



# **Strategic Direction for the Noise TSI**

## **Issue 1.0**

**Approved by the  
Industry Standards Coordination Committee**

**02 March 2012**

ISCC/022

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## Issue record

Issue	Date	Comments
One	March 2012	Original document

## Publication

This document is published by RSSB, Block 2, Angel Square, 1 Torrens Street, London EC1V 1NY and is available through [www.rssb.co.uk](http://www.rssb.co.uk). For enquiries, please telephone 020 3142 5400 or e-mail [enquirydesk@rssb.co.uk](mailto:enquirydesk@rssb.co.uk).

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## **1 Purpose**

- 1.1 This document sets out the strategic direction for GB involvement in the development of the NOI TSI and what GB aims to achieve with this TSI.

## **2 Background**

### **2.1 Responsibilities**

2.1.1 This strategic direction has been developed by the Noise TSI GB mirror group and is intended for use by GB representatives at:

- a) ERA working group
- b) CER NOI TSI working group
- c) EPTTOLA working group
- d) UNIFE
- e) EIM

### **2.2 ERA mandate**

2.2.1 The requirement for revision of the NOI TSI is defined in the current version of the TSI, 2011/229/EU. This strategic direction covers the following technical areas:

- Revising the NOI TSI in accordance with section 7.2 of the NOI TSI:2005
- Assisting the rolling stock working party on interfacing subjects related to noise and dealing with the issues related to noise emitted by high speed rolling stock
- Extending the scope of the NOI TSI with consideration of the extended scope that will be defined in the complementary study launched by the ERA on this subject
- Carrying out cost-benefit analysis

### **2.3 Key stages in the development of the TSI**

Q3 2011 – initial ERA WP meeting (GB mirror group 06/09/11)

Q4 2011 – first draft (GB mirror group 19/10/11)

Q1 2012

Q2 2012 – preliminary report and Specific Cases

Q3 2012

Q4 2012 – final draft

Q1 2013 – final report and recommendation to Commission

## 2.4 Period of validity of the strategic direction

- 2.4.1 This strategic direction is valid until the vote at Railway Interoperability and Safety Committee (RISC) has taken place. There will be a review of the strategic direction in Q2 2012, and again in Q1 2013 if RISC has not voted by then.

## 3 Guidance for developing the TSI

### 3.1 Documents

- 3.1.1 The following documents should be used by group(s) in developing the TSI:
- a) A 'Guide for persons involved in the development of TSIs' [[http://www.rssb.co.uk/SiteCollectionDocuments/rgs/004\\_Guidance\\_TSI\\_drafting\\_issue\\_3.pdf](http://www.rssb.co.uk/SiteCollectionDocuments/rgs/004_Guidance_TSI_drafting_issue_3.pdf)] which has been developed by the Industry Standards Coordination Committee (ISCC) to provide guidance to individuals from the GB railway community who are involved, in some way, in the development of TSIs. The guide is supported by a 'checklist of factors' [[http://www.rssb.co.uk/SiteCollectionDocuments/docs/Guidance\\_TSI\\_drafting\\_checklist\\_issue\\_1.pdf](http://www.rssb.co.uk/SiteCollectionDocuments/docs/Guidance_TSI_drafting_checklist_issue_1.pdf)] which should be borne in mind when a TSI is being drafted, either for the first time or as a revision.
  - b) A 'technical check list for TSIs', [[http://www.rssb.co.uk/SiteCollectionDocuments/rgs/009\\_Technical\\_checklist\\_for\\_TSIs\\_issue\\_1.pdf](http://www.rssb.co.uk/SiteCollectionDocuments/rgs/009_Technical_checklist_for_TSIs_issue_1.pdf)] which covers structural sub-systems (Infrastructure, Energy, Rolling Stock, Control-Command and Signalling), is intended to ensure, as far as possible, that the technical review of TSIs and specific cases is thorough.

