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THE KOOTENAY-ROSSLAND POWER TRANSMISSION.

DESCRIPTION OF THE SUB-STATION AT ROSSLAND APPLICATION OF THE POWER FOR MINING PURPOSES.

IN the ELECTRICAL NEWS of September, 1898, there were published illustrations and a description of the water power, generating station and pole line of the

FIG. 1.—THE SUB-STATION AT ROSSLAND.

West Kootenay Power and Light Company, of Rossland, B.C. By the plant of this company power is transmitted from Bonnington Falls, on the Kootenay river, to Rossland, a distance of about thirty miles. Below will be found a very complete description of the sub-station at Rossland, and of some of the installations at the mines, for which we are indebted to the Journal of Electricity :

The transmission line enters the sub-station at Rossland through portholes lined with eight-inch terra cotta piping similar to those provided at the power house. As one enters the door of the sub-station the standard General Electric lightning arresters used are placed on a marble board in a corner at the left. The choke coils used are an innovation, in that each consists of a core twelve inches or so in length turned in the center of a stick of kiln dried and well filled timber about five inches square by from six to eight feet long. About this core insulated wire is wound until the space is filled, so that the choke coil thus formed resembles an exaggerated form of spark coil with its terminals carried out to the respective ends of the timber on which it is wound, these timber ends being strapped to the top of high tension insulators through which the choke coil is cut into the line. Such choke coils are placed in every line, not only at the sub-station but at every power service. Originally the Rossland sub-station contained but six 250-kilowatt step-down transformers, although six others, each of equal capacity, have since been installed, together with a new 1,500-kilowatt generator. The line wires are carried to the high tension switchboard at the rear of the station on high tension insulators supported by framings that hang from the roof girders, and the usual facilities are provided to afford safety and celerity in the handling of both the high and low tension sides of the transformers. These latter are of the same type and size as those installed at the power house, with the exception that the primaries take either 9,600 or 16,600 volts, according to whether connected in delta or Y, while the secondaries deliver 2,200 volts in three-phase current, which is the potential used on all the lighting and power distributing circuits in and about Rossland.

Here may be explained the very meritorious method which the electrical engineer of the West Kootenay Power Company, has devised for applying the air blast to the transformers at the power house and at the Rossland sub-station. As in the power house, the blast is supplied by three sixty-inch blowers, each driven by belting from a two horse power 100-volt induction motor. Instead of carrying this air blast to the transformers through small air ducts as is usually done, the engineer of the Kootenay plant has provided subways large enough for a man to enter and move about in. The manner in which the blowers supply air to these subways is shown in the end elevation of the sub-station, while the subways themselves, as is shown in the side elevation, extend in line with and directly under each row of step-down transformers. The idea of this arrangement will be understood when it is stated

FIG. 2. INTERIOR OF SUB-STATION AT ROSSLAND.

that each week the transformers are cut out of service one by one and the air ducts in them are each and every one examined and cleaned by a man who enters the subway in order that he may have access to the lower end of the air ducts in the transformer. His