TSI Revision Package 2023

List of the most significant changes

ERESS FORUM

15 June 2023

DG MOVE C4

Subsystems Rolling stock and Fixed Installations

List of the most significant changes

European Commission

Focus on « Green Freight »
1 – Wagons

EC action # (1)	Topic	Output
60 & 62 	Composite brake blocks	Methodology to assess the acoustic performance of CBB at constituent level in the NOI TSI Analysis of the equivalence between UIC 541-4 and EN 16452 Update of Appendix G of the WAG TSI/NOI TSI
47 	Derailment detection	Inclusion of requirements in the WAG and LOC&PAS TSIs covering: • Derailment prevention function (DPF) • Derailment detection function (DDF) • Derailment detection and actuation function (DDAF)

(1) EC action # refers to the list of Commission priorities of the package « Digital Rail and Green Freight »

European Commission

EC action #	Topic	Output
39	Securing the load	Requirements in WAG TSI applicable to the devices for securing the loading unit
	Codification	Codification of the lines, the wagons and the intermodal loading units - Amendments in TSIs WAG & INF and in Register of Infrastructure
	Operational rules	Amendments in TSI OPE to consider a Combined Transport as a specific transport mode
	Specific guide on combined transport	Preparation of a specific guide gathering the above requirements and bringing clarifications and AMOCs

EC action #	Topic	Output
n.a. 	Interfaces RST / CCS	Exhaustive review of interfaces and update of the LOC&PAS TSI to clarify the references to subset 34
43 & 52 	Interfaces RST / INF	Close open point on EN Line Category, Harmonisation between both TSIs including requirements on traffic loads and load carrying capacity of infrastructure
51, 51b & 59 	Interfaces RST / ENE	Harmonisation between LOC&PAS and ENE TSIs Harmonised requirements for multiple unit operation with more than 2 pantographs at the same time on OCL Facilitation of the retrofitting of trains with Energy Measuring Systems

Other changes implemented

EC action #	Topic	Output
64 	Transition between TSIs	New TSI transition regime **for rolling stock TSIs (and for CCS on-board),** including TSI change categorisation Type certificates delivered according to the TSIs in force with non-limited validity
70	Review the use of standards	Update of references to more than 100 EN standards (ongoing) Harmonisation of the references to standards in all TSIs to enable a simpler update in the future
69 	Definition of special vehicles	Clarification of the definition of special vehicles including OTMs, Infrastructure Inspection Vehicles, Emergency vehicles, environment vehicles and road-rail vehicles Clarification of the applicability of the TSIs Update of ERATV Annex III

Other changes implemented

EC action #	Topic	Output
44 	Digital Automatic Coupler for freight	In line with Shift2Rail and the European DAC Delivery Program, ERA report on the preparation of the future inclusion of technical specification for the Digital Automatic Coupler for freight in TSIs WAG and LOC&PAS
25 & 26 	ATO (from rolling stock perspective)	Update of the LOC&PAS TSI with interface requirements applicable to units equipped with ETCS onboard and to be fitted with ATO up to GoA 2
58 	Traction batteries	Proposal to permit to exceed the limit value for current at standstill for the charging of energy storage devices for traction
n.a. 	Headlamps	Proposal coming from stakeholders on the reference to luminous intensity of vehicle headlamps in clause 4.2.2.1.2 of OPE TSI

EC action #	Topic	Output
53 	EU-wide authorisation of coaches	Draft under discussion for unique autorisation of coaches without traction equipment nor cab Roadmap for the harmonisation of requirements for compatibility with train detection systems
64 	Upgrade/renewal of fixed installations	Revision of the chapter 7 of the TSI INF and ENE to clarify their application in case of renewal or upgrade

Operation and traffic management – key changes

Summary table (1/2)

Topic	TSI OPE points
Description of the Scope	1.3 + Chapter 2
Specification relating to staff	4.2.1.1 + 4.6 + 4.7 + Appendix F + Appendix G
Information exchange between IMs and RUs, including information for staff executing safety-critical tasks	4.2.1.2. + 4.2.1.2.4
RINF Future development	4.2.1.2.
Rule Book	4.2.1.2.1.
Route Book	4.2.1.2.2.
Front-end	4.2.2.1.2
Route Compatibility	4.2.2.5.1
Train braking	4.2.2.6.

