

DECISIONS

COMMISSION DECISION (EU) 2015/14

of 5 January 2015

amending Decision 2012/88/EU on the technical specification for interoperability relating to the control-command and signalling subsystems of the trans-European rail system

(notified under document C(2014) 9909)

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to 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 ⁽¹⁾, and in particular Article 6 thereof,

Whereas:

- (1) With Decision C(2010) 2576 ⁽²⁾, the Commission gave the European Railway Agency (the Agency) a mandate to develop and review the technical specifications for interoperability (TSI) with a view to extending their scope to the entire rail system in the Union in accordance with Article 1(4) of Directive 2008/57/EC. On 10 January 2013 the Agency submitted its recommendation amending the TSI relating to the control-command and signalling subsystems of the trans-European rail system.
- (2) According to Article 8(4) of Directive 2008/57/EC on TSI scope extension, a Member State should not apply the revised TSI in the case of projects at an advanced stage of development or subject to a contract in the course of performance, which was out of the scope of the previous TSI.
- (3) The revised control-command and signalling TSI (CCS TSI) should apply to networks with 1 435 mm, 1 520 mm, 1 524 mm, 1 600 mm, and 1 668 mm nominal track gauge. This would provide interoperability within one-track-gauge systems and make it possible to develop and operate vehicles for multiple metric gauges. It would also make it possible to develop and use control-command and signalling subsystems and interoperability constituents independently of the track gauge. A high percentage of vehicles run both on the trans-European rail network and on the off-TEN rail network. The parameters of the on-board and the track-side control-command and signalling subsystems should therefore be the same for the whole network.
- (4) Certain open points related to the compatibility of train detection systems may be closed, taking into account requirements for different track gauges (specification referenced as Index 77 in Annex A). The open point related to safety requirements for ETCS Driver-Machine Interface (DMI) function may be closed and progress have been made to clarify the open point on 'reliability/availability'.
- (5) The provisions on assessment of interoperability constituents and subsystems, in the case where requirements are partially fulfilled, need to be clarified.
- (6) In its role of system authority for the European Rail Traffic Management System (ERTMS), the Agency has prepared an update of the mandatory ERTMS specifications referenced in Annex A to the CCS TSI. Until the time the specifications related to train interface (FFFIS — Form Fit Functional Interface Specification) have reached, at both sides of the interface, a level of consensus among all stakeholders to be considered as mandatory, the Agency should refer to them in the application guide so that they can be used in call for tenders.

⁽¹⁾ OJ L 191, 18.7.2008, p. 1.

⁽²⁾ Commission Decision C(2010) 2576 final of 29 April 2010 concerning a mandate to the European Railway Agency to develop and review Technical Specifications for Interoperability with a view to extending their scope to the whole rail system in the European Union.

- (7) The Agency should publish tests specifications related to baseline 3 as soon as possible.
- (8) Errors have been detected in the text of Commission Decision 2012/88/EU ⁽¹⁾ and need to be corrected.
- (9) The availability and quality of the GSM-R signals is essential for railway operations.
- (10) GSM-R roaming to public networks is an optional function. If it is used in a Member State, its implementation should be indicated in line number 1.1.1.3.3.3 of the register of railway infrastructure in accordance with Commission Implementing Decision 2014/880/EU ⁽²⁾.
- (11) The measures provided for in this Decision are in conformity with the opinion of the Committee established in accordance with Article 29(1) of Directive 2008/57/EC,

HAS ADOPTED THIS DECISION:

Article 1

Decision 2012/88/EU is amended as follows:

- (1) the title is replaced by the following: '**Commission Decision 2012/88/EU of 25 January 2012 on the technical specification for interoperability relating to the control-command and signalling subsystems**';
- (2) Annex III is amended as follows:

- (a) the following text is added at the end of section 1.1:

'This TSI is applicable to control-command and signalling track-side Subsystems of the rail network defined in the section 1.2 (Geographical scope) of this TSI and to the control-command and signalling on-board subsystems of vehicles which are (or are intended to be) operated on it. These vehicles are of one of the following types (as defined in Annex I sections 1.2 and 2.2 to Directive 2008/57/EC):

