

Annex 2: Amendments to the technical specification for interoperability relating to the subsystem 'rolling stock — freight wagons' of the rail system in the European Union (Annex to Commission Regulation (EU) No 321/2013)

1. In chapter 4 'Characterisation of the subsystem', the section 4.4 'Operating rules', is replaced by the following:

4.4 Operating rules

Operating rules are developed within the procedures described in the railway undertaking safety management system. These rules take into account the documentation related to operation which forms a part of the technical file as required in Article 18(3) of and as set out in Annex VI to Directive 2008/57/EC.

For the safety critical components (see also 5.5.), the specific operational and operational traceability requirements are developed by the designers/manufacturers at design phase and through a collaboration between designers/manufacturers and the concerned railway undertakings or the concerned wagon keeper after vehicles have entered into operation.

The documentation related to operation describes the characteristics of the unit in relation to the design operating state to be considered in order to define the operating rules in normal and in various reasonably foreseeable degraded modes.

The documentation related to operation is composed of:

- a description of operation in normal mode, including the operational characteristics and limitations of the unit (e.g. vehicle gauge, maximum design speed, axle loads, brake performance, compatibility with train detection systems, permitted environmental conditions, type(s) and operation of track gauge changeover facility(ies) the unit is compatible with),
- a description of operation in degraded mode (when equipment or functions described in this TSI suffer safety failures) as far as can reasonably be predicted, together with the related acceptable limits and operating conditions of the unit that could be experienced,
- Safety critical components list: The safety critical components list shall contain the specific operational and operational traceability requirements.

The applicant shall provide the initial version of the documentation related to operating rules. This documentation might be modified later in accordance with the corresponding Union legislation, taking into account the existing operating and maintenance conditions of the unit. The Notified Body shall verify only that the documentation on operation is provided.'

2. In chapter 4 'Characterisation of the subsystem', the section 4.5 'Maintenance rules', is replaced by the following:

4.5 Maintenance rules

Maintenance is a set of activities intended to keep a functional unit in, or to restore it to a state in which it can perform its required function.

The following documents being part of the technical file as required in Article 18(3) of and as set out in Annex VI to Directive 2008/57/EC are necessary to undertake maintenance activities on the units:

- general documentation (point 4.5.1),
- the maintenance design justification file (point 4.5.2), and
- the maintenance description file (point 4.5.3).

The applicant shall provide the three documents described in 4.5.1, 4.5.2. and 4.5.3. This documentation might be modified later in accordance with the corresponding EU legislation, taking into account the existing

operating and maintenance conditions of the unit. The Notified Body shall verify only that the documentation on maintenance is provided.

The three documents are provided immediately to the entity in charge of maintenance assigned for the maintenance of the unit by the applicant or by any entity authorised by the applicant (e.g. a keeper).

On the basis of these three documents, the entity in charge of maintenance shall define a maintenance plan and appropriate maintenance requirements at maintenance operational level under its sole responsibility (not in the scope of the assessment against this TSI).

The safety critical components and their specific servicing, maintenance and maintenance traceability requirements are identified by the designers/manufacturers at design phase and through a collaboration between designers/manufacturers and the concerned entities in charge of maintenance after vehicles have entered into operation.

4.5.1 General documentation

The general documentation comprises of:

- Drawings and description of the unit and its components.
- Any legal requirement concerning the maintenance of the unit.
- Drawing of systems (electrical, pneumatic, hydraulic and control-circuit diagrams).
- Additional on-board systems (description of the systems including description of functionality, specification of interfaces and data processing and protocols).
- Configuration files for each vehicle (parts list and bill of material) to enable (in particular but not only) traceability during maintenance activities.

4.5.2 Maintenance design justification file

The maintenance design justification file explains how maintenance activities are defined and designed in order to ensure that the rolling stock characteristics will be kept within permissible limits of use during its lifetime. The file shall give input data in order to determine the criteria for inspection and the periodicity of maintenance activities. The maintenance design justification file consists of:

- Precedents, principles and methods used to design the maintenance of the unit.
- Precedents, principles and methods used to identify the safety critical components and their specific operational, servicing, maintenance and traceability requirements.
- Limits of the normal use of the unit (e.g. km/month, climatic limits, foreseen types of loads, etc.).
- Relevant data used to design the maintenance and origin of these data (return of experience).
- Tests, investigations and calculations carried out to design the maintenance.

4.5.3 Maintenance description file

The maintenance description file describes how maintenance activities can be conducted. Maintenance activities include, among others, inspections, monitoring, tests, measurements, replacements, adjustments and repairs.

