
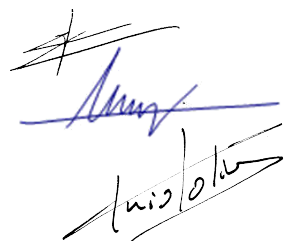



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## Clarification note

### *Authorisation of vehicles equipped with CCS train protection part according to set of specifications #1 (Baseline 2) after 31/12/2020*

	<i>Drafted by</i>	<i>Validated by</i>	<i>Approved by</i>
<i>Name</i>	O. REBOLLO J. HERNÁNDEZ	T. BREYNE I. MÉNDEZ P. GUIDO	J. DOPPELBAUER
<i>Position</i>	Project Officer	Team Leader Head of Unit	Executive Director
<i>Date</i>	18/02/2021	18/02/2021	18/02/2021
<i>Signature</i>			

#### *Document History*

<i>Version</i>	<i>Date</i>	<i>Comments</i>
1.0	18/02/2021	First Edition

*The purpose of this document is to provide applicants and other external stakeholders of the vehicle authorisation business with information in regards to the specific topic referenced in the title. The clarifications contained in this document may be integrated in the next revision of the guidelines for the practical arrangements for the vehicle authorisation process, without prejudice of the formal process foreseen for updating the guideline.*

*The present document is a non-legally binding guidance of the European Union Agency for Railways. It is without prejudice to the decision-making processes foreseen by the applicable EU legislation. Furthermore, a binding interpretation of EU law is the sole competence of the Court of Justice of the European Union.*

## 1. Description of the issue

The TSI CCS forbids the use of the set of specifications #1 (ETCS Baseline 2) for its implementation on an ETCS on-board equipment (Interoperability constituent #1) integrated in a CCS on-board subsystem, defining a transition period (ending 31/12/2020) beyond which the set of specifications #1 (ETCS Baseline 2) is not anymore applicable for on-board subsystems.

While the TSI CCS objective is clear (i.e. to forbid the use of set of specifications #1 (ETCS Baseline 2) beyond a date), the interpretation in the frame of the vehicle authorization process and the different authorization cases defined in the Regulation 2018/545 may be subject to different interpretations, as if whether the requirements to implement set #2 or #3 applies only to new vehicles/ERTMS installations or also to other works triggering reauthorisation.

## 2. Line to take

According to Agency's Advice 2017/3 if there is no need for new authorisation the applicable TSI corresponds to the one used for the original certification. In case there is a need for new authorisation, in accordance with Interoperability Directive (EU) 2016/797 Article 4 (2), applicable TSI corresponds to the latest TSI. The CCS TSI Regulation (EU) 2016/919 in its latest amendment indicates in Annex A specifications *"For the on-board subsystem either Table A 2.2 or Table A 2.3 shall be applied, after the transition period defined in 7.4.2.3"* (i.e. 31/12/2020).

Therefore, any vehicle newly built or for an existing vehicle, installing for the first time ETCS or upgrading or renewing an existing ETCS installation, after 31/12/2020 shall not be authorized if the ETCS on-board equipment implements set of specifications #1 (ETCS Baseline 2). This applies for all authorization cases defined in article 14 of Regulation 2018/545.

Concretely, for any vehicle authorization application submitted through OSS and for the abovementioned cases, the Agency, acting as authorizing entity, shall:

- Refuse the "First authorization" and "First authorization with a request for authorisation in conformity to type" applications submitted.
- Refuse the "Renewed vehicle type authorization" applications submitted if the scope of the change is related to ETCS. If the change is due to other scope than ETCS the authorization request is admissible.
- Accept the "Extended area of use" applications submitted if the applicant is able to demonstrate that there is no design change on the ETCS on-board. Failing to do so will trigger the refusal of the application.
- Refuse the "New authorisation" and "New authorisation with a request for an authorisation for an extended area of use" applications submitted if the scope of the change is related to ETCS.
- Refuse the "Authorization in conformity to type" applications submitted if the scope of the change is related to ETCS and the works on the vehicle are undertaken after 31/12/2020.

In any case, the application may be accepted if the applicant provides a non-application (Interoperability Directive - article 7) granted for the relevant requirements of the TSI CCS and for the scope of this clarification note.

