fitted with a record-making thermometer giving the continuous history of internal economy.

The switchboard section occupying the center of the distributing station has four floors of which the basement serves as a center for the piping systems and gives room for conduits and cableways for wiring. On the main and the mezzanine or gallery floors, marble slabs carry record-making and integrating instruments, terminal boards with fuses for the control cables, and other adjuncts of the switchboard above. Upon the upper floor is the switchboard and control chamber, and here instrument-stands and control-pedestals supplant both the conventional marble slabs and the later bench-board. Each of the 22 instrument-stands, which are arranged approximately in a semicircle about a central point, corresponds to a definite unit, carries nine indicating instruments and faces its twelve-point control pedestal. Doors upon the four sides lead to balconies in the four other divisions of the building of which this room is the center; those at the sides to balconies extending the full length of the transformer-rooms.

Centralization of responsibility and authority, at defined points within the immediate personal care of a minimum number of chief operators, is, next to simplicity of arrangement, the prime requisite of efficiency of organization and of economy of operation. It is frequently possible so to arrange small plants of a few units as to centralize at a single operator, but with a plant of this scope that result is manifestly impossible. Two alternatives are then open: the division of the plant into several parts, each about its subcenter constituting a complete plant in itself and the whole dependent upon successful coöperation for unity of result; or classification and centralization of responsibility according to kind. In this case the latter has been adopted, and notwithstanding that the number of units and aggregate of power involved have opposed high merit in this respect, a promising result has been obtained.

The concentration within a single room of all instruments and control—the brain of electrical operation—provides the operator in a quiet and secluded place both full information, and perfect control of every electrical circuit and situation of the system and enables him to stop, start, regulate or synchronize each unit; to throw its output through its transformers to its transmission as if from a complete isolated plant or to throw it upon either bus-bar while supplying its transformers from the same or the other bus-bar. The location of this room high up at the geometrical center of the distributing station places the operator at a point of vantage surrounded by four classes of apparatus. Thus located he may with few