Maintenance activities are split into:

- preventive maintenance (scheduled and controlled), and
- corrective maintenance.

The maintenance description file includes the following:

- Component hierarchy and functional description which sets up the boundaries of the rolling stock by listing all the items belonging to the product structure of that rolling stock and using an appropriate number of discrete levels. The lowest item of the hierarchy shall be a replaceable component.
- Parts list which shall contain the technical and functional descriptions of the spare parts (replaceable units). The list shall include all parts specified for changing based on condition, which may require a replacement following electrical or mechanical malfunction or which will foreseeable require a replacement after an accidental damage. Interoperability constituents shall be indicated and referenced to their corresponding declaration of conformity.
- Safety critical components list: The safety critical components list shall contain the specific servicing, maintenance and servicing/maintenance traceability requirements.
- Limit values for components which are not to be exceeded in service. It is permitted to specify operational restrictions in degraded mode (limit value reached).
- List of reference to the European legal obligations to which components or subsystems are subject.
- Maintenance plan ⁽¹⁾ i.e. the structured set of tasks to perform the maintenance including the activities, procedures and means. The description of this set of tasks includes:
 - (a) Disassembly/assembly instructions drawings necessary for correct assembly/disassembly of replaceable parts.
 - (b) Maintenance criteria.
 - (c) Checks and tests in particular of safety relevant parts; these include visual inspection and non-destructive tests (where appropriate e.g. to detect deficiencies that may impair safety).
 - (d) Tools and materials required to undertake the task.
 - (e) Consumables required to undertake the task.
 - (f) Personal protective safety provision and equipment.
- Necessary tests and procedures to be undertaken after each maintenance operation before re-entry into service of rolling stock.'

3. In chapter 4 'Characterisation of the subsystem', a new section 4.9 'Route compatibility checks before the use of authorised vehicles' is added as follows:

'4.9 Route compatibility checks before the use of authorised vehicles

The parameters of the subsystem 'rolling stock — freight wagons' to be used by the railway undertaking, for the purpose of route compatibility check, are described in Appendix D1 of Commission Decision 2012/757/EU ⁽²⁾.'

4. In chapter 7 'Implementation', section 7.2 'Substitution, renewal and upgrading', is replaced by the following:

'7.2 General rules for implementation

7.2.1 Substitution of constituents

This section deals with substitutions of constituents as referred to in Article 2 of Directive (EU) 2016/797. The following categories have to be considered:

⁽¹⁾ The maintenance plan shall take into accounts the findings of the ERA Task force on Freight Maintenance (see 'Final report on the activities of the Task Force Freight Wagon Maintenance' published on the ERA website <http://www.era.europa.eu>).

⁽²⁾ OJ L 345, 15.12.2012, p. 1.

- Certified ICs: Components which correspond to an IC in Chapter 5 and which are holding a certificate of conformity.
- Other components: Any component, which is not corresponding to an IC in Chapter 5.
- Non-certified ICs: Components which correspond to an IC in Chapter 5 but are not holding a certificate of conformity and which are produced before the expiry of the transitional period referred to in Section 6.3.

Table 11 shows the possible permutations.

Table 11
Substitution permutation table

	... substituted by ...		
	... certified ICs	... other components	... non-certified ICs
Certified ICs ...	Check	not possible	check
Other components ...	not possible	check	not possible
Non-certified ICs ...	Check	not possible	check

The word ‘check’ in Table 11 means that the entity in charge of maintenance (ECM) may under its responsibility substitute a component by another one utilising the same function and performance in accordance with the relevant TSI requirements considering that these components are:

- suitable, i.e. conform to the relevant TSI(s),
- used within its area of use,
- enabling interoperability,
- meeting the essential requirements, and
- in line with restrictions stated in the technical file.

7.2.2 Changes to an existing unit or to an existing unit type

7.2.2.1 Introduction

This point 7.2.2 defines the principles to be applied by the applicants and authorising entities in line with the EC verification procedure described in Article 15(9), Article 21(12) and Annex IV of Directive (EU) 2016/797. This procedure is further developed in Article 13, 15 and 16 of Commission Implementing Regulation (EU) 2018/545 and in Decision 2010/713/EC.

This point 7.2.2 applies in case of any change(s) to an existing unit or unit type, including renewal or upgrade. It does not apply in case of changes covered by Article 15(1)(a) of Commission Implementing Regulation (EU) 2018/545.

7.2.2.2 Rules to manage changes in both a unit or a unit type

Parts and basic parameters of the unit that are not affected by the change(s) are exempt from conformity assessment against the provisions in this TSI.

