

NOTICE BOARD

NB 140
Issue 1
23/04/2015
Expires: 22/04/2016
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NETWORK RAIL - SIGNAL ENGINEERING 'Variation in Signal Spacing'

Purpose

This Notice Board addresses the management of compatibility relating to the variation in signal spacing. It clarifies the approach required because of apparent conflict between various clauses in Railway Group Standard [GK/RT0075](#) Issue 3 September 2014.

Scope

Signalling projects

Railway Group Standard clauses 2.1.3 b), 2.5.1 and GN52 of [GK/GN0675](#)

Background

2.1.3 b)

The assessment of compatibility shall check that the actual signalling braking distance is compatible with the SPAD risk mitigation measures that will be put in place by the railway undertakings, where any of the following apply:

b) A signal has an actual signalling braking distance less than 67% of the actual signalling braking distance of the preceding signal(s) on the same line.

2.5.1

Variation in the excess signalling braking distances between successive signals shall be kept to a minimum in order to control the risk associated with signals passed at danger (SPAD).

GN52

Existing good practice has established a desirable limit for the maximum variation of 34% in excess signal spacing between successive signals, above which a risk assessment is required to determine whether there is an unacceptable increase in SPAD risk. Any relaxation in this limit would need to be justified. The distance between a red-green stop signal and the next isolated distant signal is not relevant as it is not involved in braking.

Clause 2.1.3 b) was amended in Issue 3 to refer to actual braking distances which, in the case of linespeed reduction, means that the natural need to decrease signal spacing would give rise to the need to establish compatibility even though compliance is achieved with the tables in the standard (and guidance note) and clause 2.5.1.

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PUBLISHED UNDER NR/L2/SIG/11120

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Action Required

Until such time as the RGS is re-published NR continues to follow 2.5.1 and GN52 which refer to a change in the excess spacing provided between the adjacent signals. By considering 'excess' the speed reduction is naturally taken into account.

Since the requirement is expressed as 'percentage change', the Network Rail product approved signal spacing model, SSpaM, undertakes this excess variation arithmetically:

$\% \text{ variation} = \% \text{ excess of first signal} - \% \text{ excess of second signal}$

in the direction of travel. Reductions greater than 34% are warned.

This tool should be used since it has been safety validated for all its functions

Staff to be Informed

Role	Responsible for Briefing
Route Asset Managers [Signalling]	Author
Head of Engineering (Infrastructure Projects – Signalling)	Author
Signalling Delivery Engineers Project Engineers Signalling Designers	Head of Engineering (Infrastructure Projects – Signalling)
Signalling Principles Group	Author

End