CLASS 56 RESPONSE VALIDATION EXPERIMENT

Tests were carried out with a Class 56 locomotive during January 1984 as part of a programme of experiments to validate the Transient Non-linear Response Programme (TNRP). Special shallow lateral track kinks were installed in the test site on the Old Dalby Test Track in order to stimulate kinematic wheelset response to discrete lateral forcing inputs. Track geometry was measured by both TRIM and TMM systems, and wheel-rail geometry measurements were taken at 2m intervals; these were formed into forcing inputs to the programme.

Agreement between theoretical and experimental plan view vehicle responses was found to be good, proving track alignment was ascertained accurately to wavelengths in excess of 200m; variations in wheel-rail geometry proved to be of secondary importance. It is concluded that the TNRP accurately predicts the response of stiff heavy bogied vehicles on any track with unvarying rail head cross-sectional profile.

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