



# Irish Railway Standard IRS-201-A

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Requirements for Vehicle to Fixed Installation  
Interface

Issue	Published by	Issue Date
A	CRR on behalf of the Irish Railway Industry	25.09.2019

## **1. Foreword**

### **1.1. This Irish Railway Standard:**

- i. cannot replace any Technical Standard for Interoperability (TSI) or other legal requirements which may be applicable to a given project;
- ii. is recommended to be chosen in accordance with RFU-STR-088 as an Alternative Solution in conjunction with a TSI Parameter to demonstrate conformity with the Essential Requirements;
- iii. may be called up as a code of practice in conjunction with CSM-REA 352/2009 and 402/2013;
- iv. may be called up as good industry practice in conjunction with Railway Safety Act 2005;
- v. may be called up as a code of practice in conjunction with the safe integration of projects within the Railway System in the Republic of Ireland as defined under 2008/57/EC Art15 or 2016/797 (EU) Art 18;
- vi. may in parts or in full be called up as a National Technical Rule (NTR) for the Republic of Ireland in conjunction with 2008/57/EC or 2016/797 (EU).

### **1.2. Where this document is called up as an NTR, the reason for its application shall be identified in line with EU 2016/797 Art 13(2):**

- i. where the TSIs do not cover, or do not fully cover, certain aspects corresponding to the essential requirements, including open points as referred to in 2016/797 Article 4(6);
- ii. where non-application of one or more TSIs, or parts of them, has been notified under 2016/797 Article 7 or 2008/57/EC Art9 or Art20;
- iii. where a specific case requires the application of technical rules not included in the relevant TSI;
- iv. national rules used to specify existing systems, limited to the aim of assessing technical compatibility of the vehicle with the network;
- v. networks and vehicles not covered by TSIs;
- vi. as an urgent temporary preventive measure, in particular following an accident.

## 2. Scope and Application

### 2.1. Scope

2.1.1. Requirements for Vehicle Network interfaces and Requirements for Vehicles.

### 2.2. General Compliance Date

2.2.1. This Irish Railway Standard comes into force and is to be complied with for all new authorisations from the date of issue.

### 2.3. NTR Provisions

2.3.1. The following table identifies all sections of this IRS which are proposed as Republic of Ireland NTRs. The rationale is identified in line with section 1.2.

2.3.2. In each case the assessment of an Irish NTR shall be performed by an IRL recognised DeBo employing the Modules stated. The assessment Modules are defined in 2010/713/EC. In this regard, the term NoBo (as used in 2010/713/EC) shall be understood to mean DeBo and references to TSIs shall be understood to mean references to Irish NTRs.

*Table 1 NTR Provisions*

Section	Rationale (as defined in section 1.2)		Module
6.1; 7.1	Non-application of TSIs	ii	for fixed installations: SG or SH1
	Technical Compatibility between on-board and trackside equipment	iv	for vehicles: (SB + SD) or (SB + SF) or SH1
	Networks/ vehicles not covered by TSIs	v	SH1
6.2 to 6.15; 7.2 to 7.7	Absence of TSI requirements	i	for fixed installations: SG or SH1 for vehicles: (SB + SD) or (SB + SF) or SH1
	Non-application of TSIs	ii	
	Technical Compatibility between on-board and trackside equipment	iv	
	Networks/ vehicles not covered by TSIs	v	

## 3. Normative References

TSI L&P	Commission Regulation (EU) No 1302/2014 of 18 November 2014 concerning a technical specification for interoperability relating to the 'rolling stock — locomotives and passenger rolling stock' subsystem of the rail system in the European Union. Currently this includes the following amendments – (EU) 2016/919; (EU) 2018/868 and (EU) 2019/776.
TSI INF	Commission Regulation (EU) No 1299/2014 of 18 November 2014 on the technical specifications for interoperability relating to the 'infrastructure' subsystem of the rail system in the European Union. Currently this includes the following amendment – (EU) 2019/776.

