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INFORMATION ON TECHNICAL STANDARDS FOR INTEROPERABILITY (TSIs)

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RIG postholder/owner		Daniela Phillips	
RIG cleared by		Paul Hooper	
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Summary	This guidance document explains the purpose of TSIs and how they are produced. It also gives an update on the current status of existing TSIs.
Consultation	Brian Ellis, David Keay, Ian Morrice, Claire Dickinson, Stan Hart, Rupert Lown, Caroline Wake, Alan Bell, Debbie Daniels, Martin Jones, Lee Collins, Philip Sharpe, Giles Turner, Paul Frary, Sally Williams, Colin Greenslade, Tom Wake, Ian Raxton, Agnes Bonnet, Oliver Stewart, Matt Westlake
Subsequent consultation (reviews only)	

Detail

BACKGROUND

The Railways (Interoperability) Regulations 2011 (RIR) transpose EC Directive 2008/57/EC into UK law. Technical Specifications for Interoperability (TSIs) are the technical standards that underpin the Interoperability Directive. TSIs set out the specifications that subsystems have to meet in order to achieve the essential requirements and enable a common checking and authorisation process across Member States. Currently TSIs are applicable to new or upgraded parts of the railway on the Trans European Network (TEN) route. As TSIs are redrafted, their scope is extended and they will become applicable to the whole of the rail network, on and off the TEN route.

GLOSSARY

Here are some familiar terms that are used in interoperability that you might find useful:

Subsystems
Separate elements of the rail system (e.g. rolling stock, infrastructure)

Technical Specifications for Interoperability (TSIs)
A TSI is the specification to be met by a subsystem in order for it to meet the essential requirements and to achieve interoperability.

Essential Requirements
What needs to be delivered by the subsystem to ensure compliance. The 5 categories are: safety; reliability and availability; health; environmental protection and technical compatibility. Infrastructure and rolling stock TSIs have further specific requirements.

Interoperability Constituents
An IC is a component for use in a subsystem that can be tested and placed onto the market independently of a subsystem. Not all ICs need to be assessed by a NoBo but the manufacturer must draw up a declaration of conformity to demonstrate that the essential requirements have been met. The objective is to open the market by having inter-changeable components that do not need any further assessment from the country of origin.

Notified Bodies (NoBos)
A body appointed by the Secretary of State as having met criteria of competence, integrity and independence. NoBos carry out the assessment on whether a subsystem(s) complies with the relevant TSIs.

Designated Bodies (DeBos)
A body appointed by the Secretary of State as having met criteria of competence, integrity and independence. DeBos carry out the assessment on whether a subsystem(s) complies with the relevant NNTRs.

Open points
An open point is a point in a TSI where Member States cannot reach an agreement so it is left ‘open’ to allow Member States an opportunity to notify their own national technical rules.

Notified National Technical Rules (NNTRs)
Standards, or parts of standards, that fill open points in a TSI and are notified to the Commission.

Contracting Entities (CE)
A term specific to interoperability. A person who designs, constructs, renews or upgrades a subsystem; or contracts with another person to design, construct, renew or upgrade a subsystem.

WHAT DOES A TSI CONTAIN?

Each TSI has to:

- define which part of the network (or category of rolling stock) and which subsystem(s) or parts of the subsystem(s) are affected.
- lay down the essential requirements for each subsystem concerned, establishing the technical and functional specifications to be met, and the interface with other subsystems. If an essential requirement cannot be met when drafting the TSI then any 'open point' needs to be identified and listed in the annex.
- define the Interoperability Constituents (ICs)
- state the procedures for assessment of conformity and suitability for use for both ICs and EC verification of the subsystem
- set out the implementation strategy for the TSI to achieve a gradual transition to full compliance
- list the national 'specific cases'

HOW ARE TSIS CREATED / AMENDED?

The decision to develop a TSI requires a mandate to be issued from the European Commission to ERA.
When a working party is to be set up to either draft or re-draft a TSI, ERA issues a call for experts to the National Safety Authorities (NSA) and the sector organisations. ORR has nominated an expert to attend the meetings of most TSI working groups. The majority of these representatives are ORR staff, but this is not always possible if there are constraints, for example, resource or a particular specialist expertise is required. In these cases, ORR may choose to nominate a representative from DfT, or RSSB to act as a NSA representative.

The working party is tasked with:

- Identifying what specifications are necessary in order to meet the essential requirements
- Identifying any interfaces with other subsystems
- Considering specific cases that may be necessary and examining technical and economic justification
- Drafting the TSI

Once the TSI is drafted, or revised, it is sent to the Member State Railway Interoperability and Safety Committee (RISC) for approval by Qualified Majority Voting.
When a TSI is to be published and brought into force it can be found on:

http://eur-lex.europa.eu/en/index.htm
DfT's website: Department for Transport - Technical Specifications for Interoperability (TSIs)
The Official Journal of the European Union (OJEU):

Each TSI after publication requires an implementation plan to be drawn up and submitted to the European Commission by the Member State. The time period to produce the plan is written in the TSI and is usually 12 months. Industry committees on behalf of the Member State usually produce draft plans.