- (1) self-propelling thermal or electric trains;
- (2) thermal or electric traction units;
- (3) passenger carriages, if equipped with a driving cab;
- (4) mobile railway infrastructure construction and maintenance equipment, if equipped with a driving cab and intended to be used in transport mode on its own wheels.;

- (b) the text of section 1.2 is replaced by the following:

'the geographical scope of this TSI is the network of the whole rail system, composed of:

- (1) the trans-European conventional rail system network (TEN) as described in Annex I section 1.1 "Network" to Directive 2008/57/EC;
- (2) the trans-European high-speed rail system network (TEN) as described in Annex I section 2.1 "Network" to Directive 2008/57/EC;
- (3) other parts of the network of the whole rail system, following the extension of scope as described in Annex I section 4 to Directive 2008/57/EC;

and excludes the cases referred to in Article 1(3) of Directive 2008/57/EC.

The TSI shall apply to networks with 1 435 mm, 1 520 mm, 1 524 mm, 1 600 mm and 1 668 mm track gauges. However, it shall not apply to short border crossing lines with 1 520 mm track gauges that are connected to the network of third countries;

- (c) the text of the fifth paragraph of section 2.2 is replaced by the following:

'Class B systems for the trans-European rail system network are a limited set of legacy control-command and signalling systems that were in use in the trans-European rail network before 20 April 2001.

⁽¹⁾ Commission Decision 2012/88/EU of 25 January 2012 on the technical specification for interoperability relating to the control-command and signalling subsystems of the trans-European rail system (OJ L 51, 23.2.2012, p. 1).

⁽²⁾ Commission Implementing Decision 2014/880/EU of 26 November 2014 on the common specifications of the register of railway infrastructure and repealing Implementing Decision 2011/633/EU (OJ L 356, 12.12.2014, p. 489).

Class B systems for other parts of the network of the rail system in the European Union are a limited set of legacy control-command and signalling systems that were in use in that networks before 1 July 2015.

The list of Class B systems is established in the European Railway Agency technical documents "List of CCS Class B systems", ERA/TD/2011-11, version 2.0';

- (d) in the table of section 4.1, '4.2.1' is added to the basic parameters related to control-command and signalling track-side subsystem, part train protection and '4.2.1.2' is added to the basic parameters related to control-command and signalling on-board subsystem, part radio communication, and to control-command and signalling track-side subsystem, part radio communication;
- (e) the text of section 4.2.1.2 is replaced by the following text:

'4.2.1.2. Availability/Reliability

This section refers to the occurrence of failure modes not causing safety hazards but creating degraded situations, the management of which could decrease the overall safety of the system.

In the context of this parameter, "failure" means the termination of the ability of an item to perform a required function with the required performance and "failure mode" means the effect by which the failure is observed.

To ensure that the relevant infrastructure managers and railway undertakings are given all the information they need to define appropriate procedures for managing degraded situations, the technical file accompanying the EC declaration of verification for an on-board or track-side CCS subsystem shall contain the calculated availability/reliability values related to failure modes having an impact on the capability of the CCS subsystem to supervise the safe movement of one or more vehicles or to establish radio voice communication between traffic control and the train drivers.

Compliance with the following calculated values shall be ensured:

- (1) Mean time of hours of operation between failures of a CCS on-board subsystem requiring the isolation of the train protection functions: [open point];
- (2) Mean time of hours of operation between failures of a CCS on-board subsystem preventing radio voice communication between traffic control and the train driver: [open point].

To allow the infrastructure managers and railway undertakings to monitor, during the life of the subsystems, the level of risk and the respect of the reliability/availability values used for the definition of procedures to manage degraded situations, the requirements for maintenance stated in Section 4.5 (Maintenance rules) shall be respected';

- (f) the second row of the table in section '4.3.2 Interface to the rolling stock subsystem' is amended as follows:

'Electromagnetic compatibility between rolling stock and Control-Command and Signalling track-side equipment	4.2.11	Rolling stock characteristics to be compatible with train detection systems based on track circuits	HS RS TSI LOC & PAS TSI Wagon TSI	4.2.6.6.1 4.2.3.3.1.1 None
		Rolling stock characteristics to be compatible with train detection systems based on axle counters	HS RS TSI LOC & PAS TSI Wagon TSI	4.2.6.6.1 4.2.3.3.1.2 None'

