PROVINCE OF BRITISH COLUMBIA

FIRST ANNUAL REPORT

OF THE

BRITISH COLUMBIA POWER COMMISSION

FOR THE YEAR ENDED MARCH 31st

1946

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AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

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1946.

To His Honour WILLIAM CULHAM WOODWARD,
Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present the First Annual Report of the British Columbia Power Commission for the fiscal year ended March 31st, 1946.

JOHN HART,
Premier.

Victoria, B.C., June 29th, 1946.

CONTENTS.

PART.		PAGES.
I.	Inception and Planning	7
II.	Development Programme	9
III.	Legal	11
IV.	Operation	14
V.	New Construction and Rehabilitation	19
VI.	Surveys and Investigations	21
VII.	Financial	22

REPORT OF BRITISH COLUMBIA POWER COMMISSION, 1945-46

I. INCEPTION AND PLANNING.

APPOINTMENT OF COMMISSION.

Under the provisions of the "Electric Power Act" the British Columbia Power Commission was appointed by the Lieutenant-Governor in Council on April 17th, 1945. The first meeting of the Commission was held two days later.

INTERPRETATION OF "ELECTRIC POWER ACT."

The intent of the Act is to improve the supply and availability of electrical power. To this end the Act created a Commission with authority as an agent of the Crown to establish and operate plants for the generation and supply of power. The Act provides that the capital requirements of the Commission are to be supplied by advances made by the Government, with the further provision that the Commission must pay interest and provide for a sinking fund to amortize such advances within a period of forty years. Such payments, together with the entire cost of administration, operating expense, provision for plant depreciation, payment of taxes, and all other incidental expenses incurred in supplying power are to be met out of the revenues derived from the sale of power at actual cost. It is clearly the intent of the Act that the Commission's operations be conducted in a businesslike manner and upon a financially self-supporting basis.

INITIAL PLANNING.

The Commission came into being with only the expressed intention of the Legislature to guide it and the willingness of the Provincial Government to advance funds for capital development. Its programme and each step had to be worked out in the financially sound manner adopted by the directors of any new corporation.

Study of the comprehensive reports of the Rural Electrification Committee and other basic data indicated the inherent weaknesses of numerous small and isolated electrical services in many parts of the Province. From this study the Commission concluded that the first opportunity for improvement of electrical service to the public would be the consolidation of several of these small properties and the provision of adequate generating plant and distribution-lines to meet the existing and potential market for power. The only physically practicable method of providing rural electrification is by the extension of distribution facilities from adequate generating plants in urban centres. An additional feature was that development-work had to commence immediately, for which a minimum engineering, accounting, and general staff was required. It therefore became necessary for the Commission, as a self-sustaining undertaking, to commence immediately the supply of power upon a scale that would support these minimum requirements.

Such was the basis upon which the Commission commenced its task.

HEAD OFFICE QUARTERS AND STAFF.

The undertaking was started conservatively in leased office quarters at 918 Government Street, in Victoria. A small clerical staff was chosen. Engineering, legal, accounting, and secretarial personnel was added only as demand required.

CONSULTING ENGINEERS.

Owing to the war there was a shortage of competent technical personnel. It was therefore found necessary to retain the services of consulting engineers experienced in power plant design and construction so the well-known firm of Messrs. H. G. Acres & Company, of Niagara Falls, Ontario, was engaged in that capacity by the Commission. The first task assigned to the consulting engineers was a review of all available

data concerning power resources of Vancouver Island in order to determine and recommend a potential source of power capable of supplying the growing demand on the Island.

ACQUISITION OF PROPERTY.

The Commission then proceeded to acquire and organize certain operating properties as a first step in a long-range programme which has for its ultimate objective the supplying of electrical service to any community in the Province whose residents are willing to pay the actual cost of the service.

Two areas within the Province appeared particularly adaptable, by reason of topography and the distribution of existing and potential customers, for the development of extensive transmission and distribution systems. These areas—Vancouver Island and North Okanagan—each contain important urban as well as rural communities. It was therefore decided to acquire the properties of Nanaimo-Duncan Utilities, Ltd., and of West Canadian Hydro Electric Corporation, operating in the Vancouver Island and North Okanagan areas respectively, as the first step in the development of two divisions, with offices at Nanaimo and Vernon.

As the scope of the "Electric Power Act" is limited only by the Province's boundaries, it was decided to commence smaller power district operation at widely separated points. To this end electrical properties at Smithers, Vanderhoof, Williams Lake, Golden, Nakusp, and Sechelt were acquired from Columbia Power Company, Ltd.; and at Quesnel, Alert Bay, and Hope from the West Canadian Hydro Electric Corporation and its associated companies. At Terrace a limited distribution plant was acquired from Mr. Gordon Kerr.

As a result of these acquisitions the Commission had within five months of its establishment commenced the supplying of power to 13,270 consumers in two large operational divisions and ten power districts centred in small towns or villages. Its gross revenue was in excess of $1,000,000 per year, the undertaking generally being upon a sufficiently large scale to permit setting up a basic operating organization.

AUDITORS.

On November 9th, 1945, the Lieutenant-Governor in Council named Messrs. Ismay, Boiston, Dunn & Company, Chartered Accountants, of Victoria, B.C., as auditors, in accordance with section 60 of the "Electric Power Act."

OPERATING PERSONNEL.

