

CONDITION MONITORING OF PANTOGRAPHS – DEVELOPMENT OF CHEDDINGTON SITE

During 1979-84 there were several years when blow-off incidents occurred between pantographs and the 25kV overhead line, causing major dewirements and delays.

As train speeds have increased on BR, pantograph design has had to be refined aerodynamically to ensure a neutral aerodynamic profile with speed. In spite of this increased knowledge, pantograph dewirements continued; one possible cause was the variability in service pantograph performance.

Following a series of tests it was evident that as train speeds increased, individual pantograph performance would need to be better controlled; also that information was lacking regarding the relative performance of service pantographs being used for testing and approving higher speeds. The concept of a test site was therefore born which would collect data in several areas:

- To monitor pantograph uplift to detect those performing badly so that they could be taken out of service before causing incidents.
- To acquire statistical data.
- To observe how pantograph performance varied with environmental conditions.