- (g) the following text is added at the end of section 6.1.1:

'With regard to checking if essential requirements are fulfilled through compliance with the basic parameters, and without prejudice to the obligations set out in Chapter 7 of this TSI, control-command and signalling interoperability constituents and subsystems that do not implement all functions, performance and interfaces as

specified in Chapter 4 (including the specifications referred to in Annex A), can obtain EC certificates of conformity or, respectively, EC certificates of verification, under the following conditions for issuing and using the certificates:

- (1) the applicant for EC verification of a track-side control-command and signalling subsystem is responsible for deciding which functions, performance and interfaces need to be implemented to meet the objectives for the service and to ensure that no requirements contradicting or exceeding the TSIs are exported to the on-board control-command and signalling subsystems;
- (2) the operation of an on-board control-command and signalling subsystem, that does not implement all functions, performance and interfaces specified in this TSI, may be subject to conditions or restrictions due to compatibility and/or safe integration with track-side control-command and signalling subsystems. Without prejudice to the tasks of a notified body described in respective EU legislation and related documents, the applicant for EC verification is responsible for ensuring that the technical file provides all the information that an operator needs to identify such conditions and restrictions;
- (3) the Member State may refuse for duly justified reasons the authorisation for placing in service, or place conditions and restrictions on the operation, of control-command and signalling subsystems that do not implement all functions, performance and interfaces specified in this TSI.

If some essential requirements are fulfilled by national rules or if a control-command and signalling interoperability constituent or subsystem does not implement all functions, performance and interfaces specified in this TSI, the provisions of section 6.4.2 shall apply.;

- (h) the text of the third paragraph of section 6.1.2 is amended as follows: in subparagraph 2 'See Annex A 4.2.2c' is deleted and in subparagraph 3 'unless otherwise specified in Annex A 4.2.2c' is deleted;
- (i) the text of section 6.4 is replaced by the following:

6.4 Provisions in case of the partial fulfilment TSI requirements

6.4.1. Assessment of parts of control-command and signalling subsystems

Pursuant to Article 18(5) of the Railway Interoperability Directive, the notified body may issue certificates of verification for certain parts of a subsystem, if allowed to do so under the relevant TSI.

As pointed out in section 2.2 (Scope) of this TSI, the track-side control-command and signalling subsystem contains three parts, while the on-board control-command and signalling subsystem contains two parts, specified in section 4.1 (Introduction).

A certificate of verification may be issued for each part specified in this TSI; the notified body only checks if that particular part fulfils the TSI requirements.

Regardless of which module is chosen, the notified body shall check that:

- (1) the TSI requirements for the part in question have been fulfilled; and
- (2) the TSI requirements already assessed for other parts of the same subsystem are still fulfilled.

6.4.2. Control-command and signalling subsystems' partial fulfilment of the requirements due to limited application of the TSI

If some essential requirements are fulfilled by national rules, the EC certificate of conformity for an interoperability constituent and the EC certificate of verification for a subsystem shall make precise reference to the parts of this TSI whose conformity has been assessed and the parts whose conformity has not been assessed.

If an interoperability constituent does not implement all functions, performance and interfaces specified in this TSI, an EC certificate of conformity may only be issued if the unimplemented functions, interfaces or performance are not required to integrate the interoperability constituent into a subsystem for the use indicated by the applicant, for example (*):

- (a) the on-board ERTMS/ETCS interface to STM if the interoperability constituent is intended for installation on vehicles in which no external STM is needed;

- (b) the RBC interface to other RBCs, if the RBC is intended for use in an application for which no neighbouring RBCs are planned.

The EC certificate of conformity (or accompanying documents) for the interoperability constituent shall fulfil all the following requirements:

- (a) it indicates which functions, interfaces or performance are not implemented;
- (b) it provides enough information to make it possible to identify the conditions under which the interoperability constituent can be used;
- (c) it provides enough information to make it possible to identify the conditions of and restriction on the use that will apply to the interoperability of a subsystem incorporating it.

If a control-command and signalling subsystem does not implement all functions, performance and interfaces of this TSI (e.g. because they are not implemented by an interoperability constituent integrated into it), the EC certificate of verification shall indicate which requirements have been assessed and the corresponding conditions and restrictions on the use of the subsystem and its compatibility with other subsystems.

