

which could be connected direct to the same buss cars, the reciprocating engine generator is connected to.

In a steam plant of this character all heat losses should be kept down to a minimum, and the plant so arranged that a good load factor would be maintained at all times. We had the pleasure of listening to a very able paper on the electrification of the St. Clair Tunnel, by Mr. W. D. Hall, at our last meeting, and from what we learned from that paper it is safe to say electric locomotives are a success and perhaps the most interesting statement made in that paper is that the carrying capacity of the tunnel has been increased at least one-third, and this accomplished at a considerable reduction of the coal bill, although the load factor is very bad. One of the American Railroads has for the last two years been running an electrical zone. Mr. William S. Murray, electrical engineer of the New York, New Haven & Hartford R. R. Co. says, in discussing their experiences, "the minute delays suffered to-day by electrical operation are but a small percentage of those incurred during the period of steam operation on account of errors always common to initiative work, the first few months of operation had been a period of interruption, which was naturally annoying both to the road and to the public. To-day the delays have disappeared, by the removal of their cause." He further says,—"the wisdom of the purchase of a locomotive consisting of two individual half units, the whole or half unit being operative by a single crew has proved itself in the ability of the road to handle 75 per cent. of traffic with half units in use, leaving only 25 per cent. of trains using the whole unit, and utilizing the full draw bar pull." He further says that "by an exhaustive investigation I have found that one pound of coal burned under the boilers of our central station produces twice the draw bar obtained by one pound of coal burned in the fire boxes of the steam locomotive, or in other words the fuel bill for electric traction is one-half that required for steam traction." Again he says, "the greatest value to be experienced by electrification will be the tremendously increased traffic capacity of the present track mileage due to the facility electricity offers in making rapid main line and yard train movement, or stated in another way, it is thus immediately seen that electrification will permit of a tremendous increase in traffic without an increase of track mileage, and thus roads which are faced with the requirements of handling the congested traffic by laying new tracks, which, of course, is the most expensive procedure on account of right of way difficulties, will be led into providing an equal capacity by electrification of the old trackage."

There seems to be many advantages in the use of electric power plainly shown although only a start has been made at it. The New York Central are arranging an immense power house