

Letter of instruction

Information for users

The following document:

NR/L3/TRK/0030 Issue 1

has had changes made to it, most recently, with effect from **01 December 2013**.

Instructions for use

It is essential that you first read and understand each letter of instruction pertaining to the standard before proceeding to use the standard. You must then apply the requirements of each letter to the standard.

NR/BS/LI/229	Issue 2	expired March 2015	Proceed to letter ►
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Level 3

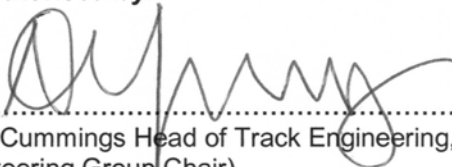
Reinstatement of Absolute Track Geometry (WCML Routes)

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Issue record

Issue	Date	Comments
Issue 1	June 2008	First issue.

The procedure is derived from the WCRM Procedure for 'Plain Line Renewals in areas where Through Alignment is Installed' Ref W070-173-TR-SAP-005004 which remains in use on that Project. This procedure is therefore not applicable to WCRM Projects who will continue to work to their procedure.

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 1st June 2008.

When this standard is implemented, it is permissible for all projects that have formally completed GRIP Stage 4 to continue to comply with the Issue of any relevant Network Rail Standards current when GRIP Stage 4 was reached and not to comply with requirements contained herein, unless the designated Standard Owner has stipulated otherwise in the accompanying Briefing Note.

Reference Documentation

See section 10.

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1. PURPOSE

The track on Enhanced Permissible Speed sections of the West Coast Main Line fast lines is installed to an 'Absolute Track Geometry' (ATG).

This is a defined alignment design that must be reinstated when the track is disturbed by track maintenance, track renewal or other work. The Safety Case for Enhanced Permissible Speed demands this.

This procedure defines:

- How infrastructure Investment projects will manage changes to the A.T.G Design.
- How infrastructure investment teams will design track alignments adjacent to A.T.G. alignments
- How Infrastructure Investment project teams will manage the reinstatement of the A.T.G Track alignment for plain line and S&C.
- How the Infrastructure Investment project teams and their contractors will install A.T.G. alignments.

The procedure is **not applicable** on the WCRM Projects that are governed by their own procedures.

2. SCOPE

The Procedure is not applicable to WCRM Projects that continue to work to their own project specific procedures.

The routes that have ATG installed are:

Location	Line
Primrose Hill – Crewe via Weedon, Atherstone, Stafford, Norton Bridge & Madeley (LEC 1 – 5)	Down Fast (2m 27ch – 157m 60ch) Up Fast (2m 27ch – 157m 60ch)
Crewe– Carlisle (CGJ 1 – 7)	Up and Down Fast Lines
Carlisle – Larkfield Jn (101m 12ch) (WCM1 & 2)	Up and Down Main Lines
Colwich Jn – Cheadle Hulme Jn (CMD 1 & 2, MCH)	Up and Down Main Lines

ATG is not continuous in these sections.

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When project work is planned within any of the route sections listed, the Designated Project Engineer, or nominated Project Engineer (Track) will consult the Senior Design Engineer (A.T.G) in the I & I Track programme to confirm that A.T.G is installed for the specific location of their work. The absolute limits are defined in the A.T.G Database.

If ATG does not exist, then a conventional design for the site shall be developed, by the party that requires an alignment design, through their nominated designer

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3. PROCESS FLOWCHART- REINSTATEMENT

