

# RAILTRACK

*Safety & Standards***SAFETY JUSTIFICATION****ISSUE: I****DOCUMENT INFORMATION**

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**PART 1 – SCOPE OF SAFETY JUSTIFICATION**

This Safety Justification describes the rationale behind the controls relating to line side signal spacing as specified in Railway Group Standard GK/RT0034 issue 4.

Issue 4 is the formalisation of GK/RT0034 issue 3, dated September 1998, which was a rapid response. The rapid response was issued when testing, following incidents at Cefn Coed level crossing, revealed that a particular train was unable to stop within the minimum distance specified by GK/RT0034 issue 2. Further investigation indicated that the signal spacings given in Appendix 1 of GK/RT0034 issue 2 could be inadequate for low speed trains on falling gradients.

This GK/RT0034 issue 4 represents the consolidation of further investigation and research and is a more robust and complete standard. It does not introduce any totally new control measures, rather clarifies and gives more focus to existing measures.

**PART 2 – RISKS BEING CONTROLLED**

The control measures specified in GK/RT0034 issue 4 contribute to controlling the risk that trains may not stop safely at stop signals due to insufficient distance between the first signal or lineside sign displaying a cautionary aspect and the signal or lineside sign at which a train is required to stop. In specifying requirements to control this risk, a large contribution is made to controlling major railway risks including:

- Passenger and/or freight train collisions
- Passenger and /or freight train derailments.

### **Part 3 SUMMARY OF CONTROLS**

Railway Group Standard GK/RT0034 defines the controls for ensuring that sufficient distance is available between the first signal or lineside sign displaying a cautionary aspect and the signal or lineside sign at which a train is required to stop.

This is achieved by defining the signal spacing distances for four categories of trains according to their braking characteristics and, where trains have different braking characteristics to these defined categories, a methodology for the calculation of their signal spacing distances is also included.

Rules for the application of the signal spacing criteria in respect of differential and attainable speeds, acceptable variations in signal spacing and trains with non-standard braking capability are also set out in the standard.

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### **Part 4 – COSTS AND BENEFITS**

The Standard (now at Issue 4) supersedes the previous Rapid Response Standard (Issue 3), adding to the control of SPAD risk addressed therein by

- placing an upper limit on the length of freight trains for which the signal spacings in Appendix I are valid;
- clarifying the rules for acceptable variations in signal spacing distances;
- providing a method for calculating distances for trains with braking characteristics not covered by the four defined categories.

Taken together the control measures in GK/RT0034 provide the necessary means of establishing safe signal sighting distances, such that a driver passing the first caution signal at the permissible speed (or attainable if lower) can bring the train to a stand at the associated stop signal. The clarification and completeness of certain requirements in this issue (Issue 4) will remove ambiguity and therefore promote compliance without imposing significant cost on the industry.

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### **Part 5- CONCLUSIONS**

This Standard defines the signal spacing distances for four categories of trains according to their braking characteristics, and includes a methodology for calculating signal spacing distances for trains not identified in any of the defined categories. The particular changes leading to Issue 4 of the Standards provide clarity and completeness to the previous requirements, without imposing a significant cost burden on the industry. On this basis it is concluded that the revisions to the Standard are justified.