In any event, notified bodies shall coordinate with the Agency the way in which conditions and limits of use of interoperability constituents and subsystems are managed in the relevant certificates and technical files in the working group set up under Article 21a(5) of Regulation (EC) No 881/2004 of the European Parliament and of the Council (**).

6.4.3. Intermediate Statement of Verification

If conformity is assessed for parts of subsystems specified by the applicant and different from the parts allowed by section 4.1 (Introduction) of this TSI, or if only certain stages of the verification procedure have been performed, only an intermediate statement of verification may be issued.

(*) The procedures described in this Chapter do not prejudice the possibility of grouping constituents together.

(**) Regulation (EC) No 881/2004 of the European Parliament and of the Council of 29 April 2004 establishing a European Railway Agency (Agency Regulation) (OJ L 164, 30.4.2004, p. 1).;

- (j) in section 7.2.9.3, the following rows are added at the end of the table:

‘4.2.10 Track-side Train Detection Systems Index 77, Section 3.1.3.1: The minimum wheel rim width (B_R) for 1 600 mm track gauge network is 127 mm	T3	Applicable in North Ireland
4.2.10 Track-side Train Detection Systems Index 77, Section 3.1.3.3: The minimum flange thickness (S_f) for 1 600 mm track gauge network is 24 mm	T3	Applicable in North Ireland’

- (k) the title of section 7.2.9.6 is replaced by ‘Lithuania, Latvia and Estonia’;

- (l) the table in section 7.2.9.6 is replaced by:

‘Specific case	Category	Notes
4.2.10 Track-side Train Detection Systems Index 77, Section 3.1.3.3: The minimum flange thickness (S_f) for 1 520 mm track gauge network is 20 mm	T3	This specific case is needed as long as ČME locomotives operate on 1 520 mm network

'Specific case	Category	Notes
4.2.10 Track-side Train Detection Systems Index 77, Section 3.1.3.4: The minimum flange height (S_{fl}) for 1 520 mm track gauge network is 26,25 mm	T3	This specific case is needed as long as ČME locomotives operate on 1 520 mm network'

(m) in section 7.2.9.7, 'index 65' is replaced by 'index 33';

(n) the text of section 7.3.3 is replaced by the following:

7.3.3. ERTMS on-board implementation

7.3.3.1. New vehicles

New vehicles authorised to be placed in service for the first time shall be equipped with ERTMS in line either with the set of specifications # 1 or the set of specifications # 2 listed in Table A2 of Annex A.

From 1 January 2018, new vehicles authorised to be placed in service for the first time shall be equipped with ERTMS only in line with the set of specifications # 2 listed in Table A2 of Annex A.

The requirement to be equipped with ERTMS does not apply to new mobile railway infrastructure construction and maintenance equipment, new shunting locomotives or other new vehicles not intended for high speed service, if they are intended exclusively for national service operated outside the corridors defined in section 7.3.4 and outside the lines ensuring the connections to the main European ports, marshalling yards, freight terminals and freight transport areas defined in section 7.3.5, or 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.

7.3.3.2. Upgrading and renewal of existing vehicles

It is mandatory to fit ERTMS/ETCS on-board existing vehicles if installing any new train protection part of a control-command and signalling on-board subsystem on existing vehicles intended for high-speed service

7.3.3.3. Additional requirements

Member States may introduce additional requirements at national level, in particular with a view to

- (1) allowing only ERTMS-equipped vehicles to access ERTMS-equipped lines, so that existing national systems can be decommissioned;
- (2) requesting that new and upgraded or renewed mobile railway infrastructure construction and maintenance equipment, shunting locomotives and/or other vehicles, even if intended exclusively for national service, be equipped with ERTMS.;

(o) Annex A is amended in accordance with the Annex to this Decision;

(p) the table of Annex G is amended as follows:

- (1) the line related to 'Vehicle metal mass' is deleted;
- (2) the line related to 'DC and low frequency components of traction current' is deleted;
- (3) the line related to 'safety requirements for ETCS DMI functions' is deleted.