### 3.2 Scope extension of TSIs

- 3.2.1 Article 1(4) of the Interoperability Directive, 2008/57/EC, requires that *'The scope of the TSIs shall be progressively extended in accordance with Article 8 to the whole rail system, including track access to terminals and main port facilities serving or potentially serving more than one user, without prejudice to the derogations to the application of TSIs as listed in Article 9'*.
- 3.2.2 The way in which TSIs are written must depend on the way the term *'the whole railway system'* is interpreted. If the interpretation is too wide, the TSI becomes impossible to write as it would need to cover a very wide diversity of odd systems.
- 3.2.3 The TSI should therefore be drafted on the assumption that the Member States adopt the exclusions set out in Article 1(3) of the Directive which states that:
- '3. Member States may exclude from the measures they adopt in implementation of this Directive:*

- a) *metros, trams and other light rail systems;*
- b) *networks that are functionally separate from the rest of the railway system and intended only for the operation of local, urban or suburban passenger services, as well as railway undertakings operating solely on these networks;*
- c) *privately owned railway infrastructure and vehicles exclusively used on such infrastructure that exist solely for use by the owner for its own freight operations;*
- d) *infrastructure and vehicles reserved for a strictly local, historical or touristic use.'*

### 3.3 General consideration of references to ENs in TSIs

#### 3.3.1 Article 5(8) of Directive 2008/57/EC states:

*'TSIs may make an explicit, clearly identified reference to European or international standards or specifications or technical documents published by the Agency where this is strictly necessary in order to achieve the objective of this Directive. In such case, these standards or specifications (or the relevant parts) or technical documents shall be regarded as annexes to the TSI concerned and shall become mandatory from the moment the TSI is applicable. In the absence of such standards or specifications or technical documents and pending their development, reference may be made to other clearly identified normative documents; in such case, this shall concern documents that are easily accessible and in the public domain.'*

#### 3.3.2 Making an explicit reference to ENs is therefore only permitted 'where this is strictly necessary in order to achieve the objective of this Directive'. Article 5(8) should be read as a prohibition on including explicit references to ENs in TSIs, with a permitted exception under the specified circumstances. It should not be read as a general permission to include references to ENs under the specified circumstances.

#### 3.3.3 Generally, ENs should only be referenced as ways of defining something (such as gauges). They should not be references as a way of imposing a requirement, as any necessary requirements should be set out in the TSI itself.

#### 3.3.4 As an example, a reference to an EN was necessary in the CR INF TSI: the capability requirements for structures are defined by a parameter called (misleadingly) 'Line Category'. EN 15528:2008 is referenced simply to define what a Line Category is, and the method of deriving it (a matter too detailed to be specified in the TSI). However, EN 15528:2008 was not referenced as a way of specifying the TSI requirement – it simply permits that requirement to be expressed unambiguously.

### **3.4 National rules**

- 3.4.1 The TSI should be drafted to eliminate references to the use of national rules as a way of meeting an essential requirement (other than as a specific case in chapter 7). Such references are common in TSIs drafted under AEIF but are not usually present in TSIs drafted under ERA.
- 3.4.2 If the TSI intends to cover a point, but there is no agreed requirement, this should be identified as an open point.
- 3.4.3 If the TSI has nothing to say about a point, it should remain silent. It does not need to say that the issue is dealt with by application of national rules.

## **4 Principles for developing the TSI**

### **4.1 Aims for GB in developing the TSI**

- 4.1.1 The overall aims for GB in developing the TSI shall be to:
- a) Achieve a specification that allows GB to build economic and cost effective rolling stock.
  - b) Achieve a specification that delivers the essential requirements but is not too prescriptive or restrictive (noting that environmental protection is an essential requirement).
  - c) Achieve a specification that does not inhibit innovation
  - d) Achieve a specification that is aligned with the RST and WAG TSI(s)
  - e) Achieve a specification that has a well structured relationship with the wider field of European standards and specifications
  - f) Achieve a standard that is fit for purpose within GB requirements and structure gauge
  - g) Ensure that there is no reduction in existing overall levels of safety
  - h) Enable the achievement of a cost effective transition to conformity with TSI target subsystems, to the extent that GB intends to do so.
- 4.1.2 Each of these principles is to be applied to the GB specific technical issues in section(s) 6.1 to 6.2 below as the TSI is developed.

