

PROVINCE OF BRITISH COLUMBIA

SECOND ANNUAL REPORT

OF THE

BRITISH COLUMBIA
POWER COMMISSION

FOR THE YEAR ENDED MARCH 31ST

1947



VICTORIA, B.C. :

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1947.

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SECOND ANNUAL REPORT

OF THE

BRITISH COLUMBIA

POWER COMMISSION

FOR THE YEAR ENDING 1921

1922

*To His Honour 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, 1947.

JOHN HART,
Premier.

Victoria, B.C.

The Honourable John Hart,

Premier, Parliament Buildings, Victoria, B.C.

SIR,—The Annual Report of the British Columbia Power Commission, covering the fiscal year 1946–47, 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 20th, 1947.

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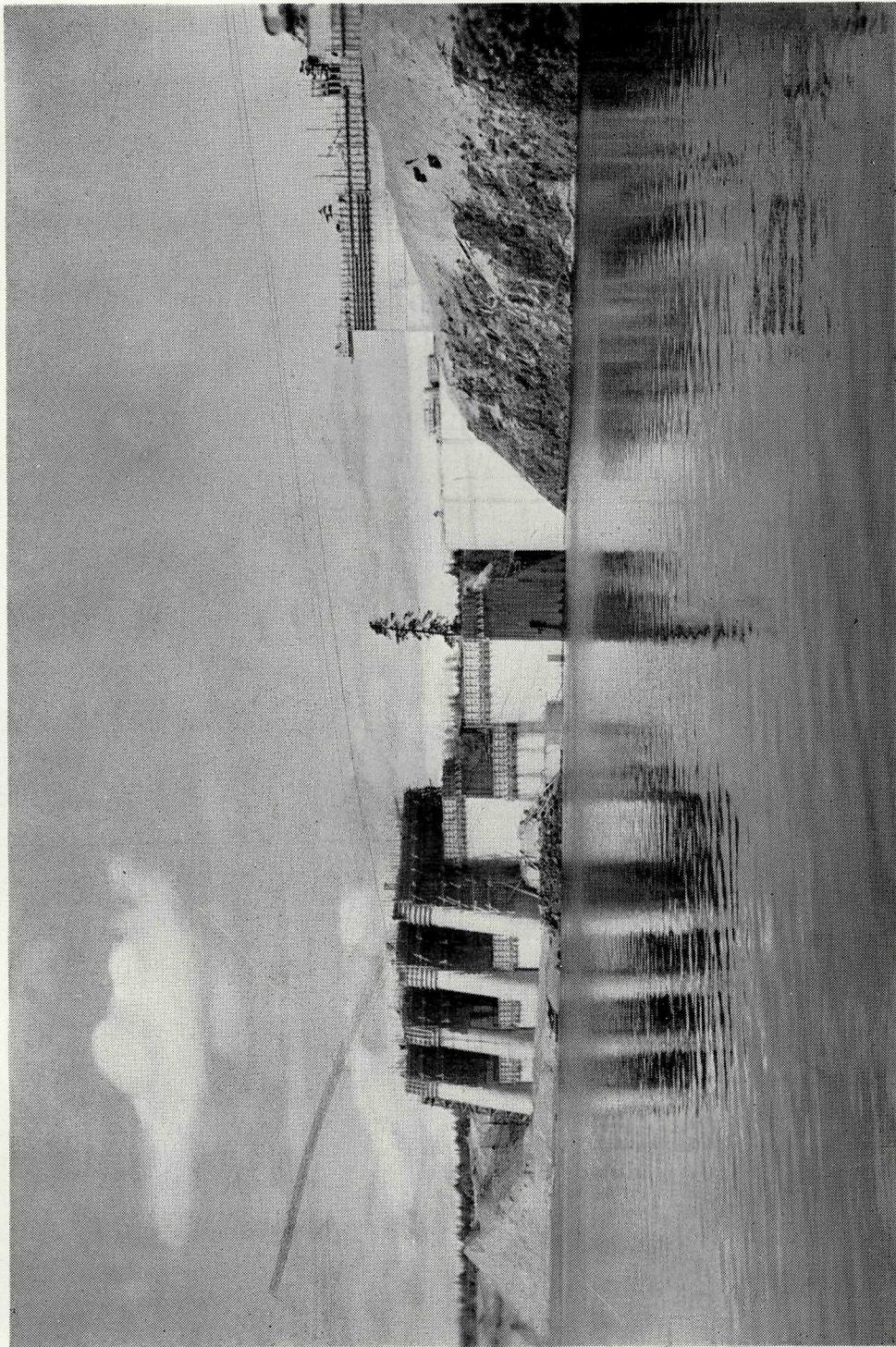
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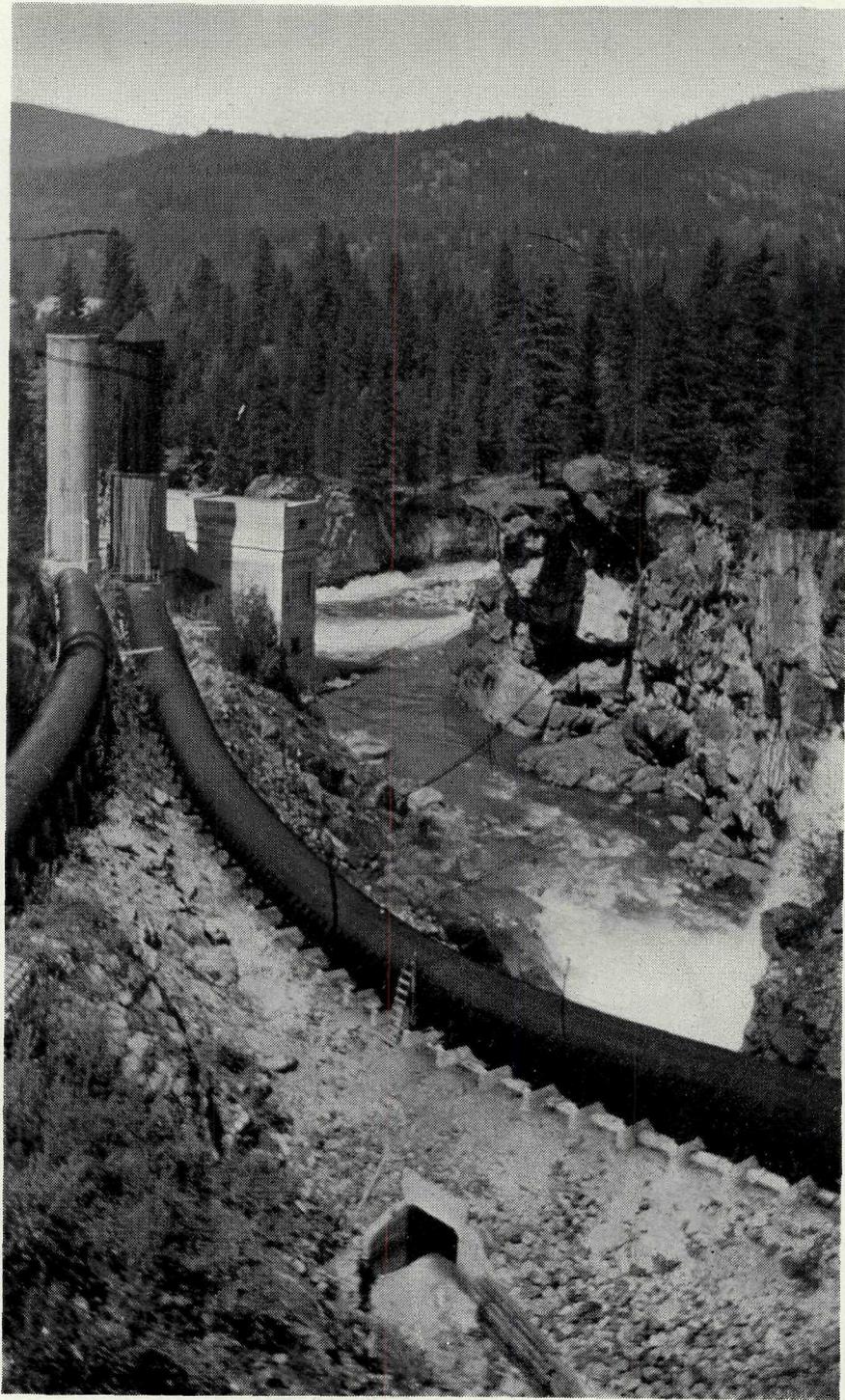
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CAMPBELL RIVER PROJECT.
Front view of concrete dam, showing sluice-ways. Unwatering section in centre.



SHUSWAP FALLS GENERATING STATION, NEAR VERNON.

Second Annual Report of the British Columbia Power Commission, Fiscal Year ended March 31st, 1947.

I. GENERAL REVIEW.

The British Columbia Power Commission was appointed April 17th, 1945, under the provisions of the "Electric Power Act" and has therefore completed its first full year's operation. Its First Annual Report, to March 31st, 1946, reviewed the preliminary steps taken to organize the undertaking as an operating utility in accordance with the Act and outlined three early objectives, namely:—

- (1) Improvement of the supply and availability of power in the first areas of operation.
- (2) Increase, as rapidly as possible, in the number of power districts and consumers.
- (3) Enlargement of the entire undertaking as an efficient self-supporting public service.

This Annual Report, for the year ended March 31st, 1947, indicates the progress made during the year toward those objectives.

1. IMPROVEMENT OF THE SUPPLY AND AVAILABILITY OF POWER.

The first major undertaking of the Commission in the field of power production and transmission plant is the Campbell River power-development and 132-kv transmission system from the Campbell River plant to Nanaimo and Port Alberni. Delayed delivery of materials and equipment made it impossible to meet the original schedule which provided for the first generating unit, of 25,000 kva capacity, to be in operation in April, 1947; it is now anticipated that it will be ready for operation in the early fall of 1947. A second 25,000-kva unit will be completed a few months later. Two more similar units have been placed on order for installation early in 1949. The contract has been awarded for the construction of Ladore Falls storage-dam, which will impound within Campbell Lake sufficient reserve to regulate the water-supply for 100,000 kva installed capacity. The erection of the transmission-lines to Nanaimo and Port Alberni is in progress. Provision is thus being made on Vancouver Island for a supply of power which should prove adequate for some time to come. On the Island the Commission already serves directly 11,858 consumers and is at present dependent upon limited power purchased from four sources.

Further progress was made in planning an adequate power-supply for the Okanagan and Kamloops areas, where the Commission now supplies 8,579 consumers from four plants—two hydro, one steam, and one Diesel.

The requirements of 2,593 other consumers in ten power districts presently served by the Commission also received attention. These ten districts are supplied from ten Diesel and two small hydro-electric plants acquired from predecessor companies. One new Diesel plant of two units was built to Commission standard and was placed in operation in Smithers. New plants are being installed at Alert Bay, Golden, Quesnel, Terrace, and Vanderhoof. The generating plants at Hope, Nakusp, Sechelt, and Williams Lake were all increased in capacity by temporary installation of additional machines.

The distribution systems in sixteen power districts were surveyed and plans were approved for their rehabilitation and extension to new customers. Considerable reconstruction was carried out in the larger districts.

The progress of all new work and reconstruction was retarded by the continuing scarcity of line materials and equipment.

During the year 50,951,849 kwh were generated or purchased as compared with 32,780,000 kwh during eight months of operation in the previous year.

While adequate production, transmission, and distribution plants are essential to improvement of the supply and availability of power, the rates at which energy is obtainable by the ultimate consumer are equally important. As adequate production plant became available, rates were revised with due regard to the equalization of revenue and cost as required by the "Electric Power Act." Promotional rates were applied in Hope, Peachland-Westbank, Sechelt, and Smithers Power Districts and will be made available in other districts as soon as adequate plant is provided and the compensation for expropriated properties is finally determined.