Article 2

The following Article is added to Decision 2012/88/EU:

'Article 7a

1. By 1 July 2015 the European Railway Agency shall publish the mandatory specifications referred to in Table A2 of Annex A to this Decision, at Index 37b and 37c, column "Set of specifications # 2".

Before their publication, it shall send to the Commission a technical opinion on the insertion of these documents in Table A2 of Annex A to this Decision, with reference, name and version. The Commission shall inform accordingly the Committee established under Article 29 of Directive 2008/57/EC.

2. The European Railway Agency shall publish the specifications related to train interface (FFIS — Form Fit Functional Interface Specification — Index 81 and 82 of Table A2 of Annex A to this Decision) when it considers that they are mature. The European Railway Agency shall regularly report on the assessment of this maturity to the Committee established under Article 29 of Directive 2008/57/EC. Before their publication, it shall send to the Commission a technical opinion on the insertion of these documents in Table A2 of Annex A to this Decision, with reference, name and version. The Commission shall inform accordingly the Committee established under Article 29 of Directive 2008/57/EC.'

Article 3

This Decision shall apply from 1 July 2015.

This Decision is addressed to the Member States and to the European Railway Agency.

Done at Brussels, 5 January 2015.

For the Commission
Violeta BULC
Member of the Commission

ANNEX

Annex A to Decision 2012/88/EU is amended as follows:

(1) the following line is deleted in Table A1:

'4.2.1 b	28'
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(2) the following line in Table A1 is modified as follows:

'4.2.2.f	7, 81, 82'
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(3) Table A2 is replaced by the following table and related notes:

Index N	Set of specifications # 1 (ETCS baseline 2 and GSM-R baseline 0)				Set of specifications # 2 (ETCS baseline 3 and GSM-R baseline 0)			
	Reference	Name of Specification	Version	Notes	Reference	Name of Specification	Version	Notes
1	ERA/ERTMS/003204	ERTMS/ETCS Functional requirement specification	5.0		Intentionally deleted			
2	Intentionally deleted				Intentionally deleted			
3	SUBSET-023	Glossary of Terms and Abbreviations	2.0.0		SUBSET-023	Glossary of Terms and Abbreviations	3.1.0	
4	SUBSET-026	System Requirements Specification	2.3.0		SUBSET-026	System Requirements Specification	3.4.0	
5	SUBSET-027	FFFIS Juridical recorder-downloading tool	2.3.0	Note 1	SUBSET-027	FIS Juridical Recording	3.1.0	
6	SUBSET-033	FIS for man-machine interface	2.0.0		ERA_ERTMS_015560	ETCS Driver Machine interface	3.4.0	
7	SUBSET-034	FIS for the train interface	2.0.0		SUBSET-034	Train Interface FIS	3.1.0	
8	SUBSET-035	Specific Transmission Module FFFIS	2.1.1		SUBSET-035	Specific Transmission Module FFFIS	3.1.0	
9	SUBSET-036	FFFIS for Eurobalise	2.4.1		SUBSET-036	FFFIS for Eurobalise	3.0.0	
10	SUBSET-037	EuroRadio FIS	2.3.0		SUBSET-037	EuroRadio FIS	3.1.0	
11	SUBSET-038	Offline key management FIS	2.3.0		SUBSET-038	Offline key management FIS	3.0.0	
12	SUBSET-039	FIS for the RBC/RBC handover	2.3.0		SUBSET-039	FIS for the RBC/RBC handover	3.1.0	

