

SUMMARY REPORT ON THE MINIMUM CLEARANCE ARRANGEMENTS FOR OVERHEAD LINE EQUIPMENT

In 1974, it was decided that new designs of minimum clearance arrangements should be investigated, in view of problems encountered on new electrification schemes, particularly the GN scheme at Gasworks Tunnel, London.

An improved minimum clearance arrangement would give reduced clearance distances without degrading the surge withstand voltage. Therefore, the series of tests described in this report was undertaken to determine the withstand voltages of the existing contact wire and underbridge arm arrangements, and to design and test arrangements which allow reduced clearances at the same voltage levels.

As a further exercise, it is proposed to monitor the surge voltage levels occurring on the overhead lines due to switching and lightning, and to determine whether the withstand voltage level of the system can be reduced below the existing levels without the incidence of flashover increasing significantly. If this were possible, overhead line clearances could be reduced further.