2. INCREASE IN THE NUMBER OF POWER DISTRICTS AND CONSUMERS.

During the year the number of power districts was increased from twelve to sixteen through the acquisition of electric operations in Alberni, Port Alberni, Kamloops, Peachland-Westbank, and Royston. The operation in the Parksville-Qualicum area was also acquired and added to the Nanaimo-Duncan-Saltspring Power District.

The number of consumers served by the Commission increased by 8,928, from 14,102 to 23,030. The increase was made up by the addition of 1,777 new services and 7,151 customers formerly served by systems acquired during the year. In the eight months ended March 31st, 1946, 832 new services were installed. The Commission has, therefore, actually installed 2,609 new services since it began operation in 1945.

The power actually sold during the year was 43,713,830 kwh; in eight months of operation during the preceding year 29,572,259 kwh were sold.

3. ENLARGEMENT OF THE UNDERTAKING.

In less than two years the Commission has taken over the complete electrical plant and operations of ten utility companies and one municipality. It has acquired from another company its operation in one area. At March 31st it was serving 23,030 consumers and during the year added 150 new services per month, the majority of which were in rural areas.

Other opportunities for improving electrical service, by taking into the system other small operations and by expanding the various distribution systems into new territory, have been examined. Several projects are in varying stages of preparation and will be the subjects of recommendations in the near future.

The operations of the Commission comprise three essential functions: first, the production or generation of power; second, the transmission of power from generating plant to suitable distribution points; and third, the distribution and sale of power to the ultimate consumer. Three distinct types of capital plant, required for these respective functions, must either be acquired from former owners or constructed anew. It is therefore necessary to provide such services as Legal, Engineering and Construction, and Financial and Accounting. Concurrently with the development of plant facilities, progress was made in the organization of these services. Where plant has been acquired, the operating personnel have, almost without exception, transferred their services to the Commission.

With a view to the development of an efficient organization under stable conditions of employment the Commission inaugurated during the year joint contributory plans for:—

- (1) Medical services and hospitalization:
- (2) Group life insurance; and
- (3) Superannuation.

During March, 1947, labour contracts for the ensuing three years were completed with Locals 821 and B.213 of the International Brotherhood of Electrical Workers, certified bargaining agents for the Commission's employees in the North Okanagan and Kamloops areas respectively, and in the same month an agreement was also entered into with Local B.213 covering the employees affected in other power districts on the Mainland. These agreements, applicable to approximately two-thirds of the total operating and construction personnel of the Commission, provided a general increase in the wage scale effective April 1st, 1947; and in the case of the North Okanagan and Kamloops areas, further progressive increases April 1st, 1948 and 1949.

Acknowledgment is made of the loyal services of workers in every branch of the organization. They are developing the whole undertaking into an efficient self-supporting public service.

4. RURAL ELECTRIFICATION.

As is noted in the Final Report of the Rural Electrification Committee, as of January, 1945, rural electrification is an outgrowth of the central-station industry. Before service can be made available, there must be generating capacity to meet the demand; the first step in a rural electrification program is logically the provision of adequate central-station equipment. To this end the Commission has made plans and has carried out certain construction-work as discussed in detail elsewhere in this report. This type of work, based on long-range planning, cannot be carried to completion in one or two seasons. Fabrication and delivery of generating equipment alone requires a period as great as two years. The construction-work now envisaged as to production plant, upon which a start has been made, will provide certain of the necessary central stations from which rural areas can, in the next few years, be electrified.

Despite the fact that central stations, as taken over by the Commission, were of inadequate capacity, extension of service from small centres into rural areas has been carried out to the limit of material available. The progress in this direction has been governed largely by delivery, and full use has been made of material as it became available.

II. LEGAL.

1. LEGISLATION.

The "Electric Power Act Amendment Act, 1947," enacting certain amendments to the "Electric Power Act," was assented to on April 3rd, 1947. The amendment makes provision:—

- (a) Governing the Commission's authority to sell power to or purchase power from a corporation operating a power plant primarily for an industry carried on by it.
- (b) Extending the Commission's power to establish and maintain a superannuation plan for its members and employees.
- (c) Enlarging from \$20,000,000 to \$30,000,000 the limits of the Government's power to borrow money for the purpose of the Act.
- (d) Concerning the method by which the Government may raise such moneys.
- (e) Clarifying the procedure for determining compensation to be paid for properties expropriated.

2. REGULATIONS.

The Act authorizes the Commission to make such regulations as are deemed expedient to carry out the purpose of the Act. The following regulations were made during the year:—

Regulation No. 4—Amending Regulation No. 3, "Safety Rules."

Regulation No. 5—"Rate Schedules." Part I of this regulation, comprising a general introduction to the subject of rate schedules, and Part II, defining the classifications and conditions of service, is applicable to all power districts and becomes effective in each district as and when rates for that district are revised. Part III, setting forth the specific rates in each power district, was approved for Westbank-Peachland, Hope, Smithers, and Sechelt Power Districts.

Regulation No. 6—"Superannuation Plan." This regulation provides for the establishment of a contributory superannuation plan for members and employees of the Commission basically similar to that provided under the "Civil Service Superannuation Act." The plan is administered by the Commissioner under that Act and a Board of three Trustees to be appointed by the Commission—one upon nomination of the Superannuation Commissioner, one to represent the employees, and one to represent the Commission.

3. ACQUISITION OF PROPERTIES.

A small hydro-electric plant of 62 kva capacity, together with the distribution system in the Peachland District, was acquired by negotiation August 7th, 1946.

The 320-kva Diesel generating plant and the distribution system of Westside Utilities was acquired by negotiation August 7th, 1946.

The former Army power-house at Terrace was purchased from War Assets Corporation and will be used to house the new Diesel generating equipment now being installed.

By Orders in Council approved October 22nd, 1946, the Commission was authorized to acquire by expropriation the electrical properties of British Columbia Electric Railway Company, Limited, serving Kamloops and vicinity; National Utilities Corporation, Limited, serving Port Alberni, Alberni, Qualicum, and Parksville areas; Royston Light

and Power Company, Limited, serving Royston. These expropriations were effected December 30th, 1946. A valuator was appointed by Order in Council and is now assessing values.

On March 8th, 1947, an Order in Council authorized the Commission to enter into an agreement with Victoria Lumber Company, Limited, to acquire that company's distribution plant in and adjacent to Chemainus. This acquisition was effected by agreement on March 15th, 1947.

The total number of customers served by the foregoing properties as of the respective acquisition dates was 7,151.

As reported in its First Annual Report the Commission leased from War Assets Corporation the former United States Army plant at Dawson Creek. This lease contained an option in favour of the Commission to purchase the plant, and notification was given that, subject to approval of the Lieutenant-Governor in Council, the option would be exercised.

4. RIGHTS-OF-WAY AND SITES.

Surveys of land easements required for the transmission-line from Campbell River to Nanaimo and from Dunsmuir to Port Alberni were completed and plans filed with the Land Registrar. Application was made to the Crown for Grants of Easement by way of right-of-way over all Crown lands traversed by this line. Negotiations in regard to easements required over private property are now under way.

Plans are in preparation to acquire the necessary property at Campbell River for the erection of dwellings to house the operators who will be employed in the power plant and to provide a recreational area in connection therewith.

Surveys, and in some instances the purchase, were completed in connection with four radio-station sites for the ancillary transmission-line communication system from Campbell River to Nanaimo and Port Alberni.

The sites for substations at Nanaimo and Port Alberni were acquired.

Sites for the new Diesel power stations at Smithers, Vanderhoof, and Golden were purchased; at Terrace the site of the power-house building above mentioned was leased from Canadian National Railways.

A site for the new Diesel plant at Alert Bay was acquired by expropriation.

Leases were effected with Pacific Great Eastern Railway Company for enlargements of the power-house sites at Quesnel and Williams Lake.

Title to additional land at Hope was obtained to permit extension of the Diesel power station.

A survey of the area required for the Dawson Creek power plant was completed, and negotiations toward the acquisition of this site are now pending.

5. VALUATIONS AND COMPENSATION—EXPROPRIATED PROPERTIES.

The valuator, The American Appraisal Company, brought in its findings on the properties of West Canadian Hydro-Electric Corporation, Limited, and its subsidiaries; Nanaimo-Duncan Utilities, Limited; Columbia Power Company, Limited, and its subsidiary. From these findings the Commission appealed. West Canadian Hydro-Electric Corporation, Limited, appealed from the findings of compensation for its property. The Honourable Mr. Justice Wilson was appointed by Order in Council to hear the appeals, and these appeals are now pending before him.

General Appraisal Company was appointed by Order in Council to determine the compensation to be paid to British Columbia Electric Railway Company, Limited; National Utilities Corporation, Limited; and Royston Light and Power Company, Limited, for properties expropriated as described previously.

The matter of compensation for the property expropriated for a power-house site at Alert Bay is awaiting settlement with the Official Administrator acting for the heirs of the deceased owner.

6. CONTRACTS.

Apart from the ordinary service contracts, agreements were approved by the Legal Department for the supply of industrial power in various power districts.

A standard street-lighting contract was designed and progress made in drafting standard contract forms for the various classifications of service.

Contracts for the erection of the Campbell River transmission-line and for the construction of Ladore Falls storage-dam on Campbell River were arranged. In addition, numerous contracts for construction-work and supply of plant and equipment were prepared and executed.

7. WATER LICENCES.

No new water licences were granted to the Commission. The Commission obtained, however, a licence to flood those lands which will be submerged in the pondage area above Campbell River head dam.

The Commission recommended to the Water Comptroller that a reserve be placed upon the water rights and lands required for developing Whatsan power-site, which is now under investigation as a source of power for the Okanagan-Kamloops area.

8. INSURANCE.

Adequate insurance is carried on the Commission's power plants and equipment throughout the Province.

III. CONSTRUCTION.

1. PRODUCTION PLANT.

Construction-work went forward, during the 1946-47 fiscal year, on power-production plant as discussed in detail below. The largest project, that at Campbell River, involves all works associated with a hydro-electric production plant of 50,000 kva immediate and 150,000 kva ultimate capacity. Smaller projects include the construction at Alert Bay, Golden, Quesnel, Smithers, Terrace, and Vanderhoof of standard Diesel-electric production plants ranging in capacity from 437.5 kva to 749 kva. Temporary measures to alleviate acute power shortages required certain construction-work on installation of additional machines and major overhaul of existing machines.

ALERT BAY.

The power-house building was completed and three units having a total capacity of 437.5 kva await installation.

CAMPBELL RIVER.

Progress on the Campbell River hydro-electric development, which was originally scheduled to go into operation on April 1st, 1947, was delayed by the prevailing shortage of manufactured materials and equipment. As a result, revision of the original construction schedule was necessary.

The placing of concrete in the main dam is 70 per cent. completed. The steel-sheet piling in the south earth wing-dam is all driven and the earth fill is 70 per cent. completed. The north earth wing, which is relatively short, remains to be constructed. The fabrication of the three steel sluice-gates is in the final stages.

Placing of concrete in the intake structure was started. Sheet piling is being driven for the south connection of the intake. The regulating valves for this structure are fabricated.

The grade for the pipe-line and penstocks is complete except for a small quantity of rock excavation.

Fabrication of the wood-stave pipe, 12 feet in diameter, and of the steel pipe and penstocks is in progress at the manufacturers' plants.

Surge-tank foundations are 50 per cent. completed. The fabrication of the tank and supporting structure is well advanced at the contractor's factory.

Concrete for the substructure of the power-house and for the two turbine settings is in place.

