

IX.

Conclusions

ELECTROLYTIC CORROSION—PREVENTION.

General Advice.

The author's advice may be given in concrete form as—Do everything possible to prevent assisting earthed conductors to collect stray transmission. Do everything possible to collect all stray transmission in earthed conductors at a lower voltage than the voltage of contiguous rails. Do everything possible to keep each and every portion of the return in a first-class condition—a bad return system costs considerable money every year in the form of wasted power. For in any centralized system of electric traction, such as that of a city, plenty of insulated return copper is an A No. 1 investment for the traction company.

Pipe Protection.

Summed up, electrolytic corrosion of pipes due to grounded transmission mediums can be made a negligible factor by:—

First:

Good condition of bonding.

Second:

Special long bonding at all special work.

Third:

Insulation of generators from ground in power-house—this includes the connections between the generators and the switchboard.

Fourth:

Insulation of all sufficient auxiliary return copper between switchboard and equi-voltage points—this includes pipe drainage copper.

Fifth:

Removal of all bond connections between rails and other earthed conductors such as pipes, cable sheaths, etc., only connections permissible being to pipe drainage and insulated return cables.

Sixth:

Treatment of bad local conditions at outlying dangerous points.