The Commission retained the services of all employees of the former owners who desired to continue with the new organization. These men and women have assisted loyally in consolidating and improving the larger operation. Contracts covering to March 31st, 1947, the wages and working conditions of electrical employees in the Vancouver Island and North Okanagan Division were negotiated and completed with Locals B. 230 and B. 213 respectively of the International Brotherhood of Electrical Workers, certified bargaining agents for outside employees in those divisions.

It is with deep regret that the Commission records the death of Mr. W. P. MacDonald, of Nanaimo, who was for many years manager of Nanaimo-Duncan Utilities, Ltd. Subsequent to the acquisition of that company's electrical operation, Mr. MacDonald remained with the Commission as manager of the Vancouver Island Division.

EMPLOYEE WELFARE.

Superannuation and insurance plans in effect at the time of acquisition of operating properties have been and will be continued by the Commission until superseded by a single plan covering all employees, if such is mutually agreed upon after completion of surveys now under way.

A medical service and hospitalization plan for all employees will become effective April 15th next.

II. DEVELOPMENT PROGRAMME.

GENERAL PLAN.

In the Commission's plan of development there are three immediate objectives:—

(1.) Improvement of the supply and availability of power in the first areas of operation;

(2.) Increase, as rapidly as possible, of the number of power districts and consumers;

(3.) Enlargement of the entire undertaking as an efficient self-supporting public service.

Such a programme can not be completed in a few months, or indeed years. Each step must be planned with due regard to the sound business and financial requirements outlined in the Act. Contrary to the opinion held in some communities, the Commission does not administer a service provided by public funds to bring power, regardless of cost, to the most remote homes. The financial assistance received by the Commission consists of the all-important ability to borrow capital from the Government at a low rate of interest for the construction of essential work. It can not, however, undertake projects where the revenue from the sale of power will be insufficient to pay the cost of operation. Such cost includes interest and sinking fund upon the borrowed capital.

The present operations should only be considered as the beginning of the Commission's plan of development. That plan can not be detailed at this stage; it can only be indicated in general terms and must unfold as the result of the initial steps and the opportunities for service which new proposals will afford.

IMMEDIATE RESPONSIBILITIES.

The Commission has assumed responsibility of power supply to more than 13,000 consumers in two important divisions and in ten power districts. Service to connected consumers must be assured and extension of the service to potential customers in adjacent areas must be provided. The first consideration has therefore been given to the establishment of adequate sources of power supply for these operations and the rehabilitation of their transmission- and distribution-lines. To this end surveys of acquired properties and potential power-sites were undertaken early in the year and plans were prepared for reconstruction and new construction.

CURRENT PLANNING.

To meet its immediate responsibilities with regard to Vancouver Island Division, the Commission has undertaken the Campbell River power project, described in Part V. of this report. With a view to power-development for the North Okanagan Division, and additions thereto, a preliminary study of the Whatshan power-site at Needles, on Arrow Lake, was made. In certain of the smaller power districts the feasibility of hydro-electric plants is being investigated. For others standard Diesel plants have been designed. The units comprising Diesel plants will be interchangeable to the maximum degree. As the loads grow and physical conditions warrant installation of hydro-electric plants, such Diesel units can be used in other areas requiring development.

RATE STUDIES.

Rate studies are being made with a view to a complete revision of schedules as soon as the capital investment in old and new plants is determined and as soon as increased plant capacity can be installed to take care of the growth in load expected under promotional rates.

EFFECT OF SHORTAGES OF MEN, MATERIALS, AND EQUIPMENT.

Requests for surveys and power installations from numerous communities have been submitted to the Commission. Many such surveys have been, and all will be, completed. All development plans have been retarded by shortages of skilled workmen, materials, and equipment. It has therefore been impossible to date to undertake any rural electrification projects on an area-coverage plan. It has been considered good business to utilize the limited supply of available materials for short extensions from existing primaries. By this method 832 new consumers, of whom at least 80 per cent. are in rural areas, have been connected in eight months.

The progress in the next year on work already approved and on new projects will depend in large measure on the availability of materials. While at this date the prospects are not improving, the Commission is proceeding with the planning of new projects which will be recommended for approval as they become feasible.

III. LEGAL.

LEGISLATION.

The "Electric Power Act" was passed by the Legislature on March 28th, 1945. The Act established the British Columbia Power Commission and provided for the appointment of members by the Lieutenant-Governor in Council. The Act sets out the power of the Commission and provides for all matters pertaining to distribution of electric power, financing, and the administration of the Commission. Since the passage of the Act there have been two amendments, the amendment from $10,000,000 to $20,000,000 of the amount which the Lieutenant-Governor in Council may raise for the purposes of the Act, and the addition of section 96A, which excludes the application of the "Public Utilities Act" to corporations or persons supplying power to the Commission.

The Act authorizes the Commission to make such regulations as are deemed expedient to carry out the purposes of the Act and under this authority the Commission has made three regulations, these being:—

Regulation No. 1: "Terms and Conditions for the Supply of Electricity."
Regulation No. 2: "Sequence Metering."
Regulation No. 3: "Safety Rules."

ACQUISITION OF PROPERTIES.