Structural steel for the crane and building and parts for the first two turbines with their unwatering valves are on the site.

All items of generating, transforming, and control equipment are on the site or well advanced by the respective manufacturers. An experienced expediting firm has been employed to follow up all phases of manufacturing and shipments.

Equipment to provide a system of wireless communication, frequency modulated, between the generating station and the terminals at Port Alberni and Nanaimo is on order and will be installed as part of the project.

It has become apparent that the first two units in this plant, each of 25,000 kva capacity, will not be sufficient to supply the power demand on the Vancouver Island system for more than two years, which is the period required for the manufacture and installation of a new unit. Consequently the third and fourth generators and turbines, each of 25,000 kva capacity, were ordered and will be installed early in 1949. The plant's capacity will then be 100,000 kva.

A contract was awarded for and preliminary work was commenced on the erection of a dam at Ladore Falls, below the outlet of Campbell Lake. This dam will provide sufficient storage to regulate the water-supply for 100,000 kva. It is scheduled for completion early in 1948.

GOLDEN.

Material for the new power-house is on the site and all machinery and major equipment, totalling 562.5 kva, has been manufactured. As a temporary measure an increase in generating capacity of 40 kva was made available by the installation of a larger unit in place of one old unit.

HOPE.

The Diesel power-house was extended to house a new unit of 312 kva capacity, which was installed to supply the rapidly growing demand in the district.

NAKUSP.

Alterations were made to the power-house and a Diesel unit of 125 kva capacity was installed as a temporary measure to supplement the original generating capacity.

QUESNEL.

The new power-house building was completed and three units totalling 687.5 kva await installation. Pending completion of the new plant it was necessary to increase the capacity of the old generating plant by the addition of two used Diesel units totalling 112 kva.

SECHELT.

The exterior of the power-house building was completed and painted. A Diesel unit of 175 kva capacity, acquired with the Nanaimo-Duncan Utilities, Limited, property, which was situated at Duncan but had been out of use for many years, was transferred to and installed in the Sechelt plant.

SHUSWAP FALLS.

Frost-proof casing was erected around No. 2 surge-tank.

A timber structure was constructed over a 50-foot section of No. 2 wood-stave pipe-line to protect it from falling rocks.

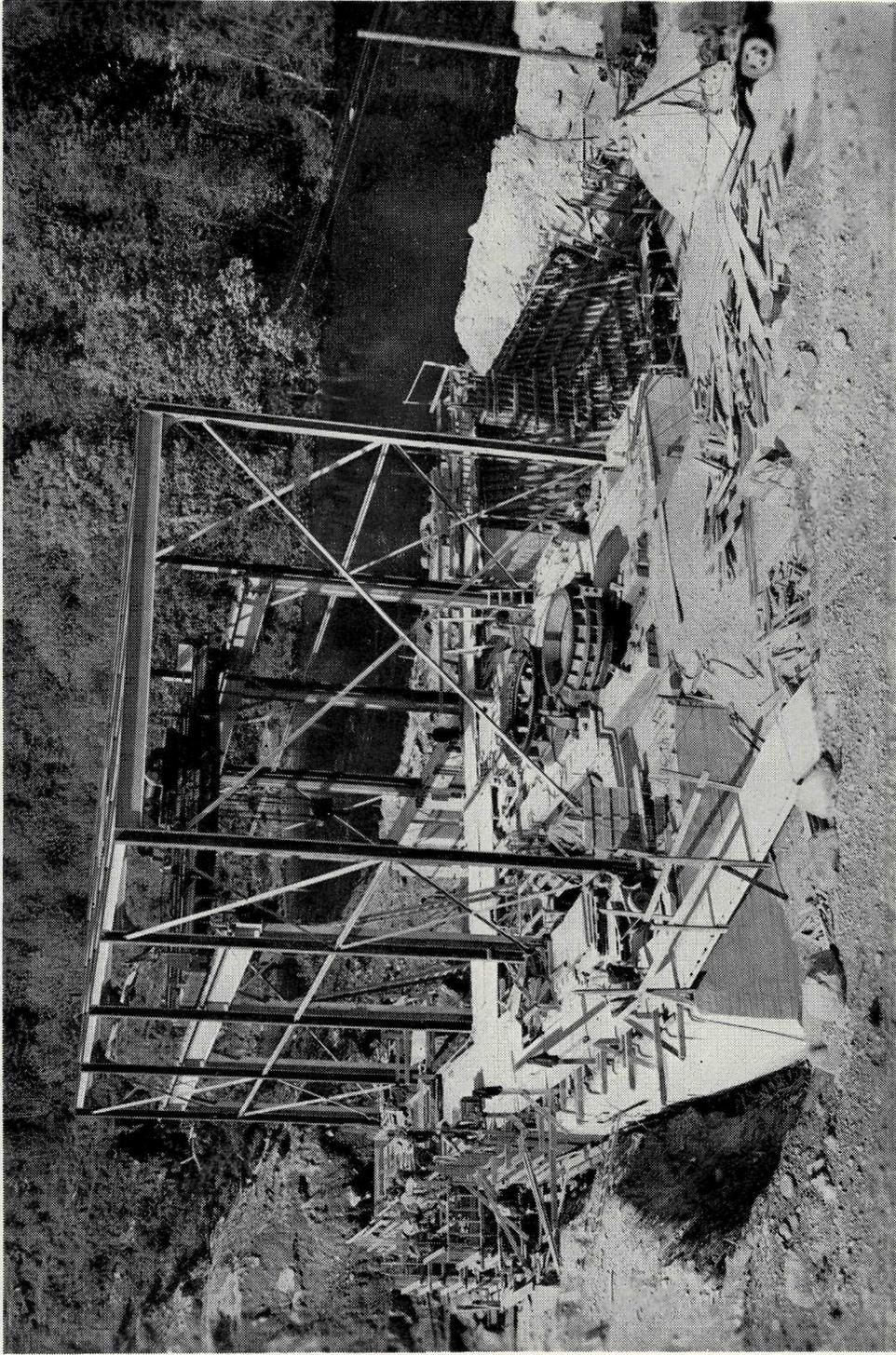
SMITHERS.

The new Diesel plant was turned over to the operating department on March 17th, 1947. The power-house was designed and constructed to house three of the Commission's standard generating sets.

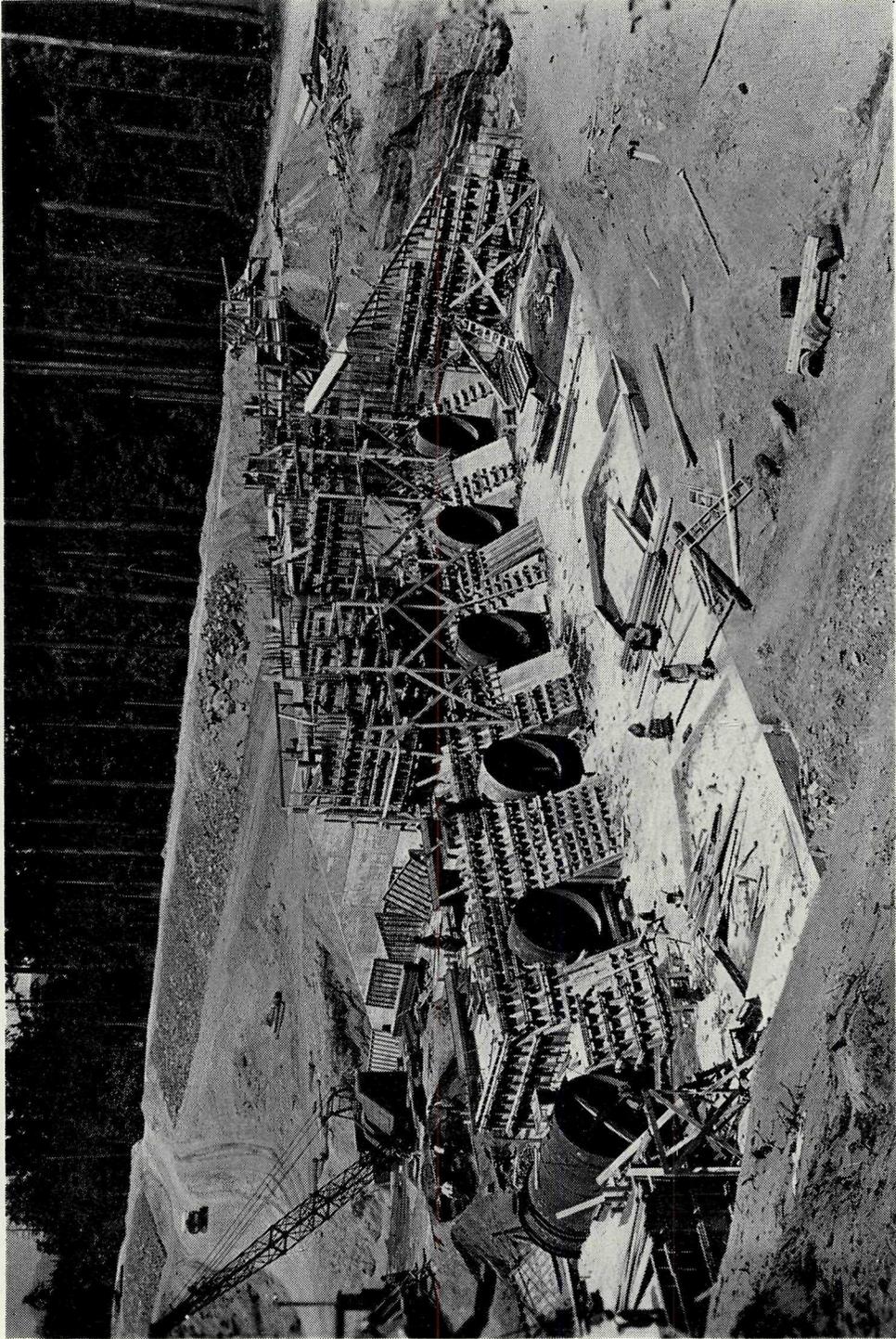
Two units, of 312 kva and 125 kva capacity, were installed. The third unit ordered for this plant, of 312 kva capacity, was diverted to Hope and will be replaced in the near future, at which time the total capacity of the plant will be 749 kva.

TERRACE.

A vacant power-house at Terrace, previously used by the Department of National Defence, was acquired from War Assets Corporation. This permitted cancellation of plans for constructing a new building. The acquired building met all the Commission's requirements; it was in good condition, suitably located, and needed but little renovation. There are now in course of installation three standard generating units, one 62.5 kva and two 187.5 kva, total capacity 437.5 kva.



CAMPBELL RIVER PROJECT.
Showing construction at power-house.



CAMPBELL RIVER PROJECT.
Rear view of intake, showing 8-foot 6-inch diameter steel thimbles.

VANDERHOOF.

A new power-house was completed at Vanderhoof and three standard generating units are in process of installation, one 62.5 kva and two 187.5 kva, total capacity 437.5 kva.

WILLIAMS LAKE.

After several months' delay in obtaining essential parts for one of the Diesel engines acquired from Columbia Power Company, occasioned by a work stoppage in the manufacturer's factory, the 375-kva Diesel unit was finally placed in operation. This plant now has a total capacity of 475 kva.

2. TRANSMISSION PLANT.

VANCOUVER ISLAND SYSTEM.

The right-of-way for the 132-kv transmission-line from Campbell River to Nanaimo, with a branch from Dunsmuir to Port Alberni, was cleared, and a contract was let for the erection of the line. The setting of tower footings is 30 per cent. completed. Failure to receive steel for the towers has been a major contributing factor to the delay in the organization and progress of this undertaking.

Materials are now being received in sufficient quantity to permit greatly accelerated progress.