Summary table (2/2)

Topic	TSI OPE points
ERTMS OPERATIONAL PRINCIPLES AND RULES	Appendix A
Common operational rules	Appendix B – B2
Safety related communication methodology	Appendix C
Parameters for the vehicle and train compatibility over the route intended for operation	Appendix D1
Elements the IM has to provide to the Rus for the Route book	Appendix D2
ERTMS trackside engineering information relevant to operation that the infrastructure manager shall provide to the railway undertaking	Appendix D3 (new entry)
List of areas for national rules and open points	Appendix I
Definitions	Appendix J

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Discussion topics

1. ATO, FRMCS, modularity and Other technical changes
2. System versions (2.1 - 3.0)
3. Single set of specifications (+ use of #2 and #3)
4. Error corrections
5. Partial fulfilment
6. EU funding
7. Train detection systems
8. Next steps

ATO, FRMCS, modularity, other tech changes

- Vehicles BASELINE 4:
  - SV 2.1:
    - Cold Movement Detection,
    - Level 1 Limited Supervision relocation without linking
    - Modularity (obligatory in 2 year's time on any SV, also #2 and #3)
  - SV 2.2 – Automated train operations
  - SV 3.0 – FRMCS readiness, supervised manoeuvres and DAC readiness *(not mandatory version now)*

System Versions

Trackside implementation

- Track side can choose system version up to 3.0
- Minimum existing versions 1.0, 1.1, 2.0, 2.1
- New versions ETCS TS 2.2 and 2.3
- New trackside versions linked to new OBU system version 3.0 > ETCS TS 2.3 (compatible implementation) and ETCS TS 3.0 (incompatible implementation)

On-Board implementation

CCS TSI On-board envelopes

- Minimum existing version up to 2.1 (scope: set 3 of current TSI + error corrections + CR1370)
- New OBU system version up to 2.2 (scope: ETCS for ATO GoA1/2)
- New OBU system version up to 3.0 (scope: full envelope incl. ETCS On-Board for FRMCS + Supervised Manoeuvres + set of additional CRs)

Use of Set of specifications #2 and #3

- Possibility to use baseline 3 sets of specifications according to transition periods in table B1.1 rows 9 and 10
- You need to implement applicable error corrections
- We extended the pre-design phase to 3 years (including row 5 for SV 2.0)
- We extended for #3 the design and production phase for another 2 years (Design - 1.1.2030 and Production 1.1.2032)

Error corrections - solution

- 2,5 – 3 year overall period (see App B)
- Split manufacturer/railway operator 1,5/1 year (point 7.2.7.3), plus 0,5 year in (rare) case if a new authorisation is needed
- Generous provisions on temporary use of proprietary solutions for validated error CR [Point 6.5(2)]
- Until new TSI >1.1.26: correct applicable error(s), after all errors

Partial fulfilment – solution

- For items estimated as “overspecification”. **To be solved through CR.**
- For newly detected items during project execution. See **6.5 (2)** => mandatory creation and validation of **error CR**; (3 months from complete request)
- For specific items (concrete cases need to be listed): **Appendix G**
    1. Upgrades of existing installations which would compromise the economic viability (DMI SIL 0)
    2. Functions included in new SV temporarily not implemented
    3. Subset 34 options at IC level: (case: no electrical signals for diesel engines, …)
- Anything else – **non-application request**

EU funding – Article 8

- Eligible costs are ERTMS and support to future ERTMS roll out:
  - Digital interlockings
  - CCS TSI compatible train detection systems
- Accepted projects included in RRF and current NIP
- Acceptance of bi-standard funding

Train detection systems

- Example of work towards increased interoperability of expensive systems
- Information on existing train detection systems to be shared with ERA by end of 2024
- All national rules to be repealed in relation to TDS by end of 2025
- EC, ERA and Member States to review special cases by end of 2027
- Objective is to ensure TDS are compatible with CCS TSI and facilitate the circulation of vehicles across all EU borders

Next steps

30th March

RISC 98:
TSI package has been voted in favour by RISC Members

Publication in Official Journal of the European Union: https://eur-lex.europa.eu/homepage.html

Q3 2023

Expected Q2-3 2024

CCS TSI update
For Subsets:
76, 151 and 153

Future CCS TSI:
- FRMCS
- DAC
- System pillar output (incl. e.g. advanced positioning);

Once available

European Commission

Thank you

European Commission