Index N	Set of specifications # 1 (ETCS baseline 2 and GSM-R baseline 0)				Set of specifications # 2 (ETCS baseline 3 and GSM-R baseline 0)			
	Reference	Name of Specification	Version	Notes	Reference	Name of Specification	Version	Notes
13	SUBSET-040	Dimensioning and Engineering rules	2.3.0		SUBSET-040	Dimensioning and Engineering rules	3.3.0	
14	SUBSET-041	Performance Requirements for Interoperability	2.1.0		SUBSET-041	Performance Requirements for Interoperability	3.1.0	
15	SUBSET-108	Interoperability related consolidation on TSI Annex A documents	1.2.0		Intentionally deleted			
16	SUBSET-044	FFFIS for Euro-loop	2.3.0		SUBSET-044	FFFIS for Euro-loop	2.4.0	
17	Intentionally deleted				Intentionally deleted			
18	SUBSET-046	Radio infill FFFS	2.0.0		Intentionally deleted			
19	SUBSET-047	Trackside-Trainborne FIS for Radio infill	2.0.0		SUBSET-047	Trackside-Trainborne FIS for Radio infill	3.0.0	
20	SUBSET-048	Trainborne FFFIS for Radio infill	2.0.0		SUBSET-048	Trainborne FFFIS for Radio infill	3.0.0	
21	SUBSET-049	Radio infill FIS with LEU/interlocking	2.0.0		Intentionally deleted			
22	Intentionally deleted				Intentionally deleted			
23	SUBSET-054	Responsibilities and rules for the assignment of values to ETCS variables	2.1.0		SUBSET-054	Responsibilities and rules for the assignment of values to ETCS variables	3.0.0	
24	Intentionally deleted				Intentionally deleted			
25	SUBSET-056	STM FFFIS Safe time layer	2.2.0		SUBSET-056	STM FFFIS Safe time layer	3.0.0	

Index N	Set of specifications # 1 (ETCS baseline 2 and GSM-R baseline 0)				Set of specifications # 2 (ETCS baseline 3 and GSM-R baseline 0)			
	Reference	Name of Specification	Version	Notes	Reference	Name of Specification	Version	Notes
26	SUBSET-057	STM FFFIS Safe link layer	2.2.0		SUBSET-057	STM FFFIS Safe link layer	3.0.0	
27	SUBSET-091	Safety Requirements for the Technical Interoperability of ETCS in Levels 1 and 2	2.5.0		SUBSET-091	Safety Requirements for the Technical Interoperability of ETCS in Levels 1 and 2	3.3.0	
28	Intentionally deleted			Note 8	Intentionally deleted			Note 8
29	SUBSET-102	Test specification for interface "K"	1.0.0		SUBSET-102	Test specification for interface "K"	2.0.0	
30	Intentionally deleted				Intentionally deleted			
31	SUBSET-094	Functional requirements for an onboard reference test facility	2.0.2		SUBSET-094	Functional requirements for an onboard reference test facility	3.0.0	
32	EIRENE FRS	GSM-R Functional requirements specification	7.4.0	Note 10	EIRENE FRS	GSM-R Functional requirements specification	7.4.0	Note 10
33	EIRENE SRS	GSM-R System requirements specification	15.4.0	Note 10	EIRENE SRS	GSM-R System requirements specification	15.4.0	Note 10
34	A11T6001	(MORANE) Radio Transmission FFFIS for EuroRadio	12.4		A11T6001	(MORANE) Radio Transmission FFFIS for EuroRadio	12.4	
35	Intentionally deleted				Intentionally deleted			
36 a	Intentionally deleted				Intentionally deleted			
36 b	Intentionally deleted				Intentionally deleted			
36 c	SUBSET-074-2	FFFIS STM Test cases document	1.0.0		SUBSET-074-2	FFFIS STM Test cases document	3.0.0	
37 a	Intentionally deleted				Intentionally deleted			

Index N	Set of specifications # 1 (ETCS baseline 2 and GSM-R baseline 0)				Set of specifications # 2 (ETCS baseline 3 and GSM-R baseline 0)			
	Reference	Name of Specification	Version	Notes	Reference	Name of Specification	Version	Notes
37 b	SUBSET-076-5-2	Test cases related to features	2.3.3		SUBSET-076-5-2	Test cases related to features		Note 11
37 c	SUBSET-076-6-3	Test sequences	2.3.3		Reserved	Test sequences generation: methodology and rules		Note 11
37 d	SUBSET-076-7	Scope of the test specifications	1.0.2		SUBSET-076-7	Scope of the test specifications	3.0.0	
37 e	Intentionally deleted				Intentionally deleted			
38	06E068	ETCS Marker-board definition	2.0		06E068	ETCS Marker-board definition	2.0	
39	SUBSET-092-1	ERTMS EuroRadio Conformance Requirements	2.3.0		SUBSET-092-1	ERTMS EuroRadio Conformance Requirements	3.0.0	
40	SUBSET-092-2	ERTMS EuroRadio test cases safety layer	2.3.0		SUBSET-092-2	ERTMS EuroRadio test cases safety layer	3.0.0	
41	Intentionally deleted				Intentionally deleted			
42	Intentionally deleted				Intentionally deleted			
43	SUBSET 085	Test specification for Eurobalise FFFIS	2.2.2		SUBSET 085	Test specification for Eurobalise FFFIS	3.0.0	
44	Intentionally deleted				Intentionally deleted			Note 9
45	SUBSET-101	Interface "K" Specification	1.0.0		SUBSET-101	Interface "K" Specification	2.0.0	
46	SUBSET-100	Interface "G" Specification	1.0.1		SUBSET-100	Interface "G" Specification	2.0.0	
47	Intentionally deleted				Intentionally deleted			
48	Reserved	Test specification for mobile equipment GSM-R		Note 4	Reserved	Test specification for mobile equipment GSM-R		Note 4
49	SUBSET-059	Performance requirements for STM	2.1.1		SUBSET-059	Performance requirements for STM	3.0.0	