### 3. Legal background

Explanation/summary of the main elements of the legal background impacting the issue and the proposed clarifications and lines to take.

#### a) Directive (EU) 2016/797

##### › Article 4 (2)

*“Vehicles shall comply with TSIs and national rules in force at the time of the request for authorisation of placing on the market in accordance with this Directive and without prejudice to point (f) of paragraph 3.”*

#### b) Regulation (EU) 2016/919

##### › Article 2. Scope

*“1. The TSI shall apply to all new, upgraded or renewed ‘trackside control-command and signalling’ and ‘on-board control-command and signalling subsystems of the rail system as defined in points 2.3 and 2.4 of Annex II to Directive (EU) 2016/797 of the European Parliament and of the Council (1). Section 7.2.1a of the Annex shall apply to all changes to an existing On-Board subsystem.*

*2. The TSI shall not apply to existing ‘trackside control-command and signalling’ and ‘on-board control-command and signalling’ subsystems of the rail system already placed in service on all or part of any Member State’s railway network on the day this Regulation enters into force , except when*

*(a) the subsystem is subject to renewal or upgrading in accordance with Section 7 of the Annex to this Regulation; or*

*(b) the area of use is extended in accordance with Article 54(3) of Directive (EU) 2016/797, in which case the provisions of Section 7.4.2.4 of the Annex to this Regulation shall apply<sup>1</sup>. Text of the article.”*

##### › 7.2.1a Changes to an existing On-Board subsystem

*“This point defines the principles to be applied by the entities managing the change 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) 2018/5451 and in Commission Decision 2010/713/EC2.*

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

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<sup>1</sup> Commission Implementing Regulation (EU) 2018/545 of 4 April 2018 establishing practical arrangements for the railway vehicle authorisation and railway vehicle type authorisation process pursuant to Directive (EU) 2016/797 of the European Parliament and of the Council (OJ L 90, 6.4.2018, p. 66).

<sup>2</sup> Commission Decision 2010/713/EU of 9 November 2010 on modules for the procedures for assessment of conformity, suitability for use and EC verification to be used in the technical specifications for interoperability adopted under Directive 2008/57/EC of the European Parliament and of the Council (OJ L 319, 4.12.2010, p. 1).

› 7.2.1a.1 Rules to manage changes in on-board CCS subsystems

*“1. Parts, as defined in Table 4.1 of this TSI, and basic parameters of the on-board subsystem that are not affected by the change(s) are exempt from conformity assessment against the provisions in this TSI. The list of parts and basic parameters affected by the change is to be provided by the entity managing the change.*

*2. A new assessment against the requirements of the applicable TSI shall only be needed for the basic parameters which may be affected by the change(s).*

*3. The entity managing the change 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, in accordance with Articles 15 and 16 of 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. This information shall be provided by the entity managing the change with corresponding references to the technical documentation relating to the existing EC certificate.*

*4. The entity managing the change has to justify and document that applicable requirements remain consistent at subsystem level, and this has to be assessed by a Notified Body.*

*5. The changes impacting the Basic Design Characteristics of the on-board subsystem are defined in Table 7.1 Basic Design Characteristics and shall be classified as 15(1)(c) or 15(1)(d) of Implementing Regulation (EU) 2018/545, and in accordance with Table 7.1 Basic Design Characteristics changes not impacting but related to the Basic Design Characteristics shall be classified by the entity managing the change as 15(1)(b) of Implementing Regulation (EU) 2018/545.*

*6. Changes not covered by point 7.2.1a.1(5) above are deemed not to have any impact on the basic design characteristics. They will be classified by the entity managing the change as 15(1)(a) or 15(1)(b) of Implementing Regulation (EU) 2018/545.*

*Note: The classification of the changes set out in points 7.2.1a.1(5) and 7.2.1a.1(6) above is performed by the entity managing the change without prejudice of the safety judgement mandated in Article 21(12)(b) of Directive (EU) 2016/797.*

*7. All changes shall remain compliant with the applicable TSIs<sup>3</sup> regardless its classification.*

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<sup>3</sup> According to Agency’s Advice 2017/3 if there is no need for new authorisation the applicable TSI corresponds to the one used for the original certification. In case there is a need for new authorisation applicable TSI corresponds to the latest TSI.