It was found on early consideration of rural distribution systems that there was a large potential area which could only be served economically through the acquisition and development of the plant and system of West Canadian Hydro Electric Corporation, Ltd., and its associated companies. Authority for this step was therefore requested and by an Order in Council approved on June 15th, 1945, the Commission was authorized to take by expropriation the power plants and properties of West Canadian Hydro Electric Corporation, Ltd., and its associated companies—Hope Utilities, Ltd., Alert Bay Utilities, Ltd., and Quesnel Light and Water Company, Ltd.—for the purpose of distribution of power in the North Okanagan, Hope, Alert Bay, and Quesnel Districts.

By an Order in Council approved on June 15th, 1945, a similar application was made and authorization was given in respect to Columbia Power Company, Ltd., and its subsidiary, Columbia-Vanderhoof Power Company, Ltd., with distribution in the Golden, Nakusp, Sechelt, Williams Lake, Smithers, and Vanderhoof Districts.

By an Order in Council approved on June 15th, 1945, a similar application was made and authorization was given in respect to Nanaimo-Duncan Utilities, Ltd., with distribution in Southern Vancouver Island and Saltspring Island Districts.

It was later found that Alert Bay Utilities, Ltd., merely held a franchise in the Alert Bay area, but was not operating, and that an associate company of West Canadian Hydro Electric Corporation, Ltd.—the Pacific Power and Water Company, Ltd.—actually operated in the area. An application for authority to expropriate this last-named company was made. As a result, by an Order in Council approved on July 20th, 1945, a similar authorization was given in respect of Pacific Power and Water Company, Ltd.

All the above-mentioned plants and properties were expropriated pursuant to these Orders in Council.

The Diesel generating plant at Terrace, owned by Mr. Gordon Kerr, was destroyed by fire in August, 1945. As Mr. Kerr was not in a position to re-establish his plant, the Commission felt under obligation to continue service in that area and therefore made application for authority to take over the plant by expropriation. Authorization

was granted on September 21st, 1945. By this expropriation the Commission acquired only the distribution system. To provide power the Commission obtained on loan from the R.C.A.F. engines that were situated on Queen Charlotte Islands; this transaction was authorized by the War Assets Corporation. Service was thus continued with a minimum of delay.

At the close of the war the United States Army owned a Diesel power plant at Dawson Creek which was turned over to the Government of Canada. For several years the Dominion Electric Company, Ltd., has operated a plant and distribution system serving Dawson Creek and Pouce Coupe. During the war the company's generating capacity was insufficient to supply the power demand and the system was connected with the United States Army plant. Representations were made by petition to the Commission that if the Army plant were abandoned the Dawson Creek and Pouce Coupe areas would not be sufficiently served. The Commission, then in process of organization, not being in a position to operate immediately so far afield, leased the United States Army plant for one year from August 1st, 1945, from the War Assets Corporation. The Commission then allowed its use at the same rental as paid by it to Northland Utilities (B.C.), Ltd., a company incorporated for the purpose of acquiring the British Columbia assets of Dominion Electric Company, Ltd.—an extra-provincial corporation.

RIGHTS-OF-WAY AND SITES.

In addition to the rights-of-way acquired by the expropriation of the assets of the companies mentioned above, the Commission has carried out the survey and clearing of a right-of-way, 90 feet in width, extending from the Commission's plant at Campbell River to the Commission's projected sub-station near Nanaimo and also a branch line from Dunsmuir to Port Alberni. The latter line was necessitated by the negotiation of a contract with Bloedel, Stewart & Welch, Ltd., for a supply of power to operate its new pulp-mill at Port Alberni.

It was found necessary in order to expedite the Commission's plans for development to put survey parties on the ground and to begin clearing at the earliest possible moment. It was therefore impossible to contact all the owners of properties to obtain their permission to clear. Co-operation has been such that in only one case was it necessary to expropriate in order to put through the right-of-way. Negotiations will shortly commence with the owners of properties over which easements by way of right-of-way are required. As soon as satisfactory compensation has been agreed upon, grants of easement will be taken and the Commission's title registered under the provisions of the "Land Registry Act." The contracts for the fabrication of the steel towers have now been let and in due course the erection of the towers will commence.

The area required as a site for the dam, pipe-line, and power-house at Campbell River was surveyed and designated as Lot 1124, Sayward District. By an Order in Council approved on January 5th, 1946, this lot was eliminated from the boundaries of Elk Falls Provincial Park. By an Order in Council approved on April 2nd, 1946, the issuance of a Crown grant to the Commission covering the said lot was authorized.

A survey was made of the necessary area for a roadway to give access to Lot 1124 and this area was designated as Lot 1122, Sayward District. By Order in Council approved on May 21st, 1946, that portion of the said lot which lay within the boundaries of Elk Falls Provincial Park was removed from the park. By the same Order in Council the issue of a Crown grant to the Commission was authorized.

APPRAISALS AND COMPENSATION: EXPROPRIATED PROPERTIES.

No compensation has as yet been determined for any of the properties expropriated.

Under the provisions of the Act the Lieutenant-Governor in Council appointed the American Appraisal Company, internationally known appraisers of electrical properties,

as valuators to determine the amount of compensation to be paid to the companies whose plants and properties have been expropriated. Representatives of the American Appraisal Company are still in the Province directing these appraisals. Their findings will be forwarded to the companies concerned and to the Commission as soon as they have been determined.