Index N	Set of specifications # 1 (ETCS baseline 2 and GSM-R baseline 0)				Set of specifications # 2 (ETCS baseline 3 and GSM-R baseline 0)			
	Reference	Name of Specification	Version	Notes	Reference	Name of Specification	Version	Notes
50	SUBSET-103	Test specification for Euroloop	1.0.0		SUBSET-103	Test specification for Euroloop	1.1.0	
51	Reserved	Ergonomic aspects of the DMI			Intentionally deleted			
52	SUBSET-058	FFFIS STM Application layer	2.1.1		SUBSET-058	FFFIS STM Application layer	3.1.0	
53	Intentionally deleted				Intentionally deleted			
54	Intentionally deleted				Intentionally deleted			
55	Intentionally deleted				Intentionally deleted			
56	Intentionally deleted				Intentionally deleted			
57	Intentionally deleted				Intentionally deleted			
58	Intentionally deleted				Intentionally deleted			
59	Intentionally deleted				Intentionally deleted			
60	Intentionally deleted				SUBSET-104	ETCS System Version Management	3.2.0	
61	Intentionally deleted				Intentionally deleted			
62	Reserved	RBC-RBC Test specification for safe communication interface			Intentionally deleted			
63	SUBSET-098	RBC-RBC Safe Communication Interface	1.0.0		SUBSET-098	RBC-RBC Safe Communication Interface	3.0.0	
64	EN 301 515	Global System for Mobile Communication (GSM); Requirements for GSM operation on railways	2.3.0	Note 2	EN 301 515	Global System for Mobile Communication (GSM); Requirements for GSM operation on railways	2.3.0	Note 2
65	TS 102 281	Detailed requirements for GSM operation on railways	2.3.0	Note 3	TS 102 281	Detailed requirements for GSM operation on railways	2.3.0	Note 3

Index N	Set of specifications # 1 (ETCS baseline 2 and GSM-R baseline 0)				Set of specifications # 2 (ETCS baseline 3 and GSM-R baseline 0)			
	Reference	Name of Specification	Version	Notes	Reference	Name of Specification	Version	Notes
66	TS 103169	ASCI Options for Interoperability	1.1.1		TS 103169	ASCI Options for Interoperability	1.1.1	
67	(MORANE) P 38 T 9001	FFFIS for GSM-R SIM Cards	4.2		(MORANE) P 38 T 9001	FFFIS for GSM-R SIM Cards	4.2	
68	ETSI TS 102 610	Railway Telecommunication; GSM; Usage of the UUIE for GSM operation on rail- ways	1.3.0		ETSI TS 102 610	Railway Telecommunication; GSM; Usage of the UUIE for GSM operation on rail- ways	1.3.0	
69	(MORANE) F 10 T 6002	FFFS for Confirmation of High Priority Calls	5.0		(MORANE) F 10 T 6002	FFFS for Confirmation of High Priority Calls	5.0	
70	(MORANE) F 12 T 6002	FIS for Confirmation of High Priority Calls	5.0		(MORANE) F 12 T 6002	FIS for Confirmation of High Priority Calls	5.0	
71	(MORANE) E 10 T 6001	FFFS for Functional Addressing	4.1		(MORANE) E 10 T 6001	FFFS for Functional Addressing	4.1	
72	(MORANE) E 12 T 6001	FIS for Functional Addressing	5.1		(MORANE) E 12 T 6001	FIS for Functional Addressing	5.1	
73	(MORANE) F 10 T6001	FFFS for Location Dependent Addressing	4		(MORANE) F 10 T6001	FFFS for Location Dependent Addressing	4	
74	(MORANE) F 12 T6001	FIS for Location Dependent Addressing	3		(MORANE) F 12 T6001	FIS for Location Dependent Addressing	3	
75	(MORANE) F 10 T 6003	FFFS for Presentation of Functional Numbers to Called and Calling Parties	4		(MORANE) F 10 T 6003	FFFS for Presentation of Functional Numbers to Called and Calling Parties	4	
76	(MORANE) F 12 T 6003	FIS for Presentation of Functional Numbers to Called and Calling Parties	4		(MORANE) F 12 T 6003	FIS for Presentation of Functional Numbers to Called and Calling Parties	4	
77	ERA/ERTMS/ 033281	Interfaces between CCS track-side and other subsystems	2.0	Note 7	ERA/ERTMS/033281	Interfaces between CCS track-side and other subsystems	2.0	Note 7