PROCESS STEPS

Scope – Secion 2

Delivery – Secion 6

Alignment Validation
Survey – Secion 5.2

Alignment Pack –
Secion 5.3

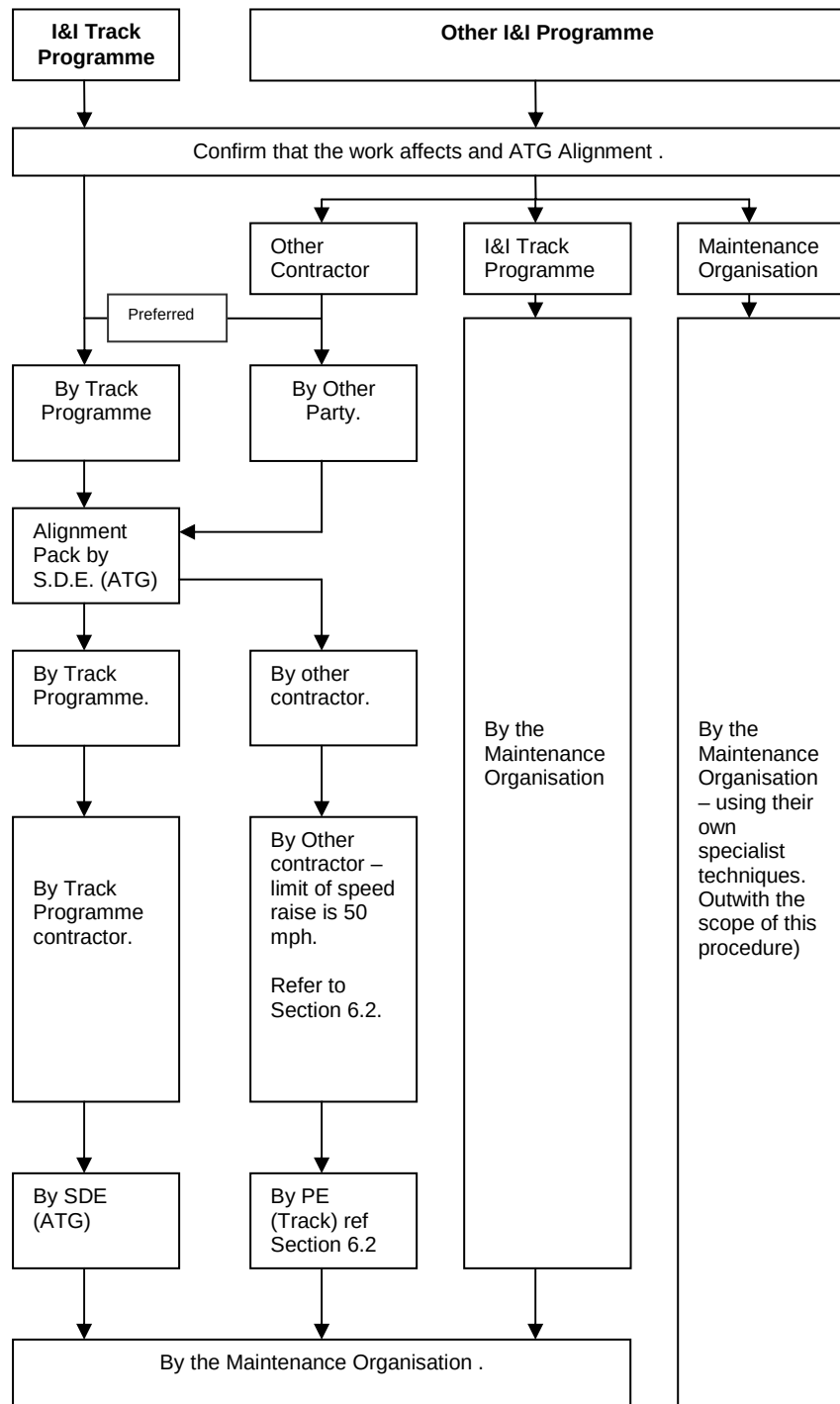
OLE Survey & Design
– Secion 7.2

Set Out & implement –
Section 7.3 & 7.4

Open the line –
Section 7.6

Verify the work –
Section 7.7

Follow Up Work –
Section 8



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4. DESIGN

This section is applicable to all projects.

4.1 Designing new alignments adjacent to A.T.G Alignments

The Track Programme's Senior Design Engineer (A.T.G) will:

- Confirm that there is A.T.G. alignment adjacent to the proposed work.
- Provide details of the WC Grid and co-ordinated alignment design such that the Project's designer can undertake the Alignment Validation Survey of the track that is installed to A.T.G..

The designer must then determine the adjustments required to return the track to the ATG design and allow for the worst case, from the following, to determine passing clearances to the new alignment:

- The existing position of the ATG Track
- The design position of the ATG Track

The Designated Project Engineer (Design) or the nominated Project Engineer (Track) will ensure that the alignment design is reviewed by the Track Programme's Senior Design Engineer (ATG).