Table 7.1 Basic Design Characteristics

1. TSI Point	2. Related basic design characteristic(s)	3. Changes not impacting the basic design characteristics according to 15(1)(b) of Regulation (EU) 2018/545	4. Changes impacting the basic design characteristic but inside the acceptable range of parameters therefore to be classified as Art 15.1(c) of Regulation (EU) 2018/545	5. Changes impacting the basic design characteristic and outside the acceptable range of parameters therefore to be classified as Art 15.1(d) of Regulation (EU) 2018/545
4.2.2 On-board ETCS functionality	Set of specification of Annex A	Not applicable	Not applicable	Use another Annex A set of specifications
	On-board ETCS implementation	Fulfilling all the conditions in point 7.2.1a.2 (change of realisation)	Not applicable	Not fulfilling all the conditions in point 7.2.1a.2 (Functional change)
	Managing information about the completeness of the train	Not applicable	Adding or removing train integrity supervision	Not applicable
4.2.17.1 ETCS System Compatibility	ETCS System Compatibility	Not applicable	Adding or removing ESC statements, after checking by a NoBo	Not applicable
4.2.4 Mobile communication functions for railways GSM-R	GSM-R Baseline	Use another Baseline fulfilling all the conditions in point 7.2.1a.3.	Not applicable	Use another Baseline not fulfilling all the conditions in point 7.2.1a.3.
4.2.4.2 Voice and operational communication application	Voice and operational communication implementation	Fulfilling all the conditions in point 7.2.1a.3 (change of realisation)	Not applicable	Not fulfilling all the conditions in point 7.2.1a.3 (Functional change)
	SIM Card support of Group ID 555	Not applicable	Change the SIM Card support of Group ID 555	Not applicable
4.2.17.2 Radio System Compatibility	Radio Voice System Compatibility	Not applicable	Adding or removing RSC statements, after checking by a NoBo	Not applicable

1. TSI Point	2. Related basic design characteristic(s)	3. Changes not impacting the basic design characteristics according to 15(1)(b) of Regulation (EU) 2018/545	4. Changes impacting the basic design characteristic but inside the acceptable range of parameters therefore to be classified as Art 15.1(c) of Regulation (EU) 2018/545	5. Changes impacting the basic design characteristic and outside the acceptable range of parameters therefore to be classified as Art 15.1(d) of Regulation (EU) 2018/545
4.2.4 Mobile communication functions for railways GSM-R	GSM-R Baseline	Use another Baseline fulfilling all the conditions in point 7.2.1a.3.	Not applicable	Use another Baseline not fulfilling all the conditions in point 7.2.1a.3.
4.2.4.3 Data communication applications for ETCS	Data communication for ETCS implementation	Fulfilling all the conditions in point 7.2.1a.3 (change of realisation)	Not applicable	Not fulfilling all the conditions in point 7.2.1a.3 (Functional change)
4.2.17.2 Radio System Compatibility	Radio Data System Compatibility	Not applicable	Adding or removing RSC statements , after checking by a NoBo	Not applicable
4.2.4 Mobile communication functions for railways GSM-R 4.2.4.1 Basic communication function	SIM Card GSM-R Home Network	Not applicable	Replacement of a TSI compliant GSM-R SIM Card by another TSI compliant GSM-R SIM Card with a different GSM-R Home Network	Not applicable
4.2.6.1 ETCS and Class B train protection	Class B train protection legacy system	The requirements for Class B system are the responsibility of the relevant Member State.	The requirements for Class B system are the responsibility of the relevant Member State.	Add or remove Class B train protection systems. The requirements for Class B system are the responsibility of the relevant Member State.

1. TSI Point	2. Related basic design characteristic(s)	3. Changes not impacting the basic design characteristics according to 15(1)(b) of Regulation (EU) 2018/545	4. Changes impacting the basic design characteristic but inside the acceptable range of parameters therefore to be classified as Art 15.1(c) of Regulation (EU) 2018/545	5. Changes impacting the basic design characteristic and outside the acceptable range of parameters therefore to be classified as Art 15.1(d) of Regulation (EU) 2018/545
4.2.5.1 Radio communication with the train	Class B radio legacy system	The requirements for Class B system are the responsibility of the relevant Member State.	The requirements for Class B system are the responsibility of the relevant Member State.	Add or remove Class B radio legacy systems.  The requirements for Class B system are the responsibility of the relevant Member State.

