

being stepped up to 44,000 volts for transmission. Step-down transformers, switchboard, etc., will be located at the auxiliary steam plant power-house at Kamloops.

Two 1,200 h.p. Francis type turbines are to be used for the initial development, each designed for direct connection. The flume line is of timber construction, but will probably be replaced by metal flume or concrete-lined canal for the ultimate development. The forebay and power-house are of concrete construction. Fifteen-foot timber dam of rock-filled cribbing is designed for the flume's intake.

The town of Spence's Bridge receives light and power from Murray Creek, where a small development of 100 h.p. has been made. A Pelton wheel operating under a 220-foot head is used, 16-inch rivetted steel pipe conveying water to the wheel, the upper 175 feet of pipe being laid in rock tunnel.

Forest Mills, Limited, of Taft, B.C., has a Pelton wheel development of 160 h.p. operating under a head of 175 feet. Power is used for the sawmill and for lighting the town of Taft.

The development of the Hedley Gold Mining Company on Twenty-mile Creek, in the Similkameen valley, is a Pelton wheel development, the power being used for operating the company's forty-stamp mill and concentrator, as well as for electric tramway and cable cars.

A small hydro-electric plant on the Bonaparte River, from which power has been used for the town of Ashcroft, has been out of commission owing to the failure of the dam during the freshet of 1913. It is understood that the dam may not be replaced, in which case the town will continue to derive its power from its auxiliary steam plant.

Future developments include the following:—

The Coteau Power Co., controlled by Mackenzie and Mann interests, propose an extensive development at Coteau Falls, on the Shuswap River, near Lumby, B.C. About 9,000 h.p. will be the capacity of the plant, which, if constructed, may be used for the electrification of the Okanagan branch of the C.N.R.

The Hedley Gold Mining Company propose a development of 1,500 h.p. on the Similkameen River at Hedley.

The most important undeveloped sources of power in this division are: The Adams River, near Chase, where a head of 200 feet in 6 miles, with a probable mean discharge of 1,200 second-feet could be obtained. Adams Lake forms an excellent storage basin, and no very important interests would be affected by damming its outlet.

The Clearwater River has falls of considerable size, while on its main tributary, Myrtle Creek, there is one sheer fall of 450 feet. Excellent storage is also said to be available. As yet no accurate data in regard to these powers are available, but the collection of information on these important streams will probably be begun during the coming season.

The Seymour River and Celeste Creek, in the Shuswap Lake drainage area, are important sources of water-power, while many smaller mountain streams will no doubt soon be utilized to supply the needs of progressive communities.

**Kootenay Division.**—By far the most important development is that of the West Kootenay Light and Power Company, situated at Upper Bonnington Falls, on Kootenay River, 11 miles from Nelson. This plant is operating under a 64-foot head. Two 8,000 h.p. units are in operation, and a third unit of 10,000 h.p. is now being installed. The capacity of the plant is 36,000 h.p., and it

was designed to use 3-runner turbines. Power is supplied to mines in Nelson, Rossland, and Boundary districts, to the smelters at Trail, Grand Forks and Greenwood, to light the towns of Rossland, Trail, Eholt, Grand Forks, and Phoenix, and for pumping for irrigation purposes in Grand Forks district.

The West Kootenay Power and Light Company has two auxiliary plants, one at Lower Bonnington Falls, on Kootenay River, 12 miles from Nelson, and one on Kettle River at Cascade. The plant at Lower Bonnington Falls has a capacity of 4,000 h.p. and operates under a head of about 40 feet. At Cascade the plant is operated under a head of 155 feet, and the development exceeds 5,000 h.p.

The city of Nelson light and power plant is situated at Upper Bonnington Falls, on the opposite shore to the West Kootenay Light and Power Company's plant. It is operated under a 60-foot head, and at present generates 1,250 k.w. The power is used to light the city of Nelson, to operate the city street railway, for manufacturing purposes in Nelson, and to operate one or two mines in the vicinity of Nelson.

On the north fork of Kettle River the Granby Mining, Smelting and Power Company have a small development. This plant is operated under a head of 30 feet, and supplies light and a small portion of the power used in the smelter; 700 h.p. is generated.

Greenwood City power and light plant is located at Boundary Falls, on Boundary Creek. The plant is operated under a head of 130 feet, and supplies light to the city of Greenwood. Capacity, 250 h.p.

The city of Revelstoke power and light plant is located on Illecillewaet River, about 2 miles from Revelstoke. A concrete dam has been built, and water is carried to the power-house, some 200 yards below, through a 6-foot stave pipe. The present plant is in duplicate on a 450 k.w. capacity basis.

The C.P.R. have a small installation on the Illecillewaet, near Glacier, the power generated being used for lighting their hotel at that point from May to October. The plant is operated under a head of 60 feet and about 100 h.p. (Twelve-hour power is obtained.) A concrete dam, 15 feet high and 100 feet long, affords a small storage, and to increase the flow in the early morning water is diverted from Asulkan Brook.

New Denver, Silverton, and Kaslo have small developments for lighting purposes on Carpenter Creek, Four-mile Creek, and Kaslo River, respectively.

## SEASON'S ROAD WORK IN NORTHERN ONTARIO.

The programme for this summer in connection with the Northern Ontario development and colonization roads movement involves an estimated expenditure of \$615,000. Of this amount \$90,000 will be devoted to the extension of a highway along the T. & N. O. Railway, and \$70,000 to a similar highway along the N.T.R. In addition, \$50,000 will be spent on a trunk road from Sturgeon Falls to the outskirts of Sudbury.

Under the Northern Development Branch apportionments for road-building are made to various districts as follows: Rainy River district, \$35,000; Kenora, \$25,000; Port Arthur, \$40,000; Fort William, \$50,000; Sault Ste. Marie, \$50,000; Sudbury, \$40,000; North Bay, \$50,000; Nipissing, \$35,000; Haileybury and South Lorrain, \$55,000; other specially designated roads, \$102,000.