Despite investigation of several alternative sites for the Port Alberni substation it was found necessary to drive some 200 piles before concrete substructures could be placed. This work is being performed by contract and is well advanced at March 31st, 1947.

The necessary work on the substation at Nanaimo is being done by the Commission's local staff.

All electrical equipment for the transformer stations at Campbell River, Nanaimo, and Port Alberni is on order and deliveries promised to conform with the general development program.

In preparation for the delivery of power from Campbell River to Duncan and for the anticipated increase in power requirements in that area, the conductor on the 60-kv line between Nanaimo and Duncan is being changed from No. 4 copper to No. 2/0 A.C.S.R. This work is 25 per cent. complete.

OKANAGAN-KAMLOOPS.

A survey party completed the location for a projected transmission-line to connect the Kamloops and North Okanagan Power Districts. The boundaries of the necessary right-of-way easements are now being established and mapped.

A new substation was constructed at Canoe, with a capacity of 600 kva, transforming from 33 kv to 6.9 kv. Provision was made for the installation of three further transformers, each of 250 kva capacity, transforming from 33 kv or 66 kv to 7.2 kv.

Capacity of Swan Lake substation was increased by 100 kva, Armstrong substation was increased by 300 kva, and Enderby substation was increased by 100 kva.

All the foregoing increases were made as necessary steps in providing for rural electrification.

Changes were made in the substations at Lumby, Swan Lake, Armstrong, and Enderby to permit the installation of metering equipment. Metering cabinets were installed in the substations at Lavington, Coldstream, Swan Lake, Armstrong, Enderby, and Salmon Arm. Because of delays in delivery of totalizing meters on order, installations are not yet complete.

A 33-kv, 3-wire transmission-line was constructed between Salmon Arm and Canoe, a distance of 5.2 miles.

3. DISTRIBUTION PLANT.

It has been impossible to meet all the requirements for new power services or to undertake distribution projects on an area-coverage scale on account of the continued shortage of line material. By allocation of available material to reach the greatest possible number of consumers, 1,777 new services were installed during the year. The great majority of these were in the rural areas served by the Commission.

Preliminary engineering design and layout was completed with regard to the distribution plant of all power districts. The design is to modern standards and provides capacity sufficient to meet a large increase in consumption of energy on the part of the individual consumer. It also makes provision for extension of service as each power district develops.

Materials required to construct new distribution plant and complete the rehabilitation of old were ordered according to the requirements of the preliminary design. Delivery of material has been slow, but approximately 70 per cent. of immediate requirements were on site at the end of the fiscal year.

In the larger power districts—Nanaimo-Duncan, Alberni, Port Alberni, North Okanagan, and Kamloops—construction crews are available for extensions and maintenance. In the other power districts, line-work must be done for the most part by a transient crew. Early in the fiscal year, availability of material warranted the employment of only one construction crew, which operated during the summer and fall in the northern power districts. Late in the year, sufficient line material became available to permit an increase in construction forces. A second crew was therefore formed, and the two crews worked during the winter in the Sechelt and Hope Districts.

The principal items of distribution-plant construction are detailed below for the respective power districts.

ALBERNI POWER DISTRICT.

This district includes Port Alberni, Alberni, and adjacent areas supplied by the distribution system in the two cities or by extensions thereto. The system was acquired as of January 1st, 1947, by expropriation from National Utilities Corporation, Limited. Since that date 1.06 miles of primary line were constructed and sixty-six new services connected. Several rural line extensions, initiated by the former owners at the time of acquisition, are under construction.

ALERT BAY.

Material is on order and delivered in part for the reconstruction of the distribution system. Sixteen new service connections were made.

GOLDEN.

Material was received for the rehabilitation of the distribution system and some rural extensions. This work is scheduled for 1947 completion. Fourteen new services were added.

HOPE.

On March 31st, 1947, final plans for complete reconstruction of distribution plant within the Hope municipality were complete and all lines were staked on the ground; 50 per cent. of the digging was done. Further plans were complete and staking was done on three rural extensions to Lake of the Woods (Schamm Lake), Croft Island, and Kawkawa Lake. Seventy-four new service connections were made.

KAMLOOPS.

This distribution plant, with 2,954 connected services, was acquired January 1st, 1947, by expropriation from British Columbia Electric Railway Company. From January 1st to March 31st 126 new customers were connected. Plans are under preparation for extensive reconstruction of the system and extensions into adjacent rural areas.

NAKUSP.

Reconstruction of the distribution system is scheduled for 1947. Twenty-five new service connections were made during the year.

NANAIMO-DUNCAN-SALTSPRING-PARKSVILLE-QUALICUM.

This extensive power district, formerly referred to as the Vancouver Island Division of the Commission's operations, was increased during the year by the purchase from Victoria Lumber Company, Limited, of the Chemainus distribution system with 422 connected services and by the expropriation from National Utilities Corporation, Limited, of the Parksville-Qualicum system. The former system required a complete overhaul, which called for increasing the size of conductors, correction of hazardous corners, replacement of fifty poles, and the addition of transformers.

In the whole power district over 300 poles were replaced during the year; 33.05 miles of primary distribution-lines were constructed, together with the transformers, secondaries, and services to 723 new customers.

Voltage regulators were installed for the Nanaimo-Townsite-Departure Bay districts. The Duncan substation was rebuilt to increase the capacity from 600 kva to 1,000 kva. The Saltspring Island distribution was converted from 2.3 kv to 4/2.3 kv by the installation of a fourth wire.

A survey of the Gulf Islands is under way with a view to extension of service to some of the islands and provision of an alternative line to Saltspring.

NORTH OKANAGAN.

This large district includes the Cities of Vernon, Armstrong, Enderby, and Salmon Arm, and the Districts of Salmon Arm and Coldstream. It also includes Lumby, Lavington, Oyama, Canoe, Sicamous, Okanagan Centre, and Okanagan Landing.

Considerable reconstruction was completed preparatory to extension into the rural areas. This work included revamping of several distribution substations, construction of 9.4 miles of new primary lines, and the rebuilding of 6.16 miles of primary. A total of 12.8 miles of new secondary lines was built and 6.1 miles were reconstructed. New services were installed for a net increase of 483 customers.

Several important areas were surveyed with a view to undertaking rural electrification on an area-coverage basis as soon as sufficient material is obtainable.

PEACHLAND-WESTBANK.

This power district includes the former distribution systems of Peachland and Westbank, both of which were purchased by the Commission as of August 7th, 1946. Since that date 6 miles of 4-wire line were constructed to connect the two plants. Three-wire primary was extended for 5½ miles in the rural area to serve Greata Ranch, a packing-house, and several residences. A substation of 225 kva capacity was constructed at the Westbank generating station and one of 75 kva capacity at Peachland to allow parallel operation of the Diesel plant at Westbank and the small hydro-electric plant at Peachland.

A new modern street-lighting system was installed in Peachland, comprising sixteen luminaires of 300 watts each and one of 100 watts, controlled by astronomical time clock.

In Westbank 1 mile of 2-wire iron primary was replaced with copper, increasing the capacity of the line and improving the voltage. Short radial extensions totalling 1 mile were constructed to add fifteen new services.

Three rural extensions comprising 8 miles of line were surveyed and staked and will be constructed in 1947 to reach some fifty residential consumers, a packing plant, and a cold-storage plant. These extensions, when completed, will make it possible to pump water for irrigation of approximately 1,000 acres of land.

QUESNEL.

Additional transformer capacity was added as a temporary measure pending complete rebuilding of the Quesnel distribution system, scheduled for the coming summer. Fifty-two new services were added during the year.

ROYSTON.

The Royston distribution system, serving ninety-three customers, was acquired January 1st, 1947, by expropriation from Royston Light and Power Company, Limited, a subsidiary of National Utilities Corporation, Limited. Energy for this district is purchased at 25 cycles from Canadian Collieries (D.) Limited.

SECHELT.

A fairly ambitious construction and rehabilitation program was undertaken, utilizing two construction crews. The rapid growth of this district had rendered the existing 2,300-volt distribution system entirely inadequate. The 3-phase line from the power-house at Sechelt through Wilson Creek, Roberts Creek, Gibsons Landing, and Granthams Landing to Hopkins Landing was converted in its entirety to 6,900 volts; this work involved the construction of two substations. Following this voltage change, the work of changing to a larger-size conductor and rebuilding the line was undertaken. This work, at the close of the fiscal year, was 50 per cent. complete, as also was the construction of five new extensions, totalling 3 miles, to reach approximately 150 potential consumers.

The rapid development in this district is evidenced by the installation of 103 new services during the year.

SMITHERS.

A total of 3,600 feet of primary line was completed within the municipality to tie the new power plant to the distribution system. A start was made on the 11-mile line from Smithers to Telkwa, on which poles were set over approximately 6 miles. Twenty-one new service connections were made.

TERRACE.

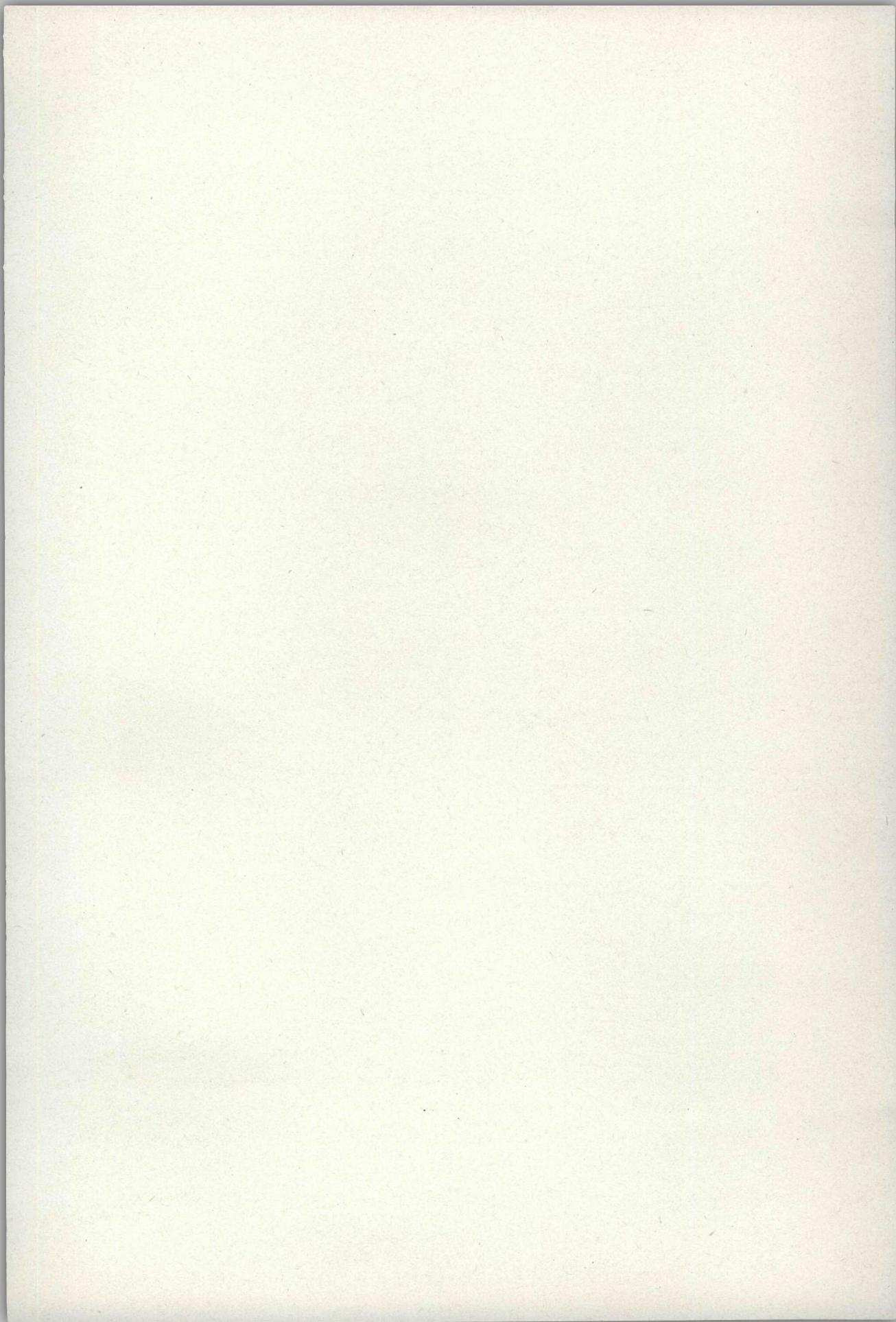
Construction-work was completed within the municipality, the new power plant was tied in, and a start was made on rural extensions outside the municipality. Total new construction was approximately $3\frac{1}{2}$ miles. Thirteen new services were installed during the year.

