

# RAILTRACK

*Safety & Standards*

## SAFETY JUSTIFICATION TEMPLATE

**ISSUE: One**

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### **PART 1 - DOCUMENT INFORMATION**

<b>Document Title:</b>	Mechanical Trainstops	
<b>Document No:</b>	GE/RT8018	<b>Issue:</b> I
<b>Primary Subject Committee:</b>	Train Control & Communications	
<b>Other Subject Committee input/ involvement:</b>	n.a.	
<b>Proposed Date of Submission to Subject Committee:</b>	28/10/99	
<b>Submitted by:</b>		
<b>Standards Project Manager</b>	Elizabeth Fleming	Date: 17/08/99
<b>Reviewed by:</b>		
<b>Controller, Safety, Strategy and Planning</b>		Date: 17/08/99
<b>Approved by:</b>		
<b>Controller, Railway Group Standards</b>		Date: 24/8/99

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### **PART 2 - EXECUTIVE SUMMARY**

The new Standard is intended to cover all the requirements for Mechanical Trainstops (both application and function) in a single volume.

The new Standard addresses the safe interworking of the trackside equipment (under the control of Railtrack) and the trainborne equipment (under the control of train operators) forming part of a mechanical trainstop system.

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### **PART 3 - BACKGROUND**

#### **Need for change**

GK/RT0017 issue 1 (Trainstops) was published in July 1997. This Standard describes the requirements for the application of trainstop systems (i.e. the provision of train stops and how they operate in conjunction with the signalling system).

To complement this Standard, GK/RT0363 (Requirements for trainstop systems) was drafted but not published. This Standard was intended to describe the functional requirements for the trainborne equipment, and the trackside equipment functional requirements up to the interface with the signalling system.

In practice, it has proved difficult to produce two separate Standards which do not overlap in subject area.

The existing controls contained in GK/RT0017 issue 1 are retained in issue 2.

The new controls to be added in issue 2 relate to physical compatibility between the infrastructure equipment and the trainborne equipment.

As a whole, the new Standard addresses the safe interworking of the trackside equipment (under the control of Railtrack) and the trainborne equipment (under the control of train operators) forming part of a mechanical trainstop system.

**Proposed changes**

- Withdrawal of Standard GK/RT0017 issue 1, July 1997, Trainstops.
- Withdrawal of Unpublished Standard GK/RT0363, Requirements for trainstop systems.
- Introduction of Standard GE/RT8018 issue 1, Mechanical Trainstops.

**Controls and their function**

GK/RT0017 issue 1 (Trainstops) July 1997 has been revised to issue 2 addressing the following:-

- Application requirements for fitment and operation of trainstops as part of Railtrack's controlled infrastructure.
- Application requirements for fitment and operation of tripcocks on trains operating on lines fitted with trainstops.
- Functional requirements of trackside trainstop equipment.
- Functional requirements of trainborne tripcock equipment.

**Alternatives considered**

The continuation of GK/RT0017 (Trainstops), containing the present scope, supplemented by an additional Standard to complete the requirements for mechanical trainstops, was considered.

This proved difficult to write without duplication and did not appear to be of any particular advantage to the users.

**Complementary controls**

GM/TT0168	Braking System and Performance Policy for T&RS Including On-Track Plant
GC/RT2504	Structure Gauging and Clearances
GM/RT2004	Rail Vehicle Maintenance and Overhaul Policy
GK/RT0106	Safety Management of Signalling Failures
GM/RT2041	Braking System and Performance for Trailer Coaching Stock
GM/RT2042	Braking System and Performance for Freight Vehicles
GM/RT2043	Braking System and Performance for Traction Units
GM/RT2044	Braking System and Performance for Multiple Units Kinematic Gauging Requirements for Railway Vehicles
GM/RT2149	Kinematic Gauging Requirements for Railway Vehicles

**Part 4 - COSTS AND BENEFITS**

The costs and benefits are considered under the following headings:-

- 4.1. Controls transferred from the old Standard and,
- 4.2. New controls included in the new Standard.

**The Benefits**

All of the controls in the proposed Standard (both new and transferred) contribute towards the following:-

- the mitigation of the consequences of signals passed at danger.
- the protection of terminal and bay platforms
- the supervision of speed.

These factors affect the following top events tabled below:-

<b>CODE</b>	<b>Top Event</b>	<b>WEF/100 years</b>
TE01	Collisions involving passenger trains	1082
TE03	Collisions with buffers	301
TE04	Passenger train derailments	163
TE06	Collisions not involving passenger trains	95
TE08	Freight train derailments	53

The existing controls (4.1) already contribute towards maintaining the above values, to remove these controls is likely to lead to an increase.

In the case of the new controls (4.2), it is believed that these are generally adhered to at present for historical reasons (recent installations are rare). The chief benefit of inclusion in this Standard is, therefore, to ensure consistency in future and avoid any increase in risk.

#### **The Costs**

Existing controls (4.1) are merely transferred to this standard, therefore are already mandatory.

It is believed that the new controls (4.2) are generally carried out by Railway Group Members at present. There are, therefore no extra costs anticipated with the introduction of this new Standard.

### **Part 5 - CONCLUSION**

The new Standard formally mandates requirements which are generally already followed in the installation maintenance and use of Mechanical Trainstops.

The Standard will ensure that these practices are continued and will, therefore, ensure that these measures are consistently applied in future.

### **Part 6 - REFERENCES**