## **5 GB specific issues**

### **5.1 List of different GB practices**

- 5.1.1 The British loading gauge is an issue, especially as this reduces the ability to introduce sound baffles around underfloor engines or other noise reduction measures. There is a general lack of space to install noise attenuation. This potentially affects all engines and exhaust silencing systems, and also other noise generating sources such as traction packages, blower motors etc,
- 5.1.2 GB (HS2) has a desire to run normally at 360 km/h and potentially up to 400 km/h. These speeds are above those for which noise levels are defined in the current HS RS TSI

### **5.2 Changes to GB practices**

- 5.2.1 None known at present

### **5.3 Temporary specific cases**

- 5.3.1 None known at present

### **5.4 Permanent specific case**

- 5.4.1 The current specific case 7.7.2.1. Limit for stationary noise, ' strictly for use on the UK and Ireland networks only ' for DMUs to continue into new TSI
- 5.4.2 The current specific case 7.7.2.3. Limits for starting noise, ' strictly for use on the UK and Ireland networks only ' for diesel and electric locomotives and DMUs to continue into new TSI.

### **5.5 Development of the specific cases**

- 5.5.1 This to be identified as drafting progresses.

## **6 General issues**

6.1 In addition to the specific technical issues, there are a number of general issues that need to be considered in shaping the TSI to produce a good quality document.

- 6.1.1 The gains made in latest issue (which was an amendment to original Noise TSI) concerning non-mandatory use of test track, exclusion of OTM in certain circumstances when fitted with composite brake blocks, ability to test small number of wagons etc not to be lost.
- 6.1.2 The proposal in the current TSI for a reduction of 5dB for wagon pass-by noise is not acceptable. The proposal is to be strongly resisted on the basis of known current values which show that no wagon types have been capable of a reduction of 5dB and for some wagon types it would only have been possible to reduce noise levels by a very small amount, if at all. UK will be especially affected by overly demanding limit values due to the absence of a compliant UK test track.



- 6.1.3 The contractual risks of having very tight noise limits set within the TSI are also an issue to be monitored during the development of the TSI, especially small production runs. This has implications to the confidence of wagon builders to provide, and purchasers to procure, new wagons.
- 6.1.4 It is not appropriate currently to include the requirements for infrastructure. These to be left as a local decision for each new build application which will identify where infrastructure measures are required. This position to be kept under review, particularly if vehicle limits become too demanding.
- 6.1.5 The change from 25 m to 7.5 m for microphone position during measurements is not resisted, but GB proposes to permit either (to avoid potential mischief being made from apparent increase in limit value). A correction factor to relate the 25 m and 7.5 m should be agreed.
- 6.1.6 Possibility of setting limit values for low frequency noise to be strongly resisted until more robust data is available.
- 6.1.7 Changes to emissions values in NRMM causes diesel engines to be louder. This is especially a problem with DMU engines which could require an INCREASE in noise limit values. There is potentially a greater problem for GB, see 5.1.1.

## **6.2 Identifying inconsistencies between HS and CR TSIs**

- 6.2.1 Requirements for rolling stock in HS TSI to be included in NOI TSI, The GB concern about maximum speed shall be addressed as set out in 5.1.2.
- 6.2.2 The limit values for HS and CR have been based on two separate curves using different speed exponent. The solution will be monitored to ensure a mathematically beautiful curve does not inadvertently reduce the limit values at lower speed levels. Also the discussion of reduced noise limits at higher speeds should not necessarily also automatically affect the lower speed values.

## **6.3 Changes required for extension in scope**

- 6.3.1 Not applicable

## **6.4 Technical corrections**

- 6.4.1 Not applicable

## **6.5 Closing out open points**

- 6.5.1 Not applicable

## **6.6 Additional open points**

- 6.6.1 Not applicable

**6.7 TSI issue log**

6.7.1 Not applicable

**6.8 Changes to minimise references to ENs**

6.8.1 Current references to ENs, especially EN3095 considered acceptable (especially with strong GB participation in EN drafting group). Situation to be monitored during drafting to ensure more references to additional ENs are essential or not permitted.

**6.9 Changes to eliminate the use of national rules**

6.9.1 Not applicable

**6.10 Interoperability Constituents (ICs) and Interchangeable Spare Parts (ISPs)**

6.10.1 To be kept under review in case infrastructure components could become ICs

**7 Feedback to ISCC****7.1 Reporting arrangements**

7.1.1 Report shall be made to ISCC, by chairman of PLT SC, when:

- a) The GB specific case(s) has/have been developed
- b) The final draft is submitted to RISC for vote.

7.1.2 Where it appears that the development of the TSI is at risk of deviating significantly from the direction set out in this document, the Noise TSI mirror group shall report to ISCC on the issues with recommendations on any further action that needs to be taken.