

TECHNICAL INSTRUCTION

TI 092
Issue 1
May 2008
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NETWORK RAIL - SIGNAL ENGINEERING

Provision and extent of Comprehensive Approach Locking

Relevant Standard: GK/RT0063

Purpose

This instruction clarifies Network Rail's policy on the provision of comprehensive approach locking and the extent of the look-back to be provided.

Provision of comprehensive approach locking

The facility is of benefit where a signaller wishes to cancel a route whilst there is no approaching train in order to alter the route for the next train or enable a conflicting move. Where an automated route setting facility exists, this would normally not set a route until a train was about to enter the look-back area and hence comprehensive approach locking is unlikely to be of benefit.

Comprehensive approach locking shall only be provided where specifically requested by Operations and this shall normally be for specific signals which are provided with auto-working facility and are only infrequently used for alternative routes.

NOTE: Comprehensive approach locking can be complex to implement where routes converge on approach to the signal and hence, in order to simplify the design, should be avoided unless specifically required.

NOTE: There is no requirement to provide comprehensive approach locking in order for train operated route release (TORR) to be utilised. In accordance with GK/RT0063, TORR may be initiated by the sequential operation of two train detection sections provided these are not the same as those used for approach locking release – the initiation of TORR may take place before the approach locking is released.

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Look-back limits

The objective of the look-back is to ensure that a previously set route is not released without allowing a driver who has seen a proceed aspect to either come to a stand at the replaced signal or enter the route (being unable to stop). The test for immediate route release shall be that the driver will be able to see the whole cautionary aspect sequence up to the signal being replaced.

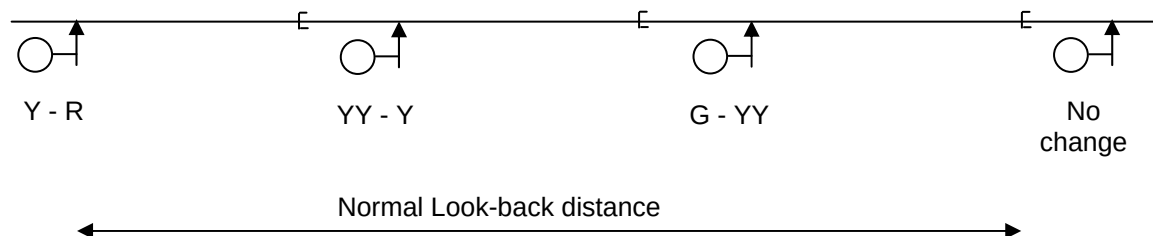
NOTE: Whilst a driver seeing an aspect reversion may cause consternation there is no safety risk provided the train has not reached the point where the driver may not repeat his observation of the signal or respond to the change of aspect even if it is observed.

In three and four aspect areas the most convenient place to use for the limit of the comprehensive overlap is the end of the overlap on the signal which remains at green when the signal being considered is replaced to red.

NOTE: Account needs to be taken of special aspect sequences such as consecutive yellow or double yellow aspects (typically for under-braking or uneven spacing) or conditional double red controls.

NOTE: Only normal working should be considered, the extent of aspect reversion in the event of failure (e.g. signal lamp or TPWS failure) shall not be included.

In areas with isolated distant signals, then the look-back shall extend at least as far as the minimum reading distance and the AWS of the distant signal. Where the signal has better sighting than is required on the sighting form then consideration should be given to extending the look-back where convenient.



Compliance Requirements

The requirement for comprehensive approach locking shall form part of the operational requirements specification and be reviewed prior to the completion of GRIP stage 4.

Action Required

Comprehensive approach locking shall only be provided where specifically required and look-backs shall be kept to shortest required distance.

Staff to be Briefed

Signalling Project Engineers, Designers and Testers.

END