TSI WAG	Commission Regulation (EU) No 321/2013 of 13 March 2013 concerning the technical specification for interoperability relating to the subsystem 'rolling stock — freight wagons' of the rail system in the European Union and repealing Decision 2006/861/EC. Currently this includes the following amendments – (EU) 2015/924 and (EU) 2019/776.
Directive 2016/797/EC	Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union (Recast). This shall include any amendments to the document.
Directive 2008/57/EC	Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community (Recast). This shall include any amendments to the document.
CSM-RA 402/2013	Commission Implementing Regulation (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009. This shall include any amendments to the document.
S.I. No. 419 of 2011	Irish Statutory instrument, European Communities (Interoperability of the Rail System) Regulations. This shall include any amendments to the document.

#### **4. Terms and Definitions**

Proposer	The proposer is the organisation which proposes a modification. This includes the cases where the modification is mandatory and the proposer merely proposes the detailed concept on how the modification is performed. In certain cases, the proposer may be the applicant for an authorisation or be a supplier to such an applicant.
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#### **5. Symbols and Abbreviated Terms**

NTR	National Technical Rule
TSI	Technical Specification for Interoperability
RU	Railway Undertaking
IM	Infrastructure Manager
NoBo	Notified Body
DeBo	Designated Body

## **6. Requirements for Vehicles**

### **6.1. Any Parameter relating to Vehicles in Case of a Non-application of a TSI or parts of a TSI**

6.1.1. *Note: NTR where non-application of one or more TSIs or parts of them has been notified under Directive 2016/797/EC Article 7 or Directive 2008/57/EC Article 9 or Article 20.*

6.1.2. In this case the requirements for any relevant parameter shall be established by the proposer in line with Railway Safety Act 2005 (incl. all amendments) related CRR guidance and S.I. No. 419 of 2011 23(2) in case of renewal and upgrade and /or 23(3) in case of derogation and in line with related Guidance prepared by the CRR.

6.1.3. The proposer shall demonstrate the documented systematic establishment of requirements.

6.1.4. The proposer shall demonstrate the documented evidence on compliance with the established requirements.

### **6.2. Compatibility of Vehicles with Train Detection Systems**

6.2.1. *Note: NTR for TSI L&P Section 4.2.3.3.1, Appendix J.2 Index 1 and ERA TO ERA/ERTMS/033281 Rev 4.0.*

6.2.2. The safety requirements for compatibility of vehicles with train detection systems which are still determined as open point in the documents referenced in TSI L&P Section 4.2.3.3.1, Appendix J.2 Index 1 and ERA TO ERA/ERTMS/033281 Rev 4.0 shall be established between the proposer and any IM on whose network operation is intended. The safety requirements shall be established by employing the risk management process defined in CSM 402/2013.

6.2.3. The proposer shall demonstrate the documented systematic establishment of requirements.

6.2.4. The proposer shall demonstrate the documented evidence on compliance with the established requirements.

### **6.3. Running Dynamic Behaviour for Vehicles Designed for 1520mm Track Gauge**

6.3.1. *Note: NTR for TSI L&P Section 4.2.3.4.2(1).*

6.3.2. Vehicles designed for the track gauge 1520mm are not compatible with the interoperable network in the Republic of Ireland which is designed as 1600mm track gauge.

6.3.3. Vehicles with incompatible track gauge are not permitted to operate in Ireland.

### **6.4. Equivalent Conicity, Design Values for New Wheel Profiles**

6.4.1. *Note: NTR for TSI L&P Section 4.2.3.4.3.1(1).*

6.4.2. The safety requirements for equivalent conicity, design values for new wheel Profiles, shall be established between the proposer and any IM on whose network operation is intended and – as far as this(these) organisation(s) is(are) already determined at that time - any RU intending to operate the vehicle. The safety requirements shall be established by employing the risk management process defined in CSM 402/2013.

