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NR/L2/ELP/21088

Module 15 – UK1 Maintenance Parameters

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1 Scope

This module of NR/L2/ELP/21088 covers:

- a) Equipment Design;
- b) Equipment Design Variations;
- c) Equipment Design Designations;
- d) Environmental Conditions;
- e) Maximum Pantograph Operational Speeds;
- f) Continuous Current Carrying Capacity;
- g) Design Staggers and Deviation;
- h) Minimum Staggers;
- i) Design Heights;
- j) Heel Settings;
- k) Track Tolerances;
- l) Maximum Dropper Spacing;
- m) Conductor Particulars;
- n) Conductor Tensions;
- o) Factor of Safety.

2 Definitions

See Glossary (NR/L2/ELP/21088/01)

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3 Equipment Design

The UK1 design is defined as a simple catenary, auto-tensioned system for main lines.

The UK1 system design was developed for use on the West Coast Main Line (WCML) as an upgrade system for the existing Mk1 and Mk3A designs as part of the West Coast Route Modernisation. The most notable design changes between the systems being the increased uplift allowance at supports from 160mm to 250mm and increased conductor tensions so as to enable trains to operate at increased linespeeds, from 110mph (176km/h) to 125mph (200km/h). In addition to these changes the UK1 system design also features numerous component upgrades including the addition of flexible droppers, polymeric 25kV insulators and a 120mm² CuAg contact wire.

4 Equipment Design Variations

There are 4 variations of the UK1 design, these are detailed in table 1.

Variation	Description
UK1-01	UK1 WCML Mk1 equipment. Upgraded tensions for 125mph running.
UK1-02	UK1 WCML Mk1 equipment. Upgraded tensions for 140mph running.
UK1-03	UK1 WCML Mk3A equipment. Upgraded tensions for 125mph running.
UK1-04	UK1 WCML Mk1 equipment. Upgrade for 110mph running.

Table 1 – Equipment design variations

5 Equipment design designations

Equipment design designations are detailed in table 2.

Variation	Designation
UK1-01	UK1-01-AT-S-ST
UK1-02	UK1-02-AT-S-ST
UK1-03	UK1-03-AT-S
UK1-04	UK1-04-AT-S

Table 2 – Equipment designations