A new assessment against the requirements of this TSI or the TSI Noise (Commission Regulation No 1304/2014 ⁽³⁾) shall only be needed for the basic parameters in this TSI which may be affected by the change(s).

For requirements specified in the TSI Noise see also clause 7.2 of that TSI.

National migration strategies related to the implementation of other TSIs (e.g. TSIs covering fixed installations) shall be taken into account when defining to what extent the TSIs covering rolling stock needs to be applied.

In accordance with Articles 15 and 16 of Commission Implementing Regulation (EU) 2018/545 and Decision 2010/713/EU and by application of modules SB, SD/SF or SH1 for the EC verification, and if relevant Article 15(5) of Directive (EU) 2016/797, the applicant shall inform a notified body of all changes affecting the conformity of the subsystem with the requirements of the relevant TSI(s) requiring new checks. This information shall be provided by the applicant with corresponding references to the technical documentation relating to the existing EC type or design examination certificate.

The changes impacting the basic design characteristics of the rolling stock are defined in Table 11a. These changes shall be classified as 15(1)(c) or 15(1)(d) of Commission Implementing Regulation (EU) 2018/545.

Changes not referred to in the paragraph above are deemed not to have any impact on the basic design characteristics and will be classified as 15(1)(a) or 15(1)(b) of Commission Implementing Regulation (EU) 2018/545.

Note: The classification of the changes set out in the two paragraphs above is performed by the applicant without prejudice of the safety judgement mandated in Article 21(12)(b) of Directive (EU) 2016/797.

All changes shall remain compliant with the applicable TSIs regardless its classification.

The replacement of a whole element within a rake of permanently connected elements (e.g. a replacement after a severe damage) does not require a conformity assessment against this TSI, as long as the element is identical to the one it replaces. Such element must be traceable and certified in accordance with any national or international rule, or any code of practice widely acknowledged in the railway domain.

Table 11a

Basic design characteristics related to basic parameters set out in the WAG TSI

1. TSI clause	2. Related basic design characteristic(s)	3. Changes impacting the basic design characteristic and not classified as 21(12)(a) of Directive (EU) 2016/797	4. Changes impacting the basic design characteristic and classified as 21(12)(a) of Directive (EU) 2016/797
4.2.2.1.1 End coupling	Type of end coupling	Change of end coupler type	N/A
4.2.3.1 Gauging	Reference profile	N/A	Change of reference profile the vehicle is conform to

⁽³⁾ OJ L 356, 12.12.2014, p. 421.

4.2.3.2. Compatibility with load carrying capacity of lines	Permissible payload for different line categories	Change of any of the vertical loading characteristics resulting in a change of the line category(ies) the vehicle is compatible with in accordance with EN 15528:2015 or the equivalent rule used for its line categorisation	N/A
4.2.3.3 Compatibility with train detection systems	Compatibility with train detection systems	N/A	Change of compatibility with one or more of the three train detection systems: — Track circuits — Axle counters — Loop equipment
4.2.3.4 Axle bearing condition monitoring	On-board detection system	Fitting on-board detection system	Removal of on-board detection system
4.2.3.5 Running safety	Combination of maximum speed and maximum cant deficiency for which the unit was assessed	Increase in maximum speed of more than 15 km/h	Increase in maximum speed of more than 20 km/h or change of more than $\pm 10\%$ in maximum admissible cant deficiency
4.2.3.6.2 Characteristics of wheelsets	Wheelset gauge	N/A	Change of track gauge the wheelset is compatible with
4.2.3.6.3 Characteristics of wheels	Minimum required in-service wheel diameter	Change of minimum required in-service diameter of more than 10 mm	N/A
4.2.3.6.6 Variable gauge wheelsets	Wheelset gauge changeover facility	Change in the vehicle leading to a change in the changeover facility(ies) the wheelset is compatible with	Change of track gauge(s) the wheelset is compatible with
4.2.3.6.7 Running gear for manual change of wheelsets	Wheelset gauge	N/A	Change of track gauge(s) the wheelset is compatible with

4.2.4.3.2.1	Service brake	Stopping distance	Change of stopping distance of more than $\pm 10\%$	N/A
		Maximum deceleration for the load condition 'maximum speed under normal payload at the maximum design speed	Change of more than $\pm 10\%$ on the maximum average brake deceleration	N/A
4.2.4.3.2.2	Parking brake	Parking brake	Parking brake function installed/removed	N/A
4.2.4.3.3	Thermal capacity	Thermal capacity expressed in terms of — Speed — Gradient — Brake distance	N/A	New reference case declared
4.2.4.3.4	Wheel slide protection (WSP)	Wheel slide protection	Fitting/removal of WSP function	N/A
4.2.5	Environmental conditions	Temperature range	Change of temperature range (T1, T2, T3)	N/A

In order to establish the EC type or design examination certificate, the notified body is permitted to refer to:

- The original EC type or design examination certificate for parts of the design that are unchanged or those that are changed but do not affect the conformity of the subsystem, as far as it is still valid (during 10 years phase B period).
- Additional EC type or design examination certificate (amending the original certificate) for modified parts of the design that affect the conformity of the subsystem with the latest revision of this TSI in force at that time.