6.4.3. The proposer shall demonstrate the documented systematic establishment of requirements.

6.4.4. The proposer shall demonstrate the documented evidence on compliance with the established requirements.

### **6.5. Eddy Current Track Brakes at Vehicles**

6.5.1. *Note: NTR for TSI L&P Section 4.2.4.8.3 (6).*

6.5.2. Until further research on the compatibility of eddy current Track brakes with the existing infrastructure is performed, the use of Eddy Current track brakes is prohibited for operation on infrastructure in Ireland.

6.5.3. Where such brakes are provided on vehicles, they must be turned off upon transition onto infrastructure in Ireland and inadvertent turning back on must occur less frequent than  $1 \cdot 10^{-9}$  per h.

## **6.6. Aerodynamic Effect of vehicles on Ballasted Track at operating speeds above 250km/h**

6.6.1. *Note: NTR for TSI L&P Section 4.2.6.2.5(2).*

6.6.2. The safety requirements for aerodynamic effects of vehicles shall be established between the proposer and any IM on whose network operation is intended and – as far as this(these) organisation(s) is(are) already determined at that time - any RU intending to operate the vehicle. The safety requirements shall be established by employing the risk management process defined in CSM 402/2013.

6.6.3. The proposer shall demonstrate the documented systematic establishment of requirements.

6.6.4. The proposer shall demonstrate the documented evidence on compliance with the established requirements.

## **6.7. Fire Containment and Control Systems other than Full Cross Section Partitions within Passenger/Staff Areas**

6.7.1. *Note: NTR for TSI L&P Section 4.2.10.3.4(4).*

6.7.2. The safety requirements for Fire Containment and Control Systems other than Full Cross Section Partitions within Passenger/Staff Areas shall be established between the proposer and – as far as this(these) organisation(s) is(are) already determined at that time - any RU intending to operate the vehicle. The proposer shall also invite any IM on whose network operation is intended to participate in the establishment of the safety requirements, their participation remains however at the discretion of the IMs. The safety requirements shall be established by employing the risk management process defined in CSM 402/2013.

6.7.3. The proposer shall demonstrate the documented systematic establishment of requirements.

6.7.4. The proposer shall demonstrate the documented evidence on compliance with the established requirements.

## **6.8. Running Dynamic Behaviour On-Track Tests of Freight Wagons, Non-Conformity with TSI WAG Section 6.2.2.3**

6.8.1. *Note: NTR for TSI WAG Section 4.2.3.5.2 in combination with 6.2.2.3.*

6.8.2. In cases where running dynamic behaviour on track tests cannot be performed in full compliance with TSI WAG Section 4.2.3.5.2 in combination with 6.2.2.3, the non-fulfilled aspects shall be replaced by safety requirements which shall be established between the proposer and any IM on whose network operation is intended, and – as far as this(these) organisation(s) is(are) already determined at that time - any RU intending to operate the vehicle. The safety requirements shall be established by employing the risk management process defined in CSM 402/2013.

6.8.3. The proposer shall demonstrate the documented systematic establishment of requirements.

6.8.4. The proposer shall demonstrate the documented evidence on compliance with the established requirements.

## **6.9. Wheels for Freight Wagons other than Forged or Rolled**

6.9.1. *Note: NTR for TSI WAG Section 6.1.2.3 (b).*

6.9.2. Wheels other than forged or rolled are not permitted for operation in Ireland.

## 7. Requirements for Fixed Installations

### 7.1. Any Parameter relating to Fixed Installations in Case of a Non-application of a TSI or parts of a TSI

7.1.1. *Note: NTR where non-application of one or more TSIs or parts of them has been notified under Directive 2016/797/EC Article 7 or Directive 2008/57/EC Article 9 or Article 20.*

7.1.2. In this case the requirements for any relevant parameter shall be established by the proposer in line with Railway Safety Act 2005 (incl. all amendments) related CRR guidance and S.I. No. 419 of 2011 23(2) in case of renewal and upgrade and /or 23(3) in case of derogation and in line with related Guidance prepared by the CRR.