8. In order to establish the EC certificate, the Notified Body may refer to:

- The original EC 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.
- Amendments to the original EC certificate for modified parts of the design that affect the conformity of the subsystem with the applicable TSI version used for the EC verification.

9. In any case, the entity managing the change shall ensure that the technical documentation which is relating to the EC certificate is updated accordingly.

10. The updated technical documentation, related to the EC certificate is referred to in the technical file accompanying the EC declaration of verification issued by the entity managing the change for on-board subsystem declared as conformant to the modified type.

11. The 'system identifier' is as a numbering scheme to identify the system version of a CCS subsystem and distinguish between a functional and a realization identifier. The 'functional identifier' is part of the system identifier and means a figure or a number of figures defined by the individual configuration management, which represents a reference of the basic design characteristics for CCS implemented in a CCS subsystem. The 'Realization identifier' is part of the system identifier and means a figure or a number of figures defined by the individual configuration management of a supplier, which represents a specific configuration (e.g. HW and SW) of a CCS subsystem. The 'system identifier', 'functional identifier' and 'realization identifier' shall be defined by each supplier."



› 7.2.1a.2 Conditions for a change in the On-board ETCS functionality that does not impact the basic design characteristics

- “1. The target functionality<sup>4</sup> remains unchanged or is set to the state already expected during the original certification or authorisation.*
- 2. The interfaces relevant for safety & technical compatibility remain unchanged or are set to the state already expected during the original certification or authorisation.*
- 3. The result of the safety judgement (e.g. safety case according to EN 50126) remains unchanged.*
- 4. No new safety related application conditions (SRAC) or interoperability constraints have been added due to the change.*
- 5. An Assessment Body (CSM RA) as specified in point 3.2.1 has independently assessed the applicant’s risk assessment and within it the demonstration that the change does not adversely affect safety. The applicant’s demonstration shall include the evidence that the change actually corrects the causes of the initial deviation of the functionality.*
- 6. The change is performed under a quality management system approved by a notified body (e.g. according to modules CH1, SH1, CD, SD). For other modules (e.g. CF, SF) it shall be justified that the verification performed remains valid<sup>5</sup>.*
- 7. The individual configuration management defines a ‘system identifier’ (as defined in 7.2.1a.1.11) and the functional part has not been changed after the change.*
- 8. The change shall be part of the configuration management required by Article 5 of Regulation (EU) 2018/545.”*

› 7.2.1a.3 Conditions for a change in the on-board mobile communication functions for railways that does not impact the basic design characteristics

- “1. The target functionality<sup>6</sup> remains unchanged or is set to the state already expected during the original certification or authorisation.*
- 2. The interfaces relevant for technical compatibility remain unchanged or are set to the state already expected during the original certification or authorisation*
- 3. The change is performed under a quality management system approved by a notified body (e.g. according to modules CH1, SH1, CD, SD). For other modules (e.g. CF, SF) it shall be justified that the verification performed remains valid<sup>7</sup>.*

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<sup>4</sup> Target functionality refers to the ETCS functionality that has been evaluated in the subsystem EC certificate. The Technical Opinions published by the Agency that correct errors in the TSI are considered to define the functionality state already expected during the original certification or authorisation.

<sup>5</sup> All activities required for a modification which are performed outside a quality management system approved by a notified body might require additional examinations or tests by the notified body.

<sup>6</sup> Target functionality refers to the mobile communication functionality that has been evaluated in the subsystem EC certificate. The Technical Opinions published by the Agency that correct errors in the TSI are considered to define the functionality state already expected during the original certification or authorisation.

<sup>7</sup> All activities required for a modification which are performed outside a quality management system approved by a notified body might require additional examinations or tests by the notified body.



4. The change shall be part of the configuration management required by Article 5 of the Regulation (EU) 2018/545.”

› 7.4.2 On-board installations

› 7.4.2.1 New vehicles

“(1) In order to be placed on the market in accordance with Article 21 of Directive (EU) 2016/797, new vehicles including vehicles authorised in conformity to a type, shall be equipped with ETCS in accordance with Annex A of this TSI and shall comply with set of specifications #2 or #3 referred to in Table A 2 of Annex A<sup>8</sup>.