In any case, the applicant shall ensure that the technical documentation which is relating to the EC type or design examination certificate is updated accordingly.

The updated technical documentation, related to the EC type or design examination certificate is referred to in the technical file accompanying the EC declaration of verification issued by the applicant for rolling stock declared as conformant to the modified type.

7.2.2.3 Particular rules for existing units not covered by an EC declaration of verification

The following rules apply to existing units which are either not covered by an EC declaration of verification, or are covered partially by an EC declaration of verification but the scope of the change has an impact on basic parameters not covered by the EC declaration.

The changes classified as 15(1)(d) of Commission Implementing Regulation (EU) 2018/545 shall be accepted by the Member State(s) within one month if a basic parameter is improved in the direction of the TSI defined performance. In this case, the applicant shall demonstrate that the corresponding essential requirements are

respected and the safety level is maintained or improved by means of the procedure set out in Article 13 of Commission Implementing Regulation (EU) 2018/545.

In case of vehicles not covered by an EC type or design examination certificate, the original technical documentation will be used instead of the Technical file accompanying the original EC type or design examination certificate.

7.2.3 Rules related to the EC type or design examination certificates

7.2.3.1 Rolling stock subsystem

This point concerns a rolling stock type (unit type in the context of this TSI), as defined in Article 2(26) of Directive (EU) 2016/797, which is subject to an EC type or design verification procedure in accordance with section 6.2 of this TSI. It also applies to the EC type or design verification procedure in accordance with the TSI Noise, which refers to this TSI for its scope of application to freight units.

The TSI assessment basis for an EC type or design examination is defined in columns 'Design review' and 'Type test' of Appendix F of this TSI and of Appendix C of the TSI Noise.

7.2.3.1.1 Phase A

Phase A starts once a notified body, which is responsible for EC verification, is appointed by the applicant and ends when the EC type or design examination certificate is issued.

The TSI assessment basis for a type is defined for a phase A period, with a duration of maximum four years. During the phase A period the assessment basis for EC verification to be used by the notified body is considered to be fixed.

When a revised version of this TSI or of the TSI Noise comes into force during the phase A period, it is permissible (but not mandatory) to use the revised version(s), either totally or for particular sections, unless explicitly otherwise specified in the revision of these TSIs. In case of application limited to particular sections, the applicant has to justify and document that applicable requirements remain consistent, and this has to be approved by the notified body.

7.2.3.1.2 Phase B

The phase B period defines the period of validity of the EC type or design examination certificate once it is issued by the notified body. During this time, units may be EC certified on the basis of conformity to type.

The EC type or design examination certificate of EC verification for the subsystem is valid for a ten-year phase B period after its issue date, even if a revision of this TSI or of the TSI Noise come into force, unless explicitly otherwise specified in the revision of these TSIs. During this period of validity, new rolling stock of the same type is permitted to be placed in service on the basis of an EC declaration of verification referring to the type certificate of verification.

The updated technical documentation related to the EC type or design examination certificate is referred to in the technical file accompanying the EC declaration of verification issued by the applicant for rolling stock declared as conformant to the modified type.

7.2.3.2 Interoperability constituents

This point concerns interoperability constituents which are subject to EC type examination (module CB), design examination (module CH1) or to suitability for use (module CV) in accordance with section 6.1 of this TSI.

The EC type or design examination or suitability for use certificate is valid for a ten-year period. During this time, new constituents of the same type are permitted to be placed into service without a new type assessment, unless explicitly otherwise specified in the revision of this TSI. Before the end of the ten-year

period, the constituent shall be assessed according to the latest revision of this TSI in force at that time, for those requirements that have changed or are new in comparison to the certification basis.'

5. In chapter 7 'Implementation', the following point 7.3.2.8 is added:

'7.3.2.8. Rules to manage changes in both rolling stock and rolling stock type (7.2.2.2)

Specific case the United Kingdom (Great Britain)

('P') Any change to a vehicle swept envelope as defined in the national technical rules notified for the gauging process (for example as described in RIS-2773-RST) will result in a new version.'