

In common with most railway companies, for operating purposes the system is divided into divisions. On the staff of each division is included a master mechanic, who is in direct charge of all mechanical matters, including power plants. As the latter official is responsible for the care of approximately \$2,000,000 worth of locomotives and shop equipment, it is difficult for him, or even his subordinates, the locomotive foremen in direct charge of each divisional plant, to give personal supervision to the various details which must receive close attention in order to give efficient service. It is therefore left to the Power Plant Engineer to determine and recommend the best practice that should be followed and material employed for this service to induce the local staffs to co-operate and work along proper lines. This is determined by the carrying out of frequent tests and inspections at the various plants, the testing of materials in conjunction with the Engineer of Tests, and the use of a test boiler plant at the Angus Shops. Other duties involve the preparation of specifications and plans for new power plant work, i.e., including the installation of steam and electrical equipment, compressed air apparatus, elevators, refrigerating machinery, heating arrangements, vacuum cleaning systems, or other similar matters.

Special effort is made to standardize in all installations, so as to make plants as much alike as possible, thus facilitating their operation and inspection, and reduce the quantity of the various emergency or repair parts necessary to carry in stock. For instance, in small plants boiler equipment consists of standard size boilers of the locomotive type, the principal reason for the adoption of this particular type being that the roundhouse staffs are thoroughly familiar with its maintenance and have all tools available or necessary for making quick and thorough repairs at the lowest possible cost. Mountings for these boilers are also standard with those used on locomotives, and therefore have the advantage pertaining to standard equipment. One size and type of boiler feed pump is adhered to as far as possible, thus permitting one spare pump to be used as reserve for several plants. The same practice is followed with electric generating units, one size and type of set, i.e., a 50 K.W., 3 wire, 220 and 110-volt direct current generating unit being installed where limit of power distribution is restricted, or an alternating current set, generating at 550 volts, where the premises to be served are more scattered.

A closer study of the subject of power plant design is now necessary on account of the increased stringency of the laws being drafted by various municipalities for the repression of smoke, prevention of boiler explosions, muffing of noisy exhausts, etc., as well as on account of the increasing cost of coal and labour. Just as the railway manager now watches the coal consumed by locomotives per