At the request of the West Canadian Hydro Electric Corporation, Ltd., Nanaimo-Duncan Utilities, Ltd., and Columbia Power Company, Ltd., certain moneys have been advanced to these companies on account of the eventual compensation to be allowed. Such payments are without prejudice to the rights of the companies and the Commission in the evaluation of the properties.

CONTRACTS.

A. Contract for the Supply of Electrical Power.

Agreements have been completed for the supply of power in industrial or commercial quantities to the following concerns:—

Nanaimo Sawmills, Ltd.
Nanaimo Foundry & Engineering Works, Ltd.
Victoria Lumber Company, Ltd.
Saskatchewan Federated Co-operatives, Ltd.
Bloedel, Stewart & Welch, Ltd.

B. Contract for Purchase of Materials and Equipment.

The legal department has been engaged in settling the terms and completing agreements with the successful tenderers in contracts for general construction and the supply of materials and equipment for construction.

WATER LICENCES.

A licence has been obtained under the "Water Act" for the storage and diversion of water on Campbell River, covering the proposed project on that river.

INSURANCE.

Certain insurance coverage effected by companies whose assets were expropriated by the Commission has been maintained. In addition to this a comprehensive system of insurance has been worked out to cover the Commission's assets throughout the Province.

IV. OPERATION.

GENERAL.

The electrical properties acquired by the Commission in its first year had a total of 13,270 connected services at the date of acquisition. In eight months of operation 832 new consumers have been connected, the great majority of whom are in rural areas.

The acquired properties had not been adequately maintained, in large measure owing to the shortage of labour and materials during war years and for the same reason the properties were without a sufficient stock of material to provide for immediate maintenance requirements. The Commission, being a new organization in the utility field, had no outstanding orders and consequently has had great difficulty in obtaining even a limited quantity of line materials. Notwithstanding this and other handicaps attending the organization of a new undertaking, service has been improved and in eight months the number of consumers has been increased by 6.3 per cent.

The tabulation immediately following shows for each of the two large power divisions and ten power districts the number of consumers at the date of acquisition and at March 31st, 1946, and the number of kilowatt-hours actually delivered to consumers during that period.

NUMBER OF CONSUMERS AND POWER SOLD, AUGUST 1ST, 1945, TO MARCH 31ST, 1946.

Power Division or District.	Date of Acquisition.	Number of Consumers.			Kilowatt-hours sold.
		At Date of Acquisition.	At March 31st, 1946.	Net Additions.	
Division—					
North Okanagan	Aug. 1, 1945	4,477	4,713	236	13,928,108
Vancouver Island	Aug. 1, 1945	6,798	7,160	362	14,550,177
District—					
Alert Bay	Aug. 1, 1945	152	174	22	158,499
Golden	Sept. 1, 1945	158	163	5	61,162
Hope	Aug. 1, 1945	190	247	57	132,048
Nakusp	Sept. 1, 1945	250	256	6	66,241
Quesnel	Aug. 1, 1945	289	306	17	217,103
Sechelt	Sept. 1, 1945	337	398	61	112,444
Smithers	Sept. 1, 1945	293	318	25	122,653
Terrace	Sept. 20, 1945	59	84	25	18,943
Vanderhoof	Sept. 1, 1945	106	119	13	68,288
Williams Lake	Sept. 1, 1945	161	164	3	136,593
Totals		13,270	14,102	832	29,572,259

NORTH OKANAGAN DIVISION.

This division comprises the area formerly served by West Canadian Hydro Electric Corporation, Ltd., whose electrical property was acquired by the Commission as of August 1st, 1945.

Power is generated at the 7,500-kva. Shuswap Falls hydro-electric plant, about 20 miles east of Vernon, and is transmitted to Vernon and southward to Winfield at 60 kv. At Winfield the line connects with the West Kootenay Power and Light Company's 60-kv. system. Another line, 33 kv., extends from the Shuswap Falls plant through Vernon to Armstrong, Enderby and Salmon Arm and Canoe.

During the eight months ended March 31st, 1946, power was generated or purchased as follows:—

		Kilowatt-hours.
Generated at Shuswap Falls plant		16,128,740
Purchased from West Kootenay Power and Light Company, Ltd.		1,200
Total		16,129,940
Kilowatt-hours sold—		
Domestic	2,362,282	
Commercial	2,606,904	
Power	4,177,395	
Street-lighting	296,602	
Irrigation-pumping	299,325	
To West Kootenay Power and Light Co., Ltd.	4,185,600	
Total		13,928,108
Used by Commission, transmission and distribution losses, and otherwise unaccounted for		2,201,832

A three-year contract entered into by the former owners covering the interchange of power with the West Kootenay Power and Light Company was terminated in February, 1946. Some reserve generating capacity is thus released to provide for expansion of the distribution system during the immediate future.

During the year under review considerable maintenance-work was undertaken at the Shuswap Falls plant, including repairs to the head dam and reconditioning four operators' cottages, with fencing and general improvement of grounds.

Transmission- and distribution-lines have been properly maintained and in many locations larger conductors and transformers have been installed. Tree-trimming and brushing, which had been neglected during war years, was completed on 81 miles of transmission and 25 miles of rural distribution lines.

Prior to the Commission acquiring the West Canadian Hydro Electric operations, the business of that company was conducted jointly in the office of the Okanagan Telephone Company. With the change it was necessary to find a new office. A lease agreement was arranged with an owner who had a new building under construction. On March 15th, 1946, the Division Staff moved in; during the interval temporary quarters were utilized.