Index N	Set of specifications # 1 (ETCS baseline 2 and GSM-R baseline 0)				Set of specifications # 2 (ETCS baseline 3 and GSM-R baseline 0)			
	Reference	Name of Specification	Version	Notes	Reference	Name of Specification	Version	Notes
78	Reserved	Safety requirements for ETCS DMI functions			Intentionally deleted			Note 6
79	Not applicable	Not applicable			SUBSET-114	KMC-ETCS Entity Off-line KM FIS	1.0.0	
80	Not applicable	Not applicable			Intentionally deleted			Note 5
81	Not applicable	Not applicable			SUBSET-119	Train Interface FFFIS		Note 12
82	Not applicable	Not applicable			SUBSET-120	FFFIS TI — Safety Analysis		Note 12

Note 1: only the functional description of information to be recorded is mandatory, not the technical characteristics of the interface.

Note 2: the clauses of the specifications listed in section 2.1 of EN 301 515 which are referenced in Index 32 and Index 33 as “MI” are mandatory.

Note 3: the change requests (CRs) listed in table 1 and 2 of TS 102 281 which affect clauses referenced in Index 32 and Index 33 as “MI” are mandatory.

Note 4: Index 48 refers only to test cases for GSM-R mobile equipment. It is kept “reserved” for the time being. The application guide will contain a catalogue of available harmonised test cases for the assessment of mobile equipment and networks, according to the steps indicated in section 6.1.2 of this TSI.

Note 5: the products which are on the market are already tailored to the needs of the RU related to GSM-R Driver Machine Interface and fully interoperable so there is no need for a standard in the TSI CCS.

Note 6: information that was intended for Index 78 is now incorporated in Index 27 (SUBSET-091).

Note 7: this document is ETCS and GSM-R baseline independent.

Note 8: the requirements on reliability/availability are now in the TSI (section 4.2.1.2).

Note 9: ERA analysis showed there is no need for a mandatory specification for odometry interface.

Note 10: Only the (MI) requirements are mandated by TSI CCS.

Note 11: Specifications to be managed through a Technical opinion of the European Railway Agency

Note 12: Reference to these specifications will be published in the Application Guide, waiting for clarifications on the rolling stock side of the interface.;

(4) Table A 3 is replaced by the following table and a related note.

No	Reference	Document name and comments	Version	Note
1	EN 50126	Railway applications — The specification and demonstration of reliability, availability, maintainability and safety (RAMS)	1999	1
2	EN 50128	Railway applications — Communication, signalling and processing systems — Software for railway control and protection systems	2011 or 2001	

No	Reference	Document name and comments	Version	Note
3	EN 50129	Railway applications — Communication, signalling and processing systems — Safety related electronic systems for signalling	2003	1
4	EN 50159	Railway applications — Communication, signalling and processing systems — Safety-related communication in transmission systems	2010	1

Note 1: this standard is harmonised, see Commission Communication in the framework of the implementation of the 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 (OJ C 345, 26.11.2013, p. 3) where also published editorial corrigenda are indicated.'