4.2 Redesigning an A.T.G. Alignment.

Redesign of the A.T.G alignment will not normally be required. **Exceptionally** where the new works demand that it is changed, redesign may take place.

The intent to redesign and the justification for it must be presented to the Head of Track Engineering's nominated representative at an early stage to approve the principle of the change. The Designated Project Engineer or his nominated Project Engineer (Track) will present the justification.

To progress the design, the Designated Project Engineer (Design) or his nominated Project Engineer (Track) will request the following information from the Track Programme's Senior Design Engineer (ATG) (LNW) and provide it to the designer:

- The Through Alignment Design undertaken by the WCRM Project – electronic records.
- The Master reference chainage for the route – the source record designs are not aligned to this. This information is required to report back the new designed geometry.
- The extract from the Master Track Geometry Database.

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- The Survey Control Stations for the site.

The designer must use a compatible design format to the electronic source records. Both InRail and MX rail are compatible.

A survey will be undertaken using the specified Survey Control Stations as the primary control for the survey. The survey will provide the information to compare the actual datum plate dimensions (vertical and lateral offsets) and actual measurements to 'green block' datum plates. Datum plate dimensions will be measured using a calibrated Mephisto.

The designer will:

- Always design the alignment such that it ties into the geometry strings recorded in the Absolute Track Geometry Database.
- Use the through alignment design as the basis of the design and only modify it if there is a benefit in doing so.
- In addition to other design information, provide a tabular report of the geometry in the format required for the Absolute Track Geometry Database – see example in Appendix B.

Where the designed alignment is changed, the Designated Project Engineer (Design) or the nominated Project Engineer (Track) will ensure that a Form B is prepared and will accept the design when the alignment change is authorised by the Head of Track Engineering's nominated competent representative. The alignment change will be made in writing to the Head of Track Engineering's representative through the Track Programme's Senior Design Engineer (ATG).

If a change is agreed and implemented, the Designated Project Engineer (Design) or the nominated Project Engineer (Track) will ensure that the new TAD and the tabular report referred to above is communicated back to the Maintenance Organisation's nominated representative via the Track Programme's Senior Design Engineer (ATG). The Maintenance Organisation's nominated representative will update the Absolute Track Geometry Database.

The Track Programme's Senior Design Engineer (ATG) will answer technical queries on the process for updating the ATG design and the transfer of information to support this.

The Designated Project Engineer or the nominated Project Engineer (Track) will ensure that the alignment design is reviewed by the Track Programme's Senior Design Engineer (ATG).

4.3 Control of Changes to the ATG Design, Datum Plates and Survey Control

Definition

A change is defined as any change to the:-

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- Alignment design or associated MX design file, or ALC Geometry file, or track markings.
- References to the designated track position including Datum Plates, or Spigots, or Survey markers.
- Track position which moves it beyond the designated track position limits.

Type of change.

There are two types of change:

- Changes to resolve anomalies; where the aim is to reinstate the track to its design position whilst eradicating errors or inconsistencies between data and physical condition. Examples of this are maintenance work or like for like track renewal.
- Changes to create a new alignment. An example of this is a remodelling scheme.

Approvals.

Where anomalies are found they must be referred back to the maintenance organisation's ATG design engineer via the Senior Design Engineer (ATG) in the I&I Track Programme.. The maintenance organisation's ATG design engineer will seek approval for the changes proposed. Failure of the contractor to achieve the design position is not a sufficient reason for the design to be changed.

Where, by exception, a new design is created approval of the proposed change to the ATG design will be undertaken by the Head of Track Engineering's nominated representative in the Engineering Organisation. The request for change will be made through the Senior Design Engineer (ATG) in the I&I Track Programme.

Updating the ATG database

The Maintenance Organisation's nominated agent will update the ATG database.

5.ALIGNMENT PACK

5.1 Options for Delivery

Prior to any work that affects an A.T.G. alignment, an Alignment Validation survey is required. This is a 3-dimensional survey of the alignment related to the West Coast's survey control.

Projects may:

- Preferably, request the support of the Infrastructure Investment Track Programme through the Senior Design Engineer (A.T.G).
- Obtain details of the survey control through the Infrastructure Investment Track Programme's Senior Design Engineer (A.T.G) in the L.N.W. Territory and undertake the survey themselves. This is not preferred.