7.1.3. The proposer shall demonstrate the documented systematic establishment of requirements.

7.1.4. The proposer shall demonstrate the documented evidence on compliance with the established requirements.

### 7.2. Immediate Action Limits for Isolated Defects in Alignments at Fixed Installations where the permitted line speed is above 300km/h

7.2.1. *Note: NTR for TSI INF Section 4.2.8.1. (2).*

7.2.2. The safety requirements for the immediate action limits for isolated defects in alignments at fixed installations where the permitted line speed is above 300km/h shall be established between the proposer and any IM on whose network operation is intended and – as far as this(these) organisation(s) is(are) already determined at that time - any RU intending to operate the vehicle.

7.2.3. The proposer shall demonstrate the documented systematic establishment of requirements.

7.2.4. The proposer shall demonstrate the documented evidence on compliance with the established requirements.

### 7.3. Immediate Action Limits for Longitudinal Level of Track at Fixed Installations where the permitted line speed is above 300km/h

7.3.1. *Note: NTR for TSI INF Section 4.2.8.2. (2).*

7.3.2. The safety requirements for the immediate action limits for longitudinal level of track at fixed installations where the permitted line speed is above 300km/h shall be established between the proposer and any IM on whose network operation is intended and – as far as this(these) organisation(s) is(are) already determined at that time - any RU intending to operate the vehicle.

7.3.3. The proposer shall demonstrate the documented systematic establishment of requirements.

7.3.4. The proposer shall demonstrate the documented evidence on compliance with the established requirements.

### 7.4. Mitigations for Ballast Pick up from Track at Fixed Installations where the permitted line speed is above 250km/h

7.4.1. *Note: NTR for TSI INF Section 4.2.10.3. (3).*

7.4.2. The safety requirements for the Mitigations for ballast pick up from track at fixed installations where the permitted line speed is above 250km/h shall be established between the proposer and any IM on whose network operation is intended and – as far as this(these) organisation(s) is(are) already determined at that time - any RU intending to operate the vehicle.

7.4.3. The proposer shall demonstrate the documented systematic establishment of requirements.

7.4.4. The proposer shall demonstrate the documented evidence on compliance with the established requirements.

## **7.5. Line Category and Associated Speeds at Fixed Installations**

7.5.1. *Note: NTR for TSI INF Appendix E Table 38+39.*

7.5.2. Where a line is categorised as P1, P2, P3a, P4a, P1520, F1520, the max. axle load shall be at least EN 15528:2008+A1:2012 class D4 and max. permitted speed shall be at least 200 km/h for all types of vehicles for which table 38 (TSI INF) identifies an open point.

7.5.3. Where a line is categorised as P1600, the line shall accommodate an axle load of at least 21t, a load per meter of at least 21t/m and a design line speed of at least 80 km/h.

7.5.4. Where a line is categorised as F1600, the line shall accommodate an axle load of at least 21t, a load per meter of at least 21t/m and a design line speed of at least 80 km/h.

7.5.5. The above values for P1600 and F1600 may in cases of upgrade or renewal be reduced to the pre-existing axle loads, loads per meter and design line speeds.

## **8. Further Clarification**

Further clarification can be sought from the CRR by phone at +353 1 206 8110 or by email [info@crr.ie](mailto:info@crr.ie).

## **9. List of Participants**

The participants for each revision of this IRS are shown below in Table 2.

*Table 2 List of Participants by Revision*

<b>Participant Name and Organisation</b>		<b>Involved in Issue A</b>		
Aidan O Sullivan	CRR	✓		
Gavin Duffy	IÉ-RU	✓		
Maik Wuttke	CRR	✓		
Mary Molloy	CRR	✓		
Tommy Johnson	IÉ-IM	✓		