A meter department has been set up in the basement of the new office to handle the maintenance, repair, and reverification of all meters from properties operated by the Commission on the mainland of the Province.

All services have been maintained at a high standard and considering the shortage of line materials and equipment the addition of 298 new services in the first eight months of operation indicates a good beginning in the Okanagan division. Eighty-five per cent. of the new services were in rural areas.

Notwithstanding the installation of 298 new service connections, the net increase in consumers was only 236. The difference is caused by the fact that seasonal consumers such as summer residences and irrigation projects active in August are disconnected in March.

At the date of acquisition, August 1st, 1945, there were 4,477 connected consumers in the North Okanagan Division; at March 31st, 1946, there were 4,713.

VANCOUVER ISLAND DIVISION.

The properties acquired from Nanaimo-Duncan Utilities Corporation, serving the Cities of Duncan and Nanaimo, Saltspring Island, and adjacent rural areas, are operated from a division office at Nanaimo. Eighty per cent. of the energy for this division is purchased at Duncan from the Vancouver Island Power Company; the balance is generated in two small hydro-electric plants and a steam plant at Nanaimo acquired from the Nanaimo-Duncan Utilities Corporation.

The Commission has continued to supply power for resale to the City of Ladysmith and to National Utilities, Ltd., for distribution in the Parksville-Qualicum area.

During eight months of Commission operation ended March 31st, 1946, power was generated and purchased as follows:—

	Kilowatt-hours.	Kilowatt-hours.
Generated—		
Hydro-electric	4,019,450	
Steam	13,700	
		4,033,150
Purchased		12,617,100
Total		16,650,250
Kilowatt-hours sold—		
Domestic	3,275,866	
Commercial	3,012,558	
Power	6,555,854	
Street-lighting	322,163	
For resale to City of Ladysmith and National Utilities, Ltd.	1,383,736	
Total		14,550,177
Used by Commission, transmission and distribution losses, and otherwise unaccounted for		2,100,073

This property was acquired before the termination of hostilities and the Commission was faced with two primary tasks:—

First, improvements to the transmission and distribution system to meet the power demand that had developed before the end of the war and the maintenance and operational work such as pole renewals, cutting of brush along rights-of-way and improving voltage regulation, all of which had been neglected during the war years.

Second, the securing of personnel, equipment, and materials to carry on the foregoing work and at the same time extending service to urban and rural applicants who had been unable to obtain service during the war years.

In the face of many difficulties attending the change from war to peace-time conditions, considerable progress has been made in this division. Transmission-lines are being brought up to standard and voltage has been improved in many sections. Fifty new poles have been set in distribution-lines and transformer capacity has been increased where necessary.

While 367 new services have been installed in eight months, for a net gain of 362 consumers, there are many applicants on the waiting list, and the indications are that the demands for new services will continue. An enormous increase in power consumption in this area is indicated when Campbell River power becomes available under new rate schedules.

At the time of acquisition, August 1st, 1945, there were 6,798 connected customers; on March 31st there were 7,160.

POWER DISTRICTS.

In addition to the North Okanagan and Vancouver Island Divisions, the Commission operates, as already noted in this report, ten power districts based upon the following properties acquired from private owners: Alert Bay, Hope, and Quesnel, acquired August 1st, 1945, from the West Canadian Hydro Electric Corporation group; Smithers, Vanderhoof, Williams Lake, Golden, Nakusp, and Sechelt, acquired September 1st, 1945, from Columbia Power Company; Terrace distribution plant purchased September 20th, 1945, from Mr. Gordon Kerr.

Each of these districts is dependent upon local generating plants, hydro-electric or Diesel. The capacity of these plants at the time of acquisition, based on maximum efficiencies, was as follows:—

District.	Diesel.		Hydro-electric.		Total.	
	No. of Units.	Kw. Capacity.	No. of Units.	Kw. Capacity.	No. of Units.	Kw. Capacity.
Alert Bay	3	130	.....	.....	3	130
Golden	2	70	.....	.....	2	70
Hope	2	70	1	30	3	100
Nakusp	.....	.....	1	100	1	100
Quesnel	3	80	1	125	4	205
Sechelt	1	300	1	60	2	360
Smithers	2	105	.....	.....	2	105
Terrace*	.....	.....	.....	.....	.....	.....
Vanderhoof	2	55	.....	.....	2	55
Williams Lake	2	70	.....	.....	2	70
Totals	17	880	4	315	21	1,195

* Plant burned in August, 1945.

When all plant was serviceable, 1,195 kw. served 1,995 customers, a mean of 600 watts per customer. With twenty-one generating units, many in poor condition and having operated without routine inspection and maintenance, the continuity of service was anything but assured.

Distribution-lines in these power districts totalled approximately 70 miles. A total of 1,995 customers of all classes were served.

There were limited street-lighting systems in each community except Terrace.

In view of the condition of the properties consideration was given, as soon after acquisition as possible, to the replacement or reconditioning of various generating plants and distribution systems. This action was taken to permit continuation of reliable and efficient service to existing customers and to allow provision for additional demands and extensions to new areas. Complete rehabilitation will require considerable time under present conditions of material and equipment supply. Temporary measures have therefore been taken to improve service.

At Alert Bay one generating unit became completely unserviceable on March 20th. A new 90-horse-power unit that had been purchased by the former owners for another location was installed at Alert Bay.