(2) The requirement to be equipped with ETCS does not apply to:

- 1) new mobile railway infrastructure construction and maintenance equipment;
- 2) new shunting locomotives;
- 3) other new vehicles not intended for operating on high-speed lines;
  - a) if they are intended exclusively for national service operated outside the corridors defined in point Annex I of Implementing Regulation (EU) 2017/6 and outside the lines ensuring the connections to the main European ports, marshalling yards, freight terminals and freight transport areas defined in Article 2(1) of Implementing Regulation (EU) 2017/6; or
  - b) if they are intended for off-TEN cross-border service, i.e., service until the first station in the neighbouring country or to the first station where there are connections further in the neighbouring country utilising only lines outside of the TEN.

(3) All vehicle type authorisations granted based on conformity to set of specifications #1 referred to in Table A 2 of Annex A of this TSI shall not remain valid for authorising new vehicles in conformity to those vehicle types (without prejudice to the application of 7.4.2.3). All vehicles already authorised according to those vehicle types are not affected.”

› 7.4.2.2 Upgrading and renewal of existing vehicles

“It is mandatory to fit ETCS on-board existing vehicles if installing any new train protection part of a control-command and signalling on-board subsystem on existing high-speed vehicles.”

› 7.4.2.3 Application of the TSI requirements for new vehicles during a transition phase

“1. Some projects or contracts, which started before the date of application of this TSI, may lead to apply for an authorisation to put on the market<sup>9</sup> of new vehicles equipped with ETCS complying with specification #1 referred to in Table A 2.1 of Annex A of this TSI, and which do not fully comply with Section 7.4.2.1 of this TSI. For vehicles concerned by those projects or contracts, and in accordance with point (f) of Article 4(3) of Directive (EU) 2016/797, a transition phase is defined, during which the application of Section 7.4.2.1 of this TSI is not mandatory.

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<sup>8</sup> Or placed into service in accordance with Directive 2008/57, if Directive 2016/797 is not yet applicable

<sup>9</sup> Or placed into service in accordance with Directive 2008/57, if Directive 2016/797 is not yet applicable

2. *This transition phase applies to new vehicles authorised in conformity to a vehicle type<sup>10</sup> authorised before 1 January 2019 in any Member State on the basis of conformity to set of specifications #1 referred to in Table A 2 of Annex A of this TSI up to December 31 2020.*

3. *The transition phase is:*

(a) *up to December 31 2020: In order to be placed on the market<sup>11</sup> in accordance with Article 21 of Directive 2016/797/EC, those new vehicles referred under 2 shall be equipped with ETCS in accordance with set of specifications #1, #2 or #3 referred to in Table A 2 of Annex A of this TSI.*

(b) *If set of specification #1 is used, a condition for use shall be included in their authorisation to put on the market<sup>12</sup> enforcing compliance with set specifications #2 or #3 within a period of time not exceeding 1 July 2023.”*

› 7.4.2.4 Rules for the extension of the area of use for existing vehicle

*“The following rules apply to existing vehicles in operation and registered in the National Vehicle Register in accordance with Commission Decision 2007/756/EC<sup>13</sup>, or in the European Vehicle Register in accordance with Commission Implementing Decision (EU) 2018/1614<sup>14</sup>, when requesting an extension of the area of use:*

(1) *Vehicles shall comply with relevant special provisions applicable in the specific cases referred to in clause 7.6 of this Annex and with relevant national rules referred to in points (a), (c) and (d) of Article 13(2) of Directive (EU) 2016/797 notified in accordance with Article 14 of that Directive. In addition, in cases of partial fulfilment of the requirements in this TSI, provisions in point 6.1.1.3(3) shall apply.*

(2) *Vehicles already equipped with ETCS or GSM-R do not need to be upgraded, except where required for technical compatibility.*

(3) *Vehicles that are not already equipped with ETCS shall install ETCS and comply with sets of specifications #2 or #3 referred to in Tables A 2.2 and A 2.3 of Annex A. Except where required for technical compatibility, the requirement to be equipped with ETCS shall not apply to:*

(a) *vehicles not specially designed for operation on high-speed lines<sup>15</sup>, if authorised before 1 January 2015 ;*

(b) *vehicles not specially designed for operation on high-speed lines, authorised as of 1 January 2015, in either of the following situations:*

<sup>10</sup> Variants or versions of a vehicle type are considered to be authorised in conformity to an existing authorised type. Where the regime of Directive 2008/57 applies, changes which would give rise to variants or versions of a vehicle type under Implementing Regulation 2018/545 are also considered to be based upon an existing authorised type.

