,785.62	46,592.38
General plant	278,920.45	91,371.29	370,291.74	62,434.91
Totals	$7,092,322.84	$1,506,882,73	$8,599,205.57	$186,388.42

Statement 6.

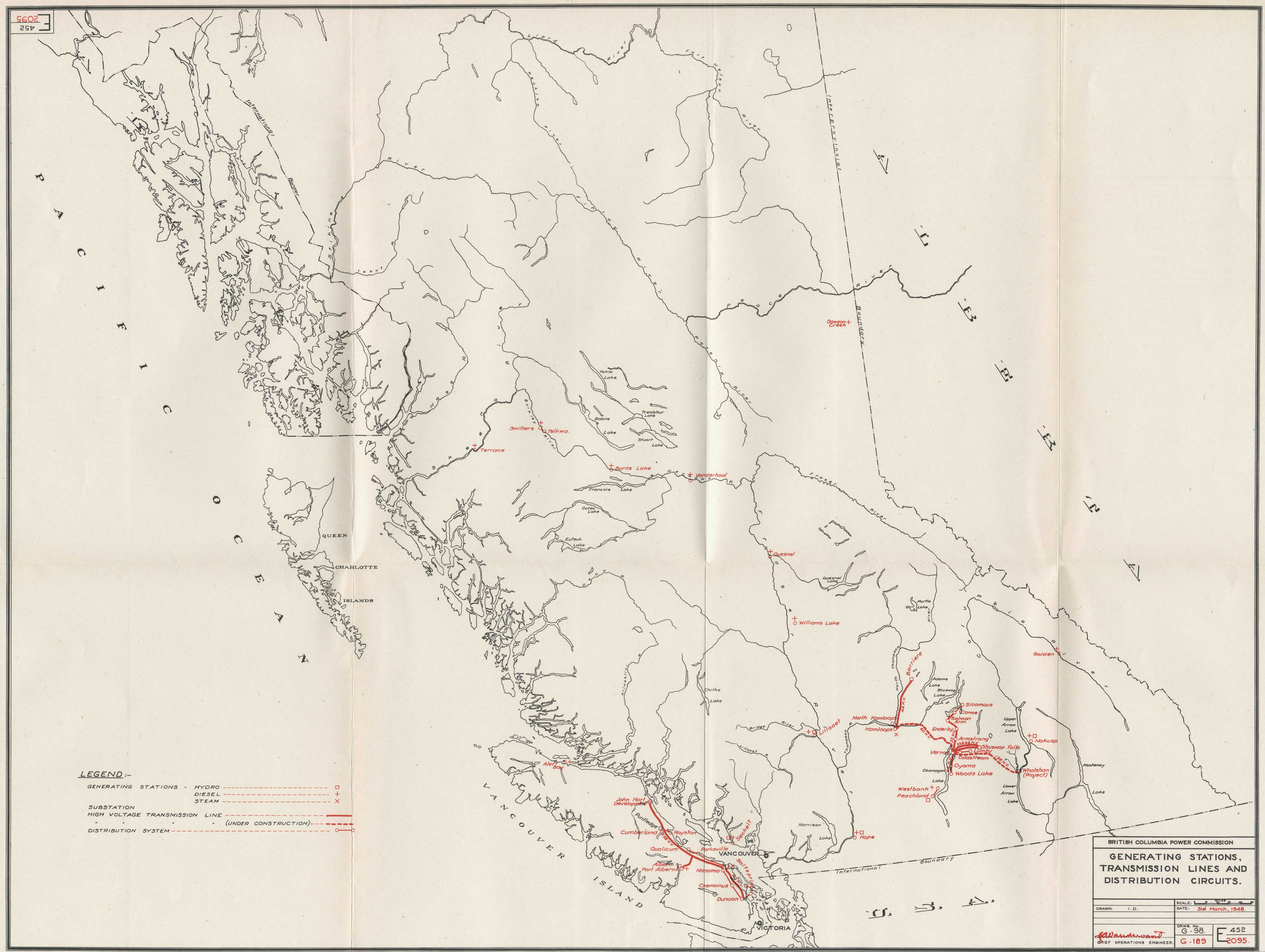
STATEMENT OF CONSTRUCTION-WORK IN PROGRESS AS AT MARCH 31ST, 1948.

GENERATING PLANT—			
Coastal Region—			
John Hart—			
Work in progress at March 31st, 1947	$2,718,275.91		
Expended during year 1947–48	4,891,799.54		
		$7,610,075.45	
Interior Region—			
Burns Lake	$147.80		
Golden	3,015.23		
Kamloops	156.42		
Lillooet	19.32		
Lytton (survey)	4,799.74		
Quesnel	13,548.75		
Shuswap	572.88		
Terrace	86.25		
Whatshan	15,506.27		
Progress payment on diesel contract	120,205.90		
		158,058.56	
			$7,768,134.01
TRANSMISSION PLANT—			
Coastal Region—			
Vancouver Island—			
Work in progress at March 31st, 1947	$1,373,939.44		
Expended during year 1947–48	1,980,797.77		
		$3,354,737.21	
Interior Region—			
Vernon-Kamloops	$103,474.38		
Okanagan	4,927.31		
		108,401.69	
			3,463,138.90
DISTRIBUTION PLANT—			
Coastal Region—			
Alberni	$3,105.02		
Alert Bay	84.56		
Nanaimo-Duncan	67,559.34		
Sechelt	11,844.75		
		$82,593.67	
Interior Region—			
Burns Lake	$2,703.25		
Kamloops	2,957.63		
Lillooet	2.89		
North Okanagan	15,269.56		
Peachland-Westbank	1,464.22		
Quesnel	4,595.67		
Smithers	5,612.26		
Williams Lake	1,004.28		
		33,609.76	
			116,203.43
GENERAL PLANT—			
Interior Region—			
Kamloops			985.97
Total construction-work in progress			$11,348,462.31

VICTORIA, B.C.:
Printed by DON MCDIARMID, Printer to the King's Most Excellent Majesty.
1948.

1,815 648 3205

E 452 2095



MAP OF BRITISH COLUMBIA, SHOWING COMMISSION'S UNDERTAKINGS.