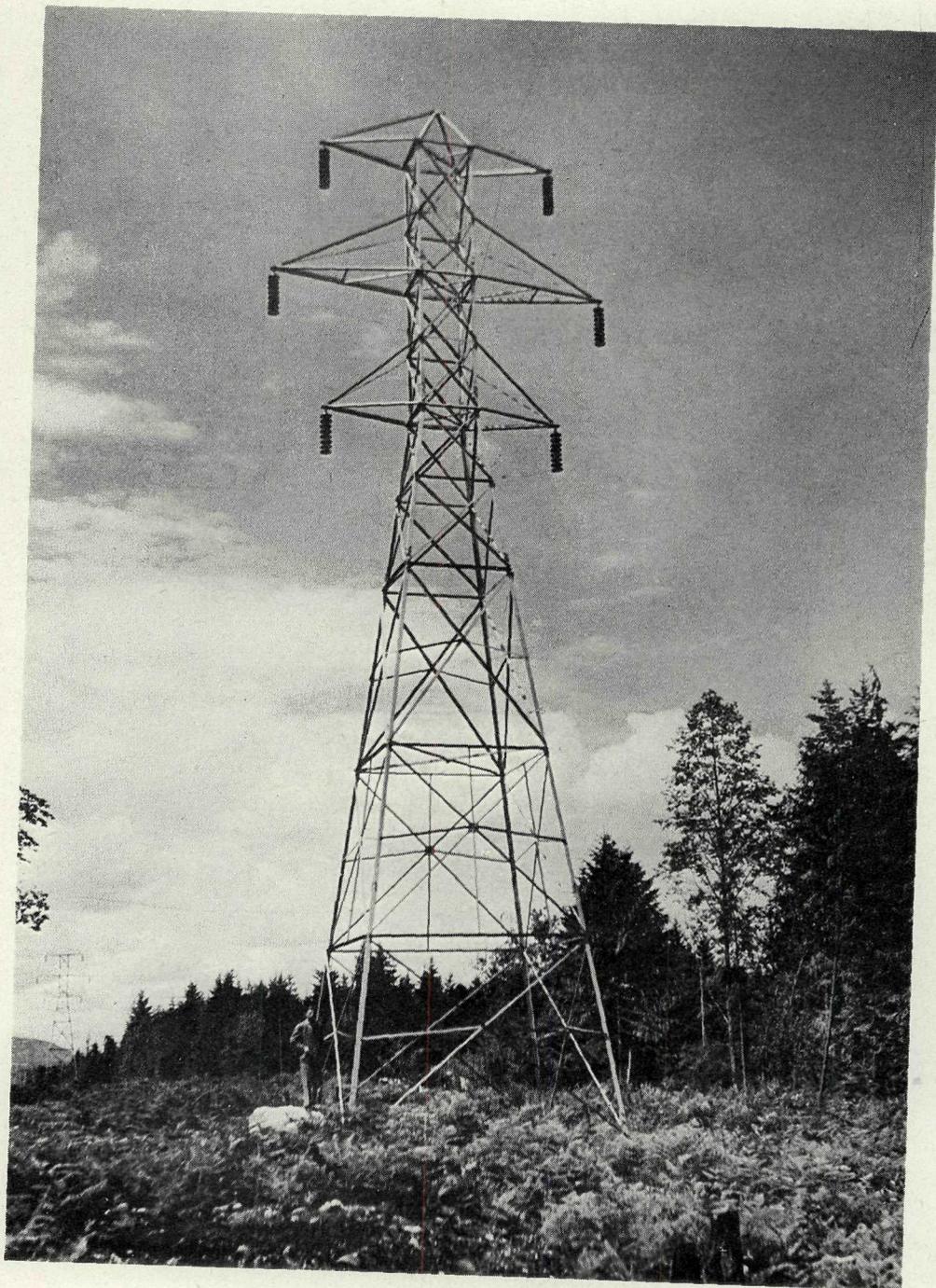
VANDERHOOF.

During the year eight new service connections were installed. Rehabilitation of the distribution system is scheduled for 1947.

WILLIAMS LAKE.

An extension approximately 1 mile long was completed to serve the stockyards, minor extensions were made within the municipality, and efforts were made, by temporary installation of additional transformers, to alleviate poor voltage and regulation. During the year thirty-eight new service connections were made.





CAMPBELL RIVER PROJECT.
Steel towers for 132-kv transmission-line.

IV. OPERATION.

The subject of operation is herein treated under the three headings which comprise the principal functions, namely, production of power, transmission of power from generating plant to distribution centres, and distribution and sale of power to the consumers.

1. PRODUCTION.

As at March 31st, 1947, the Commission was operating seven hydro-electric generating stations containing twelve units, two steam plants containing five units, and fourteen Diesel plants containing thirty-eight units. Combined in twenty-three generating plants totalling 18,450 kva capacity there are fifty-five units. All these plants, excepting the one at Smithers, were acquired from former owners. As noted in Part III of this report, a new plant was built at Smithers and five others are in course of construction. Temporary installations were made in many stations and considerable reconstruction in all.

In addition to the power produced by its own equipment, the Commission purchased power from others to the amount of 9,063 kva. The total capacity available to supply 23,030 consumers was therefore 27,513 kva. For one-third of this the Commission was entirely dependent on the co-operation of Vancouver Island Power Company, Limited; Victoria Lumber Company, Limited; Bloedel, Stewart & Welch, Limited; Alberni Pacific Lumber Company, Limited; and Canadian Collieries (D.) Limited.

The tabulation containing data relative to the Commission's generating plants as of March 31st, 1947, is as follows:—

GENERATING CAPACITY IN KVA, AS AT MARCH 31ST, 1947.

Plant Location.	DIESEL.		HYDRO.		STEAM.		TOTAL.	
	Number of Units.	Capacity in Kva.	Number of Units.	Capacity in Kva.	Number of Units.	Capacity in Kva.	Number of Units.	Capacity in Kva.
Alert Bay.....	3	230	....	.....	....	.....	3	230
Barriere.....	....	.....	2	1,695	....	.....	2	1,695
Golden.....	2	150	....	.....	....	.....	2	150
Hope.....	4	465	1	62	....	.....	5	527
Kamloops.....	....	.....	....	.....	3	2,750	3	2,750
Nakusp.....	1	125	1	125	....	.....	2	250
Nanaimo.....	....	.....	4	1,275	2	1,080	6	2,355
Peachland.....	1	62	....	.....	....	.....	1	62
Port Alberni.....	4	1,335	....	.....	....	.....	4	1,335
Qualicum.....	1	125	....	.....	....	.....	1	125
Quesnel.....	5	275	1	187	....	.....	6	462
Sechelt.....	2	475	1	100	....	.....	3	575
Shuswap Falls.....	....	.....	2	6,500	....	.....	2	6,500
Smithers*.....	2	437	....	.....	....	.....	2	437
Terrace.....	2	50	....	.....	....	.....	2	50
Vanderhoof.....	3	152	....	.....	....	.....	3	152
Westbank.....	4	320	....	.....	....	.....	4	320
Williams Lake.....	4	475	....	.....	....	.....	4	475
Totals, Commission's plant.....	38	4,676	12	9,944	5	3,830	55	18,450

* The Smithers plant is a new installation by the Commission.

CAPACITY AVAILABLE THROUGH PURCHASE OF POWER.		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 Company, Ltd., at Port Alberni		623
Canadian Collieries (D.) Ltd., at Royston		50

 9,063

TOTAL AVAILABLE CAPACITY.		Kva.
Generating capacity		18,450
Power purchased		9,063

 All sources 27,513

POWER GENERATED IN COMMISSION'S PLANTS.

Plant Location.	Kwh output.
Alert Bay	292,246
*Barriere	1,576,994
Golden	178,210
Hope	310,450
*Kamloops	591,820
Nakusp	257,460
Nanaimo	4,648,670
†Peachland and Westbank	228,230
*Port Alberni	493,749
Quesnel	565,970
Sechelt	377,984
Shuswap Falls	18,239,760
Smithers	319,050
Terrace	67,416
Vanderhoof	153,750
Williams Lake	366,160

 Total generated 28,667,919

POWER PURCHASED.

Purchased from.	Kwh purchased.
Vancouver Island Power Co., Ltd.	20,520,000
Victoria Lumber Co., Ltd.	785,000
*Bloedel, Stewart & Welch, Ltd.	652,400
*Alberni Pacific Lumber Co., Ltd.	301,530
*Canadian Collieries (D.) Ltd.	25,000

 Total purchased 22,283,930

 Total generated and purchased 50,951,849

 * From January 1st, 1947, to March 31st, 1947.

† From August 7th, 1946, to March 31st, 1947.

Some operating difficulties were experienced with the small hydro units at Hope, Quesnel, and Sechelt because of ice conditions or sedimentation. Several interruptions occurred during the winter in the operation of the Barriere hydro plant as a result of subsidence of the flume supports.

The old Diesel plants acquired with the electrical properties at Alert Bay, Golden, Hope, Nakusp, Quesnel, Smithers, Vanderhoof, and Williams Lake required very close attention because of their deteriorated condition. Aside from short-term restrictions in the service at Alert Bay and at Quesnel the loads were carried, but the margin of capacity was often very narrow.

A small amount of maintenance-work was required in the Shuswap hydro-electric plant and the Nanaimo steam and hydro-electric plants. At Shuswap, diving operations were necessary to clear fallen rocks from the intake.

All old Diesel plants required constant attendance and considerable maintenance.

The wooden flume, 16,000 feet long, supplying water to the Barriere hydro plant has been a continuous source of trouble since the property was taken over January 1st. Maintenance was confined to work essential to keep the plant in operation until a more adequate and dependable source of power can be established.

A new pump for No. 1 governor was installed in the power station.

2. TRANSMISSION.

For the Commission's purposes all lines and transformation equipment of over 23 kv are classified as "transmission"; lines and transformation equipment of 23 kv or lower are classified as "distribution."

At March 31st the Commission was operating a total of 181.3 circuit miles of transmission-lines in three systems—Vancouver Island, Barriere-Kamloops, and Okanagan. The physical and electrical characteristics of these lines are tabulated below:—

TRANSMISSION SYSTEMS.

Location.	Length.	Voltage.	Type.	Supports.	Conductor.	Number of Circuits.
<i>1. Vancouver Island System.</i>	Miles.	Kv.				
Duncan to Nanaimo.....	32.6	60	Pin	Wood pole	No. 4 copper	1
<i>2. Okanagan System.</i>						
Shuswap to Vernon to 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
<i>3. Kamloops System.</i>						
Barriere to Kamloops.....	45.0	44	Pin	Wood pole	No. 2/0 ACSR	1
Total mileage.....	181.3	....	.....	.....	.....	....