To maintain service at Hope, where the number of consumers was increasing rapidly, the Commission installed, temporarily, two portable Diesel sets of 50-kw. and 100-kw. capacity. Plans are being made for the development of hydro-electric power for this district.

When fire destroyed a small Diesel plant supplying fifty-nine customers at Terrace, the Commission responded to an appeal from the municipality by making a temporary installation of two portable 25-kva. Diesel sets. The limited distribution system was purchased from Mr. Gordon Kerr as outlined in Part III. of this report. The service

has been extended to twenty-five new customers, and plans are being outlined for a permanent installation.

Following repeated failures of the generating equipment at Vanderhoof, a new 50-kw. portable Diesel set was installed in November.

Prior to the acquisition of the property at Williams Lake, the Columbia Power Company had taken steps to install a 300-kw. Diesel unit. Many parts required for this installation which had to be ordered by the Commission have not yet been delivered. A 50-kw. unit, also purchased before the Commission obtained possession, was reconditioned and installed. The power-house has been completely rebuilt and as soon as the essential parts now on order are delivered there will be a generating capacity of 350 kw. available at this point. In the meantime the Commission is maintaining service by utilizing a 50-kw. portable Diesel set.

Shortly after its appointment, the Commission was asked to take over operations in Dawson Creek, Pouce Coupe, and the surrounding areas. The existing condition is described in Part III., Acquisition of Properties. The situation at that point will be the subject of further investigation. In the meantime the Commission has an option to purchase the United States Army plant, which is at present serving the community.

As in the two power divisions, the reconstruction of plant and distribution systems in the districts has been retarded by inability to obtain materials. With the limited supplies available, however, 234 new customers have been added in the first year, bringing the total number in the ten districts to 2,229.

V. NEW CONSTRUCTION AND REHABILITATION.

NORTH OKANAGAN DIVISION.

Work was commenced in November on the extension of the 33-kv. transmission-line from Salmon Arm to Canoe, a distance of 6.4 miles. At March 31st, 1946, this extension was approximately 65 per cent. complete.

A new 66-kv. sub-station at Vernon, replacing the former 33-kv. station, had been almost completed by West Canadian Hydro Electric Corporation at the date of acquisition. The old sub-station and 1⅛ miles of the 33-kv. feeder through Vernon was dismantled.

The Salmon Arm sub-station capacity was increased by 600 kva. The capacities of Swan Lake and Armstrong sub-stations were increased by 100 kva. and 200 kva. respectively, the voltage of the former being changed from 2.3 kv. to 6.9 kv. The transformer station at Smith's Mill, Armstrong, was rebuilt with an increase of 55-kva. capacity. These changes were made to fit into the general plan of rural electrification.

The 6.9-kv. river crossing at Sicamous was rebuilt.

The superstructure of the 33-kv. sub-station at Shuswap Falls was renewed.

A total of 8.47 miles of primaries, 7.65 miles of secondary lines, and 0.44 mile of new street-lighting circuit was constructed on 341 new poles.

Two hundred and ninety-eight new services, of which 85 per cent. were rural, were installed.

VANCOUVER ISLAND DIVISION.

A total of 17.05 miles of primary and 2.37 miles of secondary lines, on 604 poles, was completed to serve 367 new customers; 8.48 miles of new primary and 2.6 miles of new secondary lines are under construction but not completed.

CAMPBELL RIVER POWER DEVELOPMENT.

Following consideration of several potential power-sites for Vancouver Island and upon the advice of its consulting engineers, the Commission decided to recommend the development of Campbell River, 90 transmission-miles north of Nanaimo.

By Order in Council No. 1262, July 25th, 1945, the Lieutenant-Governor in Council approved the first stage of this development and authorized:—

(1.) Construction of the first 25,000-horse-power unit.

(2.) Completion of one circuit of a 132-kv. transmission-line from Campbell River power plant to Nanaimo, with a tap-off from Dunsmuir to the Albernis.

This power plant is designed for an ultimate installation of six 25,000-horse-power units, to be installed as required to supply the demand. The capacity of the first unit will be required to supply the Vancouver Island customers of the Commission, already numbering 7,160, and 10,000 horse-power to a new pulp-mill under construction at Alberni. The installation of the second 25,000-horse-power unit will be recommended immediately.

A dam at Ladore Falls, to store in Campbell Lake water sufficient to operate 100,000 horse-power, will be the subject of recommendation to the Government in 1946. This storage must be effected before dependable water-supply will be assured for the second power unit.

The transmission-line is designed for two circuits. One circuit is now authorized. To ensure continuous and reliable operation the completion of the second circuit will be recommended in 1946.

Progress to date on the Campbell River project is here summarized:—

(1.) A construction schedule has been set up. It calls for completion of the first 25,000-kva. unit and delivery of power over the transmission-line to Alberni by April 1st, 1947.

(2.) No 1 turbine and No. 1 generator are under construction in the shops of the respective manufacturers.

(3.) The general contract covering the construction of head dam, intake works, pipe-line grading, surge tanks foundations, and the power-house has been let. Work has commenced.

(4.) The contract for the first wood-stave pipe-line has been let. This pipe-line is of 12-foot diameter; it extends 3,000 feet from the intake and comprises approximately one-half the total length of the diversion course. (The lower half will be of steel construction and contract has not been let.) This pipe-line will supply water to the first two 25,000-kva. units.