<sup>11</sup> Or placed into service in accordance with Directive 2008/57, if Directive 2016/797 is not yet applicable

<sup>12</sup> Or placed into service in accordance with Directive 2008/57, if Directive 2016/797 is not yet applicable

<sup>13</sup> Commission Decision 2007/756/EC of 9 November 2007 adopting a common specification of the national vehicle register provided for under Articles 14(4) and (5) of Directives 96/48/EC and 2001/16/EC (OJ L 305, 23.11.2007, p. 30)

<sup>14</sup> Commission Implementing Decision (EU) 2018/1614 of 25 October 2018 laying down specifications for the vehicle registers referred to in Article 47 of Directive (EU) 2016/797 of the European Parliament and of the Council and amending and repealing Commission Decision 2007/756/EC (OJ L 268, 26.10.2018, p. 53).

<sup>15</sup> As set out in Annex I of Directive (EU) 2016/797.

(i) if they are intended exclusively for operations in one Member State outside the corridors specified in Annex I to Implementing Regulation (EU) 2017/6 and outside the lines ensuring the connections to the main European ports, marshalling yards, freight terminals and freight transport areas as referred to in Annex II to Regulation (EU) No 1315/2013;

(ii) if they are intended for off-TEN cross-border service, namely service until the first station in the neighbouring country or to the first station where there are connections further in the neighbouring country utilising only lines outside of the TEN;

(c) vehicles in Member States applying Article 7.4.3(2), where the area of the use following the Extension of Area of Use is exclusively within the same Member State, except when the area of use following the Extension of Area of Use includes more than 150 km of a section equipped with ETCS at the time of the Extension of Area of Use or to be equipped with ETCS within 5 years after the Extension of the Area of Use of those vehicles;

(d) mobile railway infrastructure construction and maintenance equipment;

(e) shunting locomotives.

(4) Vehicles that are not yet equipped with GSM-R voice radio shall install GSM-R voice cab radio and comply with the specifications referred to in Tables A 2.1, A 2.2 and A 2.3 of Annex A when the vehicle is intended for use on a network including at least one point equipped with GSM-R, except if superimposed to a legacy radio communication system compatible with the class B already installed in the vehicle.

(5) Vehicles that are not yet equipped with GSM-R for ETCS data shall install GSM-R ETCS Data only Radio and comply with the specifications referred to in Tables A 2.1, A 2.2 and A 2.3 of Annex A when the vehicle is required to install ETCS in accordance with point 3 and it is intended to operate in a network in the extended area of use that is equipped with only ETCS Level 2 or 3.

(6) Where an authorised vehicle benefited from non-application of TSIs or part of them pursuant to Article 9 of Directive 2008/57/EC, the applicant shall seek derogation(s) in the Member States of the extended area of use in accordance to Article 7 of Directive (EU) 2016/797.

#### › Annex A Specifications

“One of the three tables in Table A 2 (Table A 2.1, Table A 2.2, Table A 2.3) of this Annex shall be applied for the trackside subsystem. For the on-board subsystem either Table A 2.2 or Table A 2.3 shall be applied, after the transition period defined in 7.4.2.3.

When a document listed in Table A 2 incorporates, by copying or by reference to, a clearly identified point of another document, this point, and only this, shall be considered a part of the document listed in Table A 2.

For the purposes of this TSI, when a document listed in Table A 2 makes a ‘mandatory’ or ‘normative’ reference to a document not listed in Table A 2, the referenced document shall always be understood as an acceptable means of compliance with basic parameters (that can be used for certification of Interoperability Constituents and Subsystems and not requiring future revisions of the TSI) and not as a mandatory specification.

Note: specifications indicated as ‘Reserved’ in Table A 2 are also listed as open points in Annex G when there is a need for notification of national rules to close the corresponding open points. Reserved documents not listed as open points are intended as improvements to the system.”