For the major portion of their lengths all except the 33-kv lines are on private rights-of-way which, however, closely parallel public highways and are easily accessible for inspection.

Routine patrols are carried out, and special patrols are made following storms or the occurrence of failure. No unusual operating difficulties developed during the year.

All lines excepting the 63-kv Shuswap-Vernon-Winfield line have reached an age when pole-stubbing has become an annual requirement.

Experiments were conducted with several types of wood preservative and methods of application to poles. This matter will be subject of further study.

During the year 15 miles of right-of-way on Vancouver Island and 7 miles on the Okanagan system were recleared of underbrush. One hundred and ten poles in the Okanagan system were stubbed and a few defective insulators were replaced.

3. DISTRIBUTION.

On March 31st, 1947, the Commission was supplying electrical service to 23,030 customers in sixteen power districts. It was supplying energy wholesale to the City of Ladysmith for distribution by the city. Up to December 31st, 1946, power was delivered at Craig's Crossing for distribution by National Utilities Corporation, Limited, in the Parksville-Qualicum area.

On August 7th, 1946, the distribution systems in Peachland and Westbank were acquired by purchase from the District of Peachland and Westside Utilities Limited respectively.

As of January 1st, 1947, the electrical plant serving the Kamloops area was acquired from British Columbia Electric Railway Company, Limited; this distribution system is operated as the Kamloops Power District.

The Alberni Power District was organized to include the distribution systems in Port Alberni and Alberni, both of which were acquired January 1st, 1947, from National Utilities Corporation, Limited.

On the same date the Parksville-Qualicum distribution system was acquired from National Utilities Corporation, Limited, and was incorporated in the Nanaimo-Duncan-Saltspring Power District.

The distribution in Royston, acquired January 1st, 1947, from Royston Power and Light Company, Limited, is treated for the time being as the Royston Power District.

The operating properties acquired during the year served 7,151 connected consumers.

During the year a total of 1,777 new services were installed in all areas of the Commission's operation. In eight months of the previous fiscal year 832 new services were installed.

Summarizing, the distribution systems in all sixteen power districts were acquired from former owners between August 1st, 1945, and January 1st, 1947. The total number of customers supplied on the respective dates of acquisition was 20,421. The total number supplied March 31st, 1947, was 23,030, reflecting the addition of 2,609 new services under the Commission's operation.

The tabulation on the immediately following page summarizes for each power district the extent of primary distribution-lines, the number of consumers, and the kilowatt-hours delivered to consumers.

PRIMARY DISTRIBUTION MILEAGE, NUMBER OF CONSUMERS, AND POWER SOLD.

Power District.	Circuit Mile of Primary Distribution, March 31st, 1946.	NUMBER OF CONSUMERS.				Kwh sold.
		At March 31st, 1946.	Acquired from other Utilities.	From New Services in the year.	At March 31st, 1947.	
Albernis.....	47.1	*	2,877	66	2,943	1,252,164
Alert Bay.....	3.2	174	.....	16	190	249,300
Golden.....	6.8	163	.....	14	177	151,900
Hope.....	6.3	247	.....	74	321	281,076
Kamloops.....	51.1	*	2,954	126	3,080	2,007,472
Nakusp.....	13.9	256	.....	25	281	130,900
Nanaimo-Duncan, etc.....	470.6	7,160	939†	723	8,822	21,519,199
Okanagan.....	233.7	4,713	.....	483	5,196	14,886,905
Peachland-Westbank.....	17.3	‡	288	15	303	199,348
Quesnel.....	10.8	306	.....	52	358	453,268
Royston.....	0.7	*	93	.....	93	21,247
Sechelt.....	23.5	398	.....	103	501	292,859
Smithers.....	9.2	318	.....	21	339	232,758
Terrace.....	2.2	84	.....	13	97	59,200
Vanderhoof.....	4.2	119	.....	8	127	129,285
Williams Lake.....	4.0	164	.....	38	202	292,589
Totals.....	904.6	14,102	7,151	1,777	23,030	42,159,470
* Operation acquired January 1st, 1947.		Add power supplied for resale—				
† Parksville-Qualicum distribution acquired January 1st, 1947.		City of Ladysmith				1,096,800
‡ Operation acquired August 7th, 1946.		National Utilities Corporation, Ltd.				457,560
					TOTAL KWH SOLD	43,713,830

As man-power and materials became available, an accelerated program of maintenance was undertaken in the larger power districts. This work included as major items the replacement of poles, stubbing of poles, reclearing growth under rural lines, replacement of overloaded conductor with larger sizes, and improvement of distribution substations to permit expansion into rural areas.

In the Okanagan Power District 145 distribution-poles were stubbed and in the Nanaimo-Duncan District 285. In the latter area 27 miles of line along public highways were recleared.

The roof of the Vernon warehouse, the old Diesel power-house, was renewed.

Routine inspection of distribution transformers has not as yet been completely organized; nevertheless many of the larger transformers were inspected, with particular attention to the condition of the oil.

Steps were taken to inaugurate systematic inspection of rubber gloves. No reliable and regular inspection system existed previously.

In the smaller power districts, repair-work was limited to broken or damaged equipment, a policy deemed expedient in view of the comprehensive reconstruction program now in progress.

A new policy respecting the maintenance of meters in small power districts was adopted; all meters called in for the routine reverification required by the Department of Trade and Commerce now pass through a central depot where adequate servicing and repair is carried out. Previously such meters were replaced in service without adequate internal inspection or cleaning.

During the fiscal year the first step toward a complete revision of rates throughout the Commission's undertakings was achieved by the adoption of Regulation No. 5, entitled "Rate Schedules." This regulation was printed in book form and will become

applicable in all districts as the investment in old and new plants is determined and as increased plant capacity and distribution systems are installed to take care of the growth in load anticipated from the promotional rates provided thereby.

Provision has been made for a rate structure for each of the following types of service: residential, commercial, summer, power, irrigation, primary power, and street-lighting. Regulation No. 5 was prepared in such a way as to permit variation of rates for each classification of service with retention of the established structure. In the same way rates may be revised from time to time with retention of the same general form.

For all service classifications the new schedules place particular emphasis on the maximum rate at which each customer can demand energy rather than merely on the consumption actually recorded. Small customers with a good load factor are thus able to obtain energy for the same unit price as larger consumers with the same load factor.

One feature of the new structure, as it becomes applicable in various districts, will be the gradual abolition of the many "nuisance charges" embodied in the rate structures which were inherited by the Commission in taking over its miscellaneous small operations. Among the present charges which will disappear may be mentioned the following:—

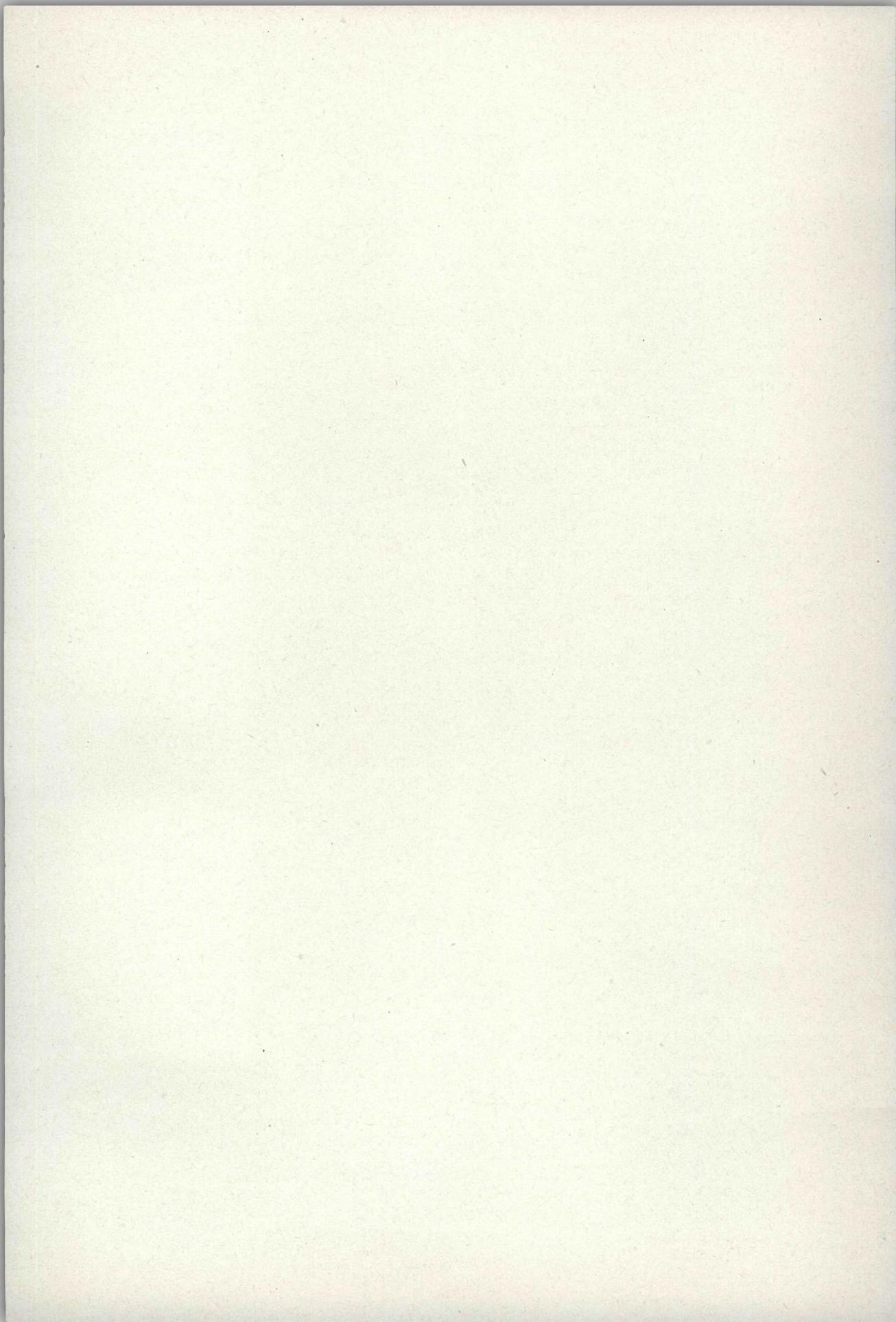
- (a) All monthly meter rentals.
- (b) All service charges for residential and commercial service.
- (c) All connection charges where special contracts are not required.
- (d) All reconnection charges except where previous disconnection was made because of non-payment.
- (e) All surcharges on unpaid bills; a uniform discount of 10 per cent. will be allowed on all bills paid by the due date.

