

etc., present on account of their novelty, many points of unusual interest to every Engineer interested in Central Station work.

The main objects aimed and arrived at in the design of this board were, first, highest degree of safety and best results of operation.

Second, flexibility combined with the greatest simplicity possible in a plant spread out over a distance of 1000 feet in length by 50 feet in width.

Third, the impossibility of any but a wilful mistake on the part of the operator.

Fourth, the control of the entire system, including the turbine governors, to be such as to require only one operator on the switch-board.

Fifth, dividing the switch-board into symmetrical sections and the highest grade of work.

Sixth, fireproofing and insulating of all conductors, etc.

Sixteen feeder circuits are provided for and as has been shown, twelve generators. It was considered advisable and an advantage to separate them into four sections, each set of three generators feeding four feeders. The arrangement is such that there are practically four different power houses, each set or power house being possible of entirely separate operation. Or to work in multiple, the bus bars being tied together or separated by means of electrically operated tying oil switches.

Referring to the general diagram of connections, Figs. 5 and 5A, it will be noticed that for each set of three generators and for each set of four feeders, there is a separate set of bus bars. Each set of generator bus bars is tied to the corresponding set of feeder bus bars, by means of cables, forming one complete section, the tying switches being tapped off these cables and not off the bus bars.

Both the generator and feeder bus bars form separate switch-board and are entirely independent and away from each other. This arrangement permits the entire system to be tied together and run as one system, or it may be run as separate systems.

In the event of an accident to any portion of the system, it can be quickly separated from the rest until repairs are completed. The arrangement is such that during light load on Sundays and holidays, nights, etc., any portion of the plant can be made dead throughout, permitting any repairs, cleaning, etc., that may be necessary, without the slightest chance of injuring an employee.

Of the four feeder switches on each section only three are for transmission lines to the substations in the city, there being thus twelve lines altogether. The fourth switches are for reserve and for transmission of power to the surrounding neighborhood, etc.