NOTIFIED NATIONAL TECHNICAL RULES (NNTRS)

- NNTRs are used to fill any open points or specific cases in a TSI. In the UK, NNTRs are usually Railway Group Standards (RGS). If the open point is not an interface issue and no RGS is available, the CE will pick an industry standard or guidance document to fill the open point. The CE will then go to the Standards Committee to make sure there is no objection to what is being proposed and then to DfT who will notify it as a project specific NNTR. As TSIs and the rail network develops, NNTRs will (hopefully) gradually decrease. A list of notified standards can be found on DfT's website: https://www.gov.uk/government/publications/rail-interoperability-notified-bodies

SPECIFIC CASES

- National specific cases can be written into a TSI in order to ensure compatibility of the rail network in the Member State is retained. The UK, for example, has a specific case for loading gauge in several TSIs. Specific cases are mostly drafted by the RSSB standards committees and are agreed by the Industry Standards Coordination Committee (ISCC). They should contain technical and economic arguments and are submitted for consideration by ERA by ORR. There is an ERA template for submitting specific cases. It is important that DfT are content with the submission as they are responsible for the interoperability regulations and have policy lead.

CRITICAL ERRORS

- If a Member State believes there is a critical error in the content of a TSI or its open points they may raise the matter with the European Commission and seek a change in the TSI. This may happen, for example, if the error prevents the completion or the placing into service of a subsystem or contributes to unsafe operation. The European Commission will seek a technical opinion from ERA on the matter. RISC will decide whether to accept the technical opinion and, if it does, any change will be included in the next revision of the TSI.

TSI REVIEW

- The decision to review a TSI requires a mandate to be issued from the Commission to ERA. ERA manages the revision process of TSIs by assigning a project officer and calling together a group of experts from the NSA and the sector. The process begins by the working group looking at any open points and critical errors submitted by Member States. ERA invites attendees to propose other issues for discussion or amendment. The revision process typically takes 24 – 30 months and the re-draft is then translated into the various languages of Member States.
- 'Silent points' is a term sometimes used in the UK for the areas that a TSI does not address. This term isn't recognised by ERA or other Member States.

WHAT TSIs ARE THERE?

At the moment there are 11 TSIs published and in force. The High Speed (HS) TSIs that are in force are:

- Energy
- Infrastructure
- Maintenance
- Rolling Stock
- Operation and Traffic Management

The Conventional Rail TSIs that are published and in force:

- Rolling Stock [Freight]
- Rolling Stock [Noise]
- Telematic Applications Freight
- Operation and Traffic Management
- Energy
- Rolling Stock [Locomotive and Passenger]
- Infrastructure

The Transverse TSIs (TSIs that cover more than one subsystem) that are published and in force are:

- Operation and Traffic Management
- Control Command and Signalling
- Telematic Applications Passengers
- Persons of Reduced Mobility
- Safety in Railway Tunnels

SUBSYSTEMS

The subsystems are subdivided into structural or functional subsystems for which essential requirements must be met. Structural subsystems must be

authorised by ORR before being placed into service. No such requirement is placed on functional subsystems. However, there are ongoing requirements of compliance for all the subsystems.
The Structural TSIs are:

- Infrastructure
- Energy
- Co Co Sig
- Rolling stock
- Operation and Traffic Management

The Functional TSIs are:

- Maintenance
- Telematic Applications for Passengers and Freight

Operation and Traffic Management, although a structural TSI does not require formal assessment via an interoperability authorisation process but is linked to safety certification
The current status of all TSIs can be found on RSSB's website and is updated regularly

Copies of all the published TSIs can be found on DfT's website

WHAT IS ORR'S ROLE?

Under the RIR ORR is the enforcing authority.
Regulation 4 in the RIR requires that all newly constructed structural subsystems and those that have had a major upgrade or renewal as a project on the High Speed or Conventional TEN rail system must be authorised by ORR before they are placed into service.
ORR's authorisation role is to review the technical file submitted by the CE and prepared by the NoBo to make sure that due process has been followed and that the technical file delivers the essential requirements set out in the relevant TSI(s) and, where applicable, the Notified National Technical Rules (NNTRs).
In certain circumstances, it is possible for the CE to seek a derogation from the whole or part of a TSI or NNTR. Requests for derogations from TSIs are considered by DfT. Derogations from NNTRs follow the process set out in the RGS Code. Requests for derogations from TSIs or NNTRs should contain technical and economic arguments.

RESPONSIBILITIES

- The interoperability and standards team in Railway Planning and Performance are the point of contact between DfT and ORR on interoperability. They work closely with the European Policy team in Railway Markets and Economics who are the lead contact point in relations with ERA.
- Engineers in the Engineering and Asset Management team are

	responsible for the authorisation of subsystems via technical files. • Account holders are responsible for liaising with duty holders to ensure the relevant projects go through the interoperability process.
Action (optional)	Note content.