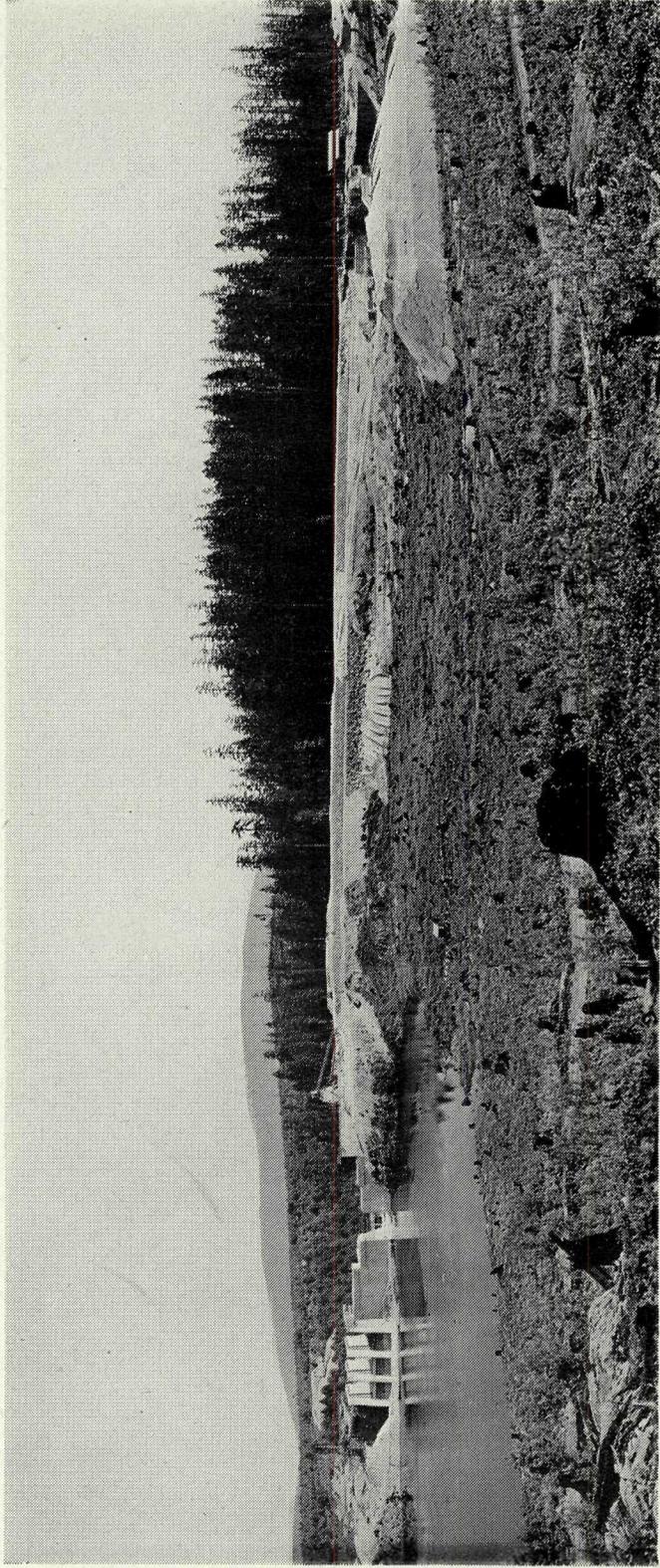
The salient features of the schedules for the different service classifications are shown in the following table:—

Service Classification.	Minimum Demand in Kw.	SIZE OF BLOCKS IN KWH PER MONTH PER KW OF DEMAND.		
		Block I.	Block II.	Block III.
Residential.....	2	20	60	Balance
Commercial.....	2	30	60	Balance
Summer.....	2	50*	150*	Balance
Power.....	4	50	50	Balance
Primary power.....	50	50	50	Balance

* For summer service the size of block shown above is for the season rather than the monthly period.
All monthly bills are subject to a prompt-payment discount of 10 per cent.

Revised rate schedules first became applicable in the Westbank-Peachland Power District. Before the end of the fiscal year Hope, Sechelt, and Smithers were also operating under Regulation No. 5. Depending on the load factor, the result of the revised rates has been reductions in monthly bills averaging 30 per cent. and extending to 50 per cent. in some instances.





CAMPBELL RIVER PROJECT.
Panoramic view, looking north. Intake structure on right.

In summary form the new rates thus far adopted are portrayed below as they affect the ordinary residence:—

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.
Westbank-Peachland.....	10c.	2½c.	¾10c.	\$1.00
Sechelt.....	12c.	2½c.	¾10c.	1.00
Hope.....	10c.	2½c.	¾10c.	1.00
Smithers.....	10c.	2½c.	¾10c.	1.00

Similar information for summer service (applicable during the five-month period from May 1st to September 30th) is contained in the following:—

Power District.	Annual Fixed Charge per Kw of Demand.	Block I (First 50 Kwh per Season per Kw of Demand).	Block II (Next 150 Kwh per Season per Kw of Demand).	Block III (Balance of Seasonal Consumption).
Westbank-Peachland.....	\$6.00 plus	10c.	2½c.	½c.
Sechelt.....	6.00 plus	12c.	2½c.	½c.
Hope.....	6.00 plus	10c.	2½c.	½c.
Smithers.....	6.00 plus	10c.	2½c.	½c.

For each of the above service classifications the minimum demand is 2 kw and the regular 10 per cent. discount is applicable.

At the present time the following uniform rates exist in each of the districts mentioned above:—

Classification of Service.	Service Charge per Kw.	Block I.	Block II.	Block III.	Minimum Charge per Kw.
Commercial.....	Nil	12c.	4c.	½c.	\$1.00
Power.....	\$1.00	3c.	1½c.	½c.	1.00
Primary power.....	.85	3c.	1½c.	½c.	.85

Rate revisions will shortly be made in Alert Bay, Golden, Quesnel, Terrace, Vanderhoof, and Williams Lake Power Districts. When the compensation to be paid for the expropriated properties on Vancouver Island, in Okanagan and Kamloops, etc., has been determined, further research-work toward a similar rate structure in those areas served will be carried out.

V. SURVEYS AND INVESTIGATIONS.

1. POWER PROJECTS.

Two field parties, which were engaged during the fiscal year ended March 31st, 1946, on the location of property-lines for right-of-way easements on the transmission-line from Campbell River to Nanaimo and from Dunsmuir to Alberni, completed this work during the 1946-47 fiscal year. A third party made topographic and property surveys of the areas to be flooded by the Campbell River head dam and also by the storage-dam at Ladore Falls.

Detailed surveys, preliminary designs, and estimates were prepared for a small power-development in the vicinity of Hope on Silver Creek. It is proposed to install one of the units now in the Nanaimo hydro-electric plant which will be closed down when power from Campbell River becomes available.

Surveys, preliminary designs, and estimates have also been completed covering potential hydro-electric developments at Cayoosh Creek for Lillooet and vicinity, Stein River for Lytton, and Kicking Horse River for Golden and vicinity. Pending more definite development of load requirements at Golden a standard Diesel plant is being installed.

Further consideration was given to the problem of adequate power-supply for the Okanagan District. The acquisition of the Kamloops operation on January 1st, 1947, increased the urgency of the situation because of the increase in consumers affected, but at the same time made the problem easier of solution. While the Commission became responsible for a supply of power to over 3,000 additional consumers, the potential market for power was approximately doubled. Thus the establishment of a fairly large power-generating plant became economically feasible. Surveys were resumed with a view to a power-development at Whatshan. Concurrently other possible sources of adequate power-supply for the Kamloops-Okanagan area are being investigated in order that the most economical choice may be made.

2. TRANSMISSION PROJECTS.

A location survey was completed for a high-tension transmission-line from Kamloops to Vernon, and the final location of property-lines and right-of-way easements for this transmission-line is now in progress.

Diversity in load demands between the Kamloops and Vernon systems will permit more complete use of existing power-generating facilities when the two systems are interconnected. This transmission-line is being considered with a view also to possible future extension to a proposed new power-generating station at Whatshan Lake, near Needles on Arrow Lake.

The plans of the Campbell River-Nanaimo-Alberni transmission-line, showing right-of-way easements required, were completed and filed with the Land Registrar.

3. DISTRIBUTION PROJECTS.

Surveys were made during the year to determine the feasibility and cost of electrical distribution in the following communities: Armstrong District, Burns Lake, Fort Fraser-Fraser Lake-Endako, Lillooet, Merritt, Oyama-Woods Lake-Carr's Landing, Texada Island, Vancouver Island between Qualicum and Campbell River, Wells-Barkerville.

A final report on the Oyama-Woods Lake-Carr's Landing survey was completed and will be given early consideration as a rural electrification project covering an extensive area.

Preliminary reports, containing data which will be useful as the program expands, were received on the other surveys indicated above.

Requests for investigations in many other sections of the Province were received and will be dealt with during 1947.

Preliminary engineering studies of a sub-transmission system for the East Coast of Vancouver Island will be continued to determine the best method for delivering Campbell River power in that area.

Surveys were begun relative to a supply of 60-cycle power in Courtenay-Cumberland area as and when it may be required. This work has not been completed.

VI. FINANCIAL.

In the introduction to this section of the report for the fiscal year ended March 31st, 1946, note was made of the fact that because the compensation for certain properties acquired by the Commission was undetermined the actual amount of the investment in each undertaking, and the net earnings after provision for interest and sinking fund payments, could not be indicated. This condition still prevails.

The financial position for the year ended March 31st, 1947, is, however, described upon an interim balance-sheet, No. 1, with supplementary statements Nos. 2 and 3 and the auditor's comments thereon.

Legislative authority has been given the Government of British Columbia to borrow and advance to the Commission the sum of \$30,000,000—of this sum \$9,161,350 has been received. The "Electric Power Act" provides for the repayment of advances, interest, and charges through an amortized schedule. Upon completion of the fiscal year under review the Government submitted a statement of moneys due, and payment has been made.

As noted in Section IV of this report, there is a growing demand for power, which, together with the general expansion of the Commission's operations, has provided steadily increasing revenues, the present income meeting all costs of operation, maintenance, and interest requirements. This increase, however, is offset by higher costs of operation due to wage increases, improved conditions of employment, and advances in prices of material.

Statement No. 2 shows a revenue total of \$1,411,834.52, with operating expenses \$1,010,197.31, indicating a surplus of \$401,637.21 prior to provision of interest and sinking fund in respect of capital investments. It is estimated that interest and sinking fund on investments in revenue-producing properties is \$290,250, leaving a net surplus of \$111,387.21.

Statement No. 3 provides a locational distribution of the capital additions to operating plants in the amount of \$1,464,403.28 appearing in the interim balance-sheet.

INTERIM BALANCE-SHEET,

ASSETS.

Fixed Assets—

Property and plant expropriated, for which compensation is in process of determination by valuator appointed under provisions of the "Electric Power Act"—

Nanaimo-Duncan Utilities Ltd.	} Valuations in process of arbitration or appraisal, as at March 31st, 1947.
West Canadian Hydro-Electric Corp., Ltd.	
Hope Utilities, Ltd.	
Quesnel Light & Water Co., Ltd.	
Pacific Power & Water Co., Ltd. (Alert Bay)	
Columbia Power Co., Ltd.	
Columbia-Vanderhoof Power Co., Ltd.	
British Columbia Electric Railway Co., Ltd.	
Kamloops plant	
National Utilities Corp., Ltd.	
Royston Light & Power Co., Ltd.	