(5.) The location surveys of the transmission-line have been completed and the work of British Columbia Land Surveyors in locating property boundaries for the preparation of easement agreements is in progress.

(6.) Three contracts have been let for clearing the transmission-line right-of-way, 90 feet wide, from Campbell River to Nanaimo, a distance of 90 miles, and from Dunsmuir to Alberni, a distance of 14.4 miles. At the present rate of progress the clearing will be completed and the debris burned before the danger fire season begins.

(7.) Contract has been let for the design and supply of some 625 galvanized steel towers, standard height 80 feet, to carry two transmission circuits of three conductors each. Orders have been placed for conductors, insulators, and fittings to complete one circuit.

NOTE.—All contracts require completion at a date to permit over-all operation by April, 1947.

To supply power to various contractors who will be engaged on the Campbell River project the Commission is installing a temporary Diesel plant. Two generating units at Vernon, acquired with the West Canadian Hydro Electric property, were dismantled and will be used in this plant which will have a capacity of 300 kv.

POWER DISTRICTS.

Reference has been made under Part IV. of this report to the temporary measures taken to maintain service in the ten power districts now in operation.

Plans and specifications have been prepared for new Diesel-operated generating stations. Each will consist of three standard generating units, with provision for addition of other units as the loads develop. Tenders have been received on eighteen such generating units and a recommendation submitted to the Government. It is planned to install such new plants at Alert Bay, Golden, Quesnel, Smithers, Terrace, and Vanderhoof. Some of the old equipment thus released may be suitable, after complete overhaul, for temporary installation in small new districts to be developed.

If the new units can be delivered before the autumn of 1946 it may be possible initially to install two only in some districts. The third units may be used temporarily to increase the capacities at Hope, Nakusp, and Sechelt, for all of which districts the Commission is investigating hydro-electric possibilities.

The Diesel plant and distributing system at Westbank and the hydro-electric plant and municipal distribution system at Peachland were appraised as a basis for negotiations toward their acquisition by the Commission. These negotiations are now being completed. Plans have been prepared for the reconstruction and inter-connection of these two systems.

Deliveries of special equipment and line materials as in the case of the Divisions have been delayed, with a corresponding adverse result on all work now in hand.

VI. SURVEYS AND INVESTIGATIONS.

POWER PROJECTS.

Five field parties were engaged on surveys for the Campbell River development, one on topographic surveys at the power-site and four on the location of the transmission-line from Campbell River to Nanaimo and Dunsmuir to Alberni. Two parties under the direction of British Columbia Land Surveyors are still engaged on location of property-lines for right-of-way easements.

A preliminary survey of the Whatshan Lake power-site, near Needles on Arrow Lake, was completed with a view to planning a source of power for North Okanagan and future expansion of that division.

Several small water-power sites in the vicinity of Hope were investigated, including Hope-Silver Creek, on which a preliminary report has been completed.

A survey is now in progress to determine a source of power for Lillooet. Cayoosh Creek is receiving special attention.

SURVEYS AND ENGINEERING REPORT COMPLETED.

A considerable area within distribution distance of the North Okanagan facilities has been surveyed and mapped. Within this area there are 1,476 potential rural consumers requiring 390 miles of distribution-lines. The customer density ranges from 2 to 5.3 per mile.

The acquired distribution systems in Alert Bay, Golden, Hope, Nakusp, Quesnel, Sechelt, Smithers, Terrace, Vanderhoof, and Williams Lake have been surveyed. The data thus obtained are being used in the planning of reconstruction and extension of service into rural areas in these power districts.

Investigations and reports have been made in respect to power-supply in the following communities: Clinton; Dawson Creek, Pouce Coupe, Rolla; Lillooet; and Peachland-Westbank.

SURVEYS COMPLETED.

The following areas have been surveyed and engineering reports are in preparation: Bamfield, Burns Lake, Malcolm Island, McBride, and Tofino.

PROJECTS FOR WHICH SURVEYS HAVE BEEN APPROVED.

In addition to the foregoing, a large number of requests have been received on behalf of other communities. Surveys have been approved for the following: Alberni, Ashcroft, Barnhart Vale, Barriere, Camp Lister-Huscroft, Canal Flats, Chase, Fort St. James, Gulf Islands, Hazelton, Houston, Kamloops, Merritt, Prince George area, Princeton, Rock Creek, Sirdar, Ucluelet, Yahk, and Zeballos.

VII. FINANCIAL.

That part of the first fiscal year which remained, following inauguration on April 17th, 1945, has necessarily been devoted largely to problems attending the organization of a new enterprise. The acquisition of operations in two large divisions and ten power districts and the consolidation of these operations made heavy demands on the time of the Commission and a newly assembled staff, itself in process of organization.

Operating properties acquired subsequent to July 31st, 1945, were found to be inadequately equipped with totalizing demand and kilowatt-hour meters necessary to produce a record upon which to base informative statistics.

The compensation for properties subject to the appraisal now being made by valuators appointed under the provisions of the Act has not been determined. Until such compensation is fixed it is obviously impossible to report the amount of investment in each of the power divisions and districts or the net earnings in each after provision for interest and sinking fund payments. Therefore, it is only possible to submit at this time an interim balance-sheet showing the actual cash investment and such assets and liabilities as have been determined.

