

## CONCLUDING REPORT ON INVESTIGATION INTO AUDIBLE DISCHARGE IN K-11 25KV SWITCHGEAR BUSHINGS

The report concludes the investigation into audible discharge in K-11 25kV switchgear bushings. Results are reported of measurements on the final batch of new bushings, on 'noisy' bushings removed from service, and new bushings which have been installed for 3 years at Camden track sectioning cabins (TSCs). Also described is an analysis of oil from TSCs in the Manchester area, taken to determine whether poor oil quality had caused deterioration of bushings. The results are reported of dielectric tests carried out at three TSCs in the Scottish Region to assess the state of bushings in the region, following a report of noisy bushings.

The report concludes that:

The majority of 'noisy' bushings are from a bad manufacturing batch.  
New English Electric bushings show little or no deterioration after 3 years service.  
Based on the evidence from three TSCs, the bushings on Scottish Region are not deteriorating and large-scale failures will not occur.