Capital expenditure by Power Commission on various projects—

Campbell River development—	
Generating plant	\$2,648,196.83
Transmission-line	1,373,939.44
Ladore Falls dam	70,079.07
	<u>4,092,215.34</u>

Additions to operating plants—

Generating units	\$678,624.47
Transmission-lines	7,404.74
Distribution systems	652,812.02
Transportation equipment	70,697.74
Tools and general	54,864.31
	<u>1,464,403.28</u>

Surveys and investigations

44,534.09

Preliminary expenses not yet distributed—

Organization and general	\$123,119.86
Expropriations and appraisals	37,841.10
Interest and charges on advances	213,263.60
	<u>374,224.56</u>

\$5,975,377.27

Payments on account of acquired properties—

Expropriated properties—

Nanaimo-Duncan Utilities Ltd.	\$1,105,000.00
West Canadian Hydro-Electric Corp., Ltd.	294,650.00
Columbia Power Co., Ltd.	60,000.00
British Columbia Electric Railway Co., Ltd., Kamloops plant	650,000.00
National Utilities Corp., Ltd.	340,000.00
Royston Light & Power Co., Ltd.	10,000.00
	<u>2,459,650.00</u>

Other acquisitions—

Westside Utilities, Ltd.	\$45,807.17
Municipality of Peachland	9,655.80
Victoria Lumber & Manufacturing Co., Ltd.	18,985.00
	<u>74,447.97</u>

Current assets—

Cash in banks	\$1,661,708.88
Customers' light and power accounts	201,968.79
Inventories of stores and supplies	310,678.58
Unexpired insurance, etc.	32,564.28
	<u>2,206,920.53</u>

\$10,716,395.77

AS AT MARCH 31st, 1947.		Statement 1.
	LIABILITIES.	
Advances from the Government of the Province of British Columbia		\$9,161,350.00
Sundry liabilities—		
Accounts payable		302,629.39
Customers' deposits		81,553.68
Balance in respect of book values of current assets taken over, less current liabilities assumed for account of expropriated properties		113,108.86
Reserves—		
Renewals and replacements (less write-offs)		238,687.49
Provision for gross revenue taxes		44,864.46
Employees' pension plan		38,833.78
Customers' contributions to new work		4,511.39
Operating surplus—		
Operating revenues, less direct expenses, provisions for renewals, replacements, and gross revenue taxes—		
August 1st, 1945, to March 31st, 1946	\$329,219.51	
April 1st, 1946, to March 31st, 1947	401,637.21	*730,856.72
		\$10,716,395.77

* Available for stabilization reserve, interest, and sinking fund.

*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 for the year ended March 31st, 1947, and of the Statement of Operations for the year then ended and have obtained all the information and explanations 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.

The properties and plants expropriated, for which compensation has not been established as at March 31st, 1947, are described on the attached Interim Balance Sheet. Until such time as the compensation to be paid for these properties is established, no provision can be made for this liability.

Subject to the foregoing comments, we report that, in our opinion, the attached Interim Balance Sheet and Statement of Operations are properly 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 31st, 1947, 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 10th, 1947.*

STATEMENT OF COMBINED OPERATIONS FOR THE
YEAR ENDED MARCH 31ST, 1947.

Statement 2.

Revenue—	COAST REGION.*	INTERIOR REGION.†	COMBINED TOTALS.
Domestic and commercial light and power service	\$708,492.52	\$653,876.48	\$1,362,369.00
Power for resale	39,896.59	-----	39,896.59
Special power-sales	-----	62.40	62.40
	\$748,389.11	\$653,938.88	\$1,402,327.99
Sundry income	5,491.17	4,015.36	9,506.53
	<u>\$753,880.28</u>	<u>\$657,954.24</u>	<u>\$1,411,834.52</u>
 Expenditure—			
Operations and maintenance—			
Steam plants	\$9,437.64	\$30,744.50	\$40,182.14
Hydro plants	11,286.56	30,161.43	41,447.99
Diesel plants	28,001.39	75,170.52	103,171.91
	\$48,725.59	\$136,076.45	\$184,802.04
Power purchased	182,698.22	198.90	182,897.12
Transmission and distribution	121,840.35	72,415.09	194,255.44
Administrative and general	123,238.21	119,711.64	242,949.85
	\$476,502.37	\$328,402.08	\$804,904.45
Provision for—			
Renewals and replacements	71,220.00	94,310.72	165,530.72
Gross revenue tax	21,001.43	18,760.71	39,762.14
	\$568,723.80	\$441,473.51	\$1,010,197.31
 Operating surplus for the twelve months ended March 31st, 1947, before provision for rates stabilization reserve, and interest and sink- ing fund in respect of capital investment ...			
	<u>\$185,156.48</u>	<u>\$216,480.73</u>	<u>\$401,637.21</u>

* Albernis, Alert Bay, Nanaimo-Duncan, Royston, Sechelt.

† Golden, Hope, Kamloops, Nakusp, Okanagan, Peachland-Westbank, Quesnel, Smithers, Terrace, Vanderhoof, Williams Lake.

ADDITIONS TO OPERATING PLANT BY LOCATIONS FOR THE PERIOD
 FROM AUGUST 1st, 1945, TO MARCH 31st, 1947.

Statement 3.

Location of Plant.	Generating Plant.	Transmission-lines.	Distribution System.	Motor-vehicles and Equipment.	Tools and General.	Total.
<i>Coast Region.</i>						
Alert Bay.....	\$30,872.64	.....	\$467.96	\$2,015.67	.....	\$33,356.27
Nanaimo-Duncan.....	.....	\$6,422.34	238,586.74	13,411.54	\$12,670.48	271,091.10
Port Alberni.....	.....	.....	43,693.42	1,310.30	54.60	45,058.32
Sechelt.....	24,696.61	.....	37,467.01	2,387.57	.....	64,551.19
<i>Interior Region.</i>						
Golden.....	10,659.58	.....	649.43	1,545.17	.....	12,854.18
Hope.....	41,677.31	.....	14,226.49	1,583.95	.....	57,487.75
Kamloops.....	111.93	.....	7,174.32	1,898.43	869.84	10,054.52
Nakusp.....	15,279.34	.....	2,560.11	.....	.....	17,839.45
Okanagan.....	2,658.98	982.40	130,861.15	7,548.80	7,299.71	149,351.04
Peachland-Westbank.....	1,192.88	.....	39,263.33	.....	.....	40,456.21
Quesnel.....	28,987.54	.....	510.75	.....	.....	29,498.29
Smithers.....	43,586.61	.....	12,275.69	1,435.82	.....	57,298.12
Terrace.....	18,237.57	.....	11,585.58	.....	.....	29,823.15
Vanderhoof.....	55,039.48	.....	526.60	1,605.11	.....	57,171.19
Williams Lake.....	50,185.56	.....	2,759.72	2,844.86	.....	55,790.14
<i>Not distributed.</i>						
Diesel units.....	355,438.44	.....	.....	.....	.....	355,438.44
Line trucks, tools, etc., in general use.....	.....	.....	.....	33,110.52	33,969.68	67,080.20
Purchased stock.....	.....	.....	110,203.72	.....	.....	110,203.72
Totals per interim balance-sheet.....	\$678,624.47	\$7,404.74	\$652,812.02	\$70,697.74	\$54,864.31	\$1,464,403.28

VICTORIA, B.C. :

 Printed by DON McDIARMID, Printer to the King's Most Excellent Majesty.
 1947.

REPORT OF THE BOARD OF DIRECTORS
FOR THE YEAR 1907

THE BOARD OF DIRECTORS OF THE
UNITED STATES NATIONAL BANK

RESPECTFULLY SUBMITS TO THE STOCKHOLDERS
THE FOLLOWING REPORT:

At the meeting of the Board of Directors held on the 15th day of January, 1908, the following report was read and approved:

The Board of Directors has the honor to acknowledge the receipt of the report of the Officers and Managers of the Bank for the year 1907, and to express its appreciation of the same.

The report shows that the Bank has during the year 1907, maintained a steady and profitable business, and that the assets of the Bank are in a sound and liquid condition.

The Board of Directors has the honor to express its appreciation of the able and efficient management of the Bank during the year 1907, and to express its confidence in the future of the Bank.

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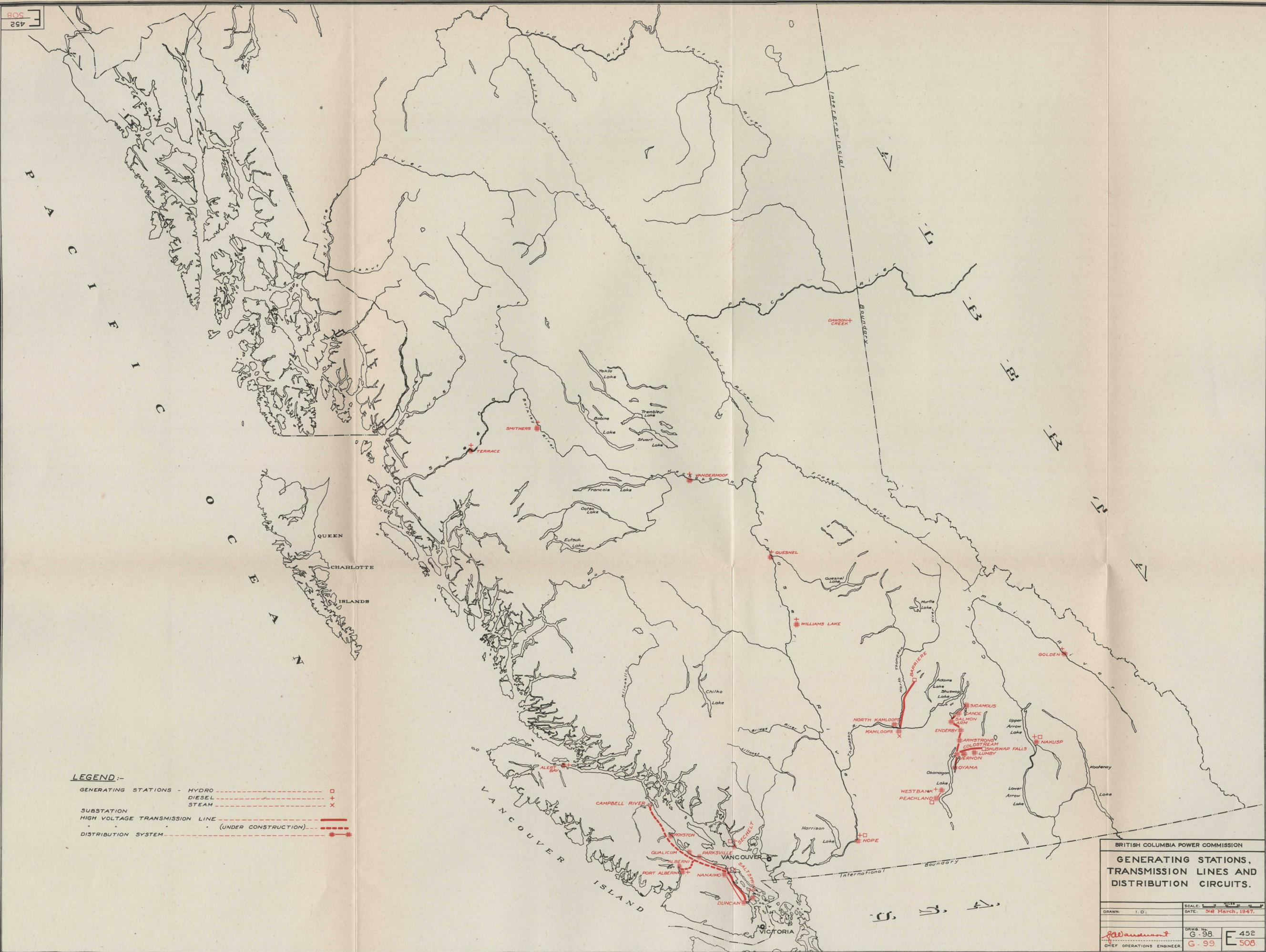
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LEGEND:-

GENERATING STATIONS - HYDRO ----- □
 DIESEL ----- +
 STEAM ----- X

SUBSTATION ----- □

HIGH VOLTAGE TRANSMISSION LINE -----

(UNDER CONSTRUCTION) -----

DISTRIBUTION SYSTEM -----

BRITISH COLUMBIA POWER COMMISSION

**GENERATING STATIONS,
 TRANSMISSION LINES AND
 DISTRIBUTION CIRCUITS.**

SCALE: 1" = 100 Miles

DATE: 31st March, 1947.

DRAWN: I. D.

DRWG No. G-98
 G-99

CHIEF OPERATIONS ENGINEER

E 452
 508

MAP OF BRITISH COLUMBIA, SHOWING COMMISSION'S UNDERTAKINGS.