The operating results for the first fiscal year are reported in a consolidated statement. This will avoid any comparison of the earning capacities of respective properties during the appraisal period.

In succeeding fiscal years further development in operating, engineering, and accounting practice will permit the reporting of more detailed and comprehensive statements as required by the "Electric Power Act."

In accordance with section 60 of the Act, Messrs. Ismay, Boiston, Dunn and Company, appointed by the Lieutenant-Governor in Council, have audited the accounts of the Commission. Their certificate, an interim balance-sheet, and a consolidated operating statement follow.

ISMAY, BOISTON, DUNN & CO.,
Chartered Accountants,
Victoria, B.C.

June 8th, 1946.

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

GENTLEMEN,—We have made an examination of the books and accounts of the British Columbia Power Commission as at March 31st, 1946, and of the statement of revenue and expenditure for the period ended that date, and have obtained all the information and explanations which we have required. In connection therewith we examined or tested the accounting records of the Commission and other supporting evidence, but we did not make a detailed audit of the transactions.

As the compensation to be paid for the properties and plants expropriated has not been established as at March 31st, 1946, no provision can be made for this liability.

The capital expenditures have been shown at the direct costs incurred to date. This figure includes progress estimates to March 31st, 1946, on certain major contracts at present in progress and we understand that reference is being made to these contracts in the report of the Commissioners.

Subject to the foregoing comments, we report that, in our opinion, the above interim balance-sheet and statement of revenue and expenditure are properly drawn up so as to exhibit a correct view of the state of the affairs of the British Columbia Power Commission as at March 31st, 1946, 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.

BRITISH COLUMBIA POWER COMMISSION.

INTERIM BALANCE-SHEET, AS AT MARCH 31ST, 1946.

Assets.

Fixed assets:		
Property and plant expropriated, for which compensation is in process of determination by valuators appointed under provisions of the "Electric Power Act"—		
Nanaimo-Duncan Utilities, Ltd. West Canadian Hydro Electric Corporation, Ltd. Hope Utilities, Ltd. Quesnel Light & Water Co., Ltd. Pacific Power & Water Co. (Alert Bay) Columbia Power Co., Ltd. Columbia-Vanderhoof Power Co., Ltd.	Valuation in process at March 31st, 1946, by appraisers appointed by Lieutenant-Governor in Council.	
Capital expenditure by Power Commission on various projects—		
Campbell River Development		$839,904.51
Rehabilitations and additions to acquired plants		240,979.53
Terrace, expropriation and rehabilitation		3,847.15
Equipment, trucks, etc.		27,770.75
Surveys and investigations		19,016.60
Preliminary expenses, not yet distributed—		
Organization and general	$42,052.69	
Expropriation and appraisal	20,637.20	
Interest and charges on advances	41,942.35	
		104,632.24
		$1,236,150.78
Advances on account of compensation for expropriated properties—		
Nanaimo-Duncan Utilities, Ltd.	$680,000.00	
West Canadian Hydro Electric Co., Ltd.	153,000.00	
Columbia Power Co., Ltd.	60,000.00	
		893,000.00
Current assets:		
Cash in banks	$54,891.63	
Customers' Light and Power Accounts	137,001.50	
Inventories of stores and supplies	96,980.07	
Unexpired insurance, etc.	24,175.31	
		313,048.51
		$2,442,199.29

Liabilities.

Advances from the Government of the Province of British Columbia	$1,550,000.00
Accrued interest and charges thereon	41,942.35
	$1,591,942.35
Sundry liabilities—	
Accounts payable	242,019.36
Consumers' deposits	58,016.13
Balances in respect of book values of current assets taken over, *less* current liabilities assumed for account of expropriated properties	104,542.09
Carried forward	$1,996,519.93

BRITISH COLUMBIA POWER COMMISSION—*Continued.*

INTERIM BALANCE-SHEET, AS AT MARCH 31ST, 1946—*Continued.*

Liabilities—Continued.

Brought forward	$1,996,519.93
Reserves—	
Depreciation and replacements (*less* write-offs)	90,941.65
Provision for gross revenue taxes	24,500.00
Contributions to construction-work	1,018.20
Operating surplus—	
Operating revenue, *less* direct expenses, tentative provisions for depreciation, and gross revenue taxes (Statement 2)	329,219.51*
	$2,442,199.29

* NOTE.—Available for Stabilization Reserve, Interest and Sinking Fund.

CONSOLIDATED STATEMENT OF OPERATIONS FOR THE EIGHT MONTHS' PERIOD FROM AUGUST 1ST, 1945, TO MARCH 31ST, 1946.

Revenue—			
Domestic and commercial light and power service			$765,512.58
Special power sales			48,590.28
			$814,102.86
Expenditure—			
Operations and maintenance—			
Steam plants		$4,903.86	
Hydro plants		34,671.37	
Diesel plants		46,807.50	
		$86,382.73	
Power purchased		99,878.55	
Transmission and distribution		81,379.62	
Administrative and general		96,479.96	
		$364,120.86	
Tentative provision for—			
Depreciation and replacements	$96,262.49		
Gross revenue tax	24,500.00		
		120,762.49	
			484,883.35
Operating surplus for the eight months ended March 31st, 1946, before provision for rates stabilization reserve, and interest and sinking fund in respect to capital investment			$329,219.51

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