casing being about 21 feet. The floor space they occupy is about 26 x 20 feet each, the shorter dimension being along the shaft. The total floor space occupied by a unit, consisting of a generator and its turbine, is about 26 x 50 feet.

On a raised gallery, 11 feet above the main floor, and extending along the rear wall of the station, are located the exciter turbines, the direct connected exciting dynamos and the governors that regulate the speed of the turbines. This arrangement permits of an attendant watching the operation of the entire station, while within easy reach of important control elements of the apparatus. Contrary to general practice, however, the actual operation or management of the generating station is not conducted within its walls, but from a separate control and distributing station at a distance from the generating station. The placing of main switches, indicating instruments and similar apparatus elsewhere was necessary on account of the limited space available at the station site. The removal, however, permits of the convenient placing of this apparatus in relation to transformers and high tension switches.

Each exciter turbine and dynamo is of 500 horse-power capacity, and operates at 300 revolutions per minute, generating direct current at 250 volts. They are used for the operation of lamps, motors, oil switches, and for charging storage batteries, as well as for exciting the generator fields. One alone has sufficient capacity to excite the fields of six main generators, but two are provided for each group of six units.

Certain features of the controlling apparatus are naturally inseparable from the power house. These include 250 volt switches for the circuits from direct current dynamos to generator fields, to lighting circuits, storage batteries and the like, also switches for the circuits operating the valves in the nine foot penstocks. Time limit and overload relay switches for the protection of the main generators are also placed in the power house.

CONTROL AND DISTRIBUTING STATION

At a distance of 550 feet back from the generating station and on the bluff at an elevation of 250 feet above it, is situated the control, transforming and distributing station, as shown in the ac-