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**RAILTRACK**  
Safety & Standards

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<b>Briefing Notes for:</b>	<b>Mitigation of DC Stray Current Effects</b>	
<b>Document No:</b>	GL/RT1253	<b>Issue:</b> 1
<b>Subject Committee(s)</b>	Electrification Subject Committee Train Control & Communications Subject Committee	
<b>Issue date:</b>	01/04/2000	
<b>Initial Compliance Date</b>	03/06/2000	

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## BACKGROUND

This document incorporates amendments to the existing GM/RT1018, but due to recent changes in the numbering format of Railway Group Standards it now appears as Issue One of GL/RT1253 and supersedes GM/RT1018. The changes that have been incorporated into GL/RT1253 take into account the requirements for high speed and tilting trains which in the context of this document are related to the introduction of a new form of traction power supply system onto Railtrack controlled infrastructure.

A primary objective of the redraft of the document was to make it generic, and therefore applicable to envisaged future traction power supply arrangements.

The opportunity has also been taken to debate a number of aspects of the document, as part of a recent review process. Hence a number of revisions have been incorporated which address shortcomings in the earlier document. These are primarily concerned with ensuring that the document deals with the mitigation of the effects of *imported* DC stray current, making a clear distinction with GL/RT1254 which deals with the control of the *export* of stray currents.

## KEY CHANGES INTRODUCED BY THIS STANDARD

- Withdrawal of GM/RT1018 Issue One – Stray Current and Cathodic Protection – Control of their Undesirable Effects.
- Introduction of GL/RT1253 Issue One – Mitigation of DC Stray Current Effects

The document has been categorised in the GL (Electrification) series and re-titled to reflect its scope more accurately. The document mandates requirements to mitigate against the risk caused by the import of DC stray currents. The following aspects have been considered in the drafting of this document:

- The need to make a clear distinction between this document, which deals with the need to mitigate against the risks created by imported DC stray currents, and GL/RT1254, which deals with the control of the export of DC stray current;
- The need to consider dual electrified lines and adjacent traction power supply systems;
- The need for testing to assess the effectiveness of DC stray current control measures;
- The need to maintain the effectiveness of the control measures;
- Inclusion of a requirement on the Infrastructure Controller to co-operate with third

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- parties to mitigate DC stray current effects; and
- Changes to align the definitions and principles with EN 50122-2.

Measures to control the risk created by DC stray currents can be implemented in two ways namely the control of the generation (the export of stray current) and control of the effect (the import of stray current).

This document deals with the latter case. It requires that the Infrastructure Controller identifies those infrastructure elements which may be adversely effected by stray currents including those created by cathodic protection systems. It also requires that the implementation of any DC stray current measure, new or modified cathodic protection scheme, or remedial action following testing is not commenced until the acceptability of the measure is confirmed by the Infrastructure Controller and all relevant parties.

The document clarifies that the measures to prevent electric shock contained within GL/RT1254 take precedence over the measures to mitigate the risk of DC stray current.

### **COMPLIANCE**

The provisions in this document, GL/RT1253, are to be complied with from 3 June 2000.

Railway Group Standard GM/RT1018 will be withdrawn with effect from 3 June 2000.