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Subject:	ANNEX to the Commission Regulation amending Regulation (EU) No 321/2013 concerning the technical specification for interoperability relating to the 'rolling stock - freight wagons' subsystem of the rail system in the European Union

Delegations will find attached document D036064/02 ANNEX 1.

Encl.: D036064/02 ANNEX 1



Brussels, **XXX**
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ANNEX 1

ANNEX

to the

Commission Regulation

amending Regulation (EU) No 321/2013 concerning the technical specification for interoperability relating to the 'rolling stock - freight wagons' subsystem of the rail system in the European Union

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The Annex to Regulation (EU) No 321/2013 (WAG TSI) is amended as follows:

- (1) In Chapter 3 'Essential requirements', the following row is inserted in Table 1 below the row containing the text '4.2.4.3.4' in the cell in the 'Point' column:

4.2.4.3.5	Friction elements for wheel tread brakes	1.1.1, 1.1.2, 1.1.3, 2.4.1				2.4.3
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- (2) Chapter 4 'Characterisation of the subsystem' is amended as follows:

- (a) in point 4.2.1, the third subparagraph is deleted;
- (b) the following point 4.2.4.3.5 is inserted:

'4.2.4.3.5. Friction elements for wheel tread brakes

The friction element for wheel tread brakes (i.e. brake block) generates brake forces by friction when engaged with the wheel tread.

If wheel tread brakes are used the characteristics of the friction element shall contribute reliably to achieving the intended brake performance.

The demonstration of conformity is described in point 6.1.2.5 of this TSI.'

- (3) Chapter 5 'Interoperability constituents' is amended as follows:

- (a) section 5.2 is replaced by the following:

'5.2. Innovative solutions

As stated in Article 10a, innovative solutions may require new specifications and/or new assessment methods. Such specifications and assessment methods shall be developed using the process described in point 6.1.3 whenever an innovative solution is envisaged for an interoperability constituent.';

- (b) the following point 5.3.4a is added:

'5.3.4a. *Friction element for wheel tread brakes*

The friction element for wheel tread brakes shall be designed and assessed for an area of use defined by:

- dynamic friction coefficients and their tolerance bands,
- minimum static friction coefficient,
- maximum permitted brake forces applied on the element,
- suitability for train detection by systems based on track circuits,
- suitability for severe environmental conditions.

A friction element for wheel tread brakes shall comply with the requirements defined in point 4.2.4.3.5. These requirements shall be assessed at IC level.’

(4) Chapter 6 ‘Conformity assessment and EC verification’ is amended as follows:

(a) in Table 8, the following new row is added below the row containing the text ‘Module CH1’:

Module CV	Type validation by in-service experience (suitability for use)
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(b) Table 9 is amended as follows:

Modules to be applied for interoperability constituents

Point	Constituent	Modules					
		CA1 or CA2	CB + CD	CB + CF	CH	CH1	CV
4.2.3.6.1	Running gear		X	X		X	
	Running gear – established	X			X		
4.2.3.6.2	Wheelset	X (*)	X	X	X (*)	X	
4.2.3.6.3	Wheel	X (*)	X	X	X (*)	X	
4.2.3.6.4	Axle	X (*)	X	X	X (*)	X	
4.2.4.3.5	Friction element for wheel tread brakes	X (*)	X	X	X (*)	X	X (**)
5.3.5	Rear-end signal	X			X		

(*) Modules CA1, CA2 or CH may be used only in the case of products placed on the market, and therefore developed, before the entry into force of this TSI, provided that the manufacturer demonstrates to the NoBo that design review and type examination were performed for previous applications under comparable conditions, and are in conformity with the requirements of this TSI; this demonstration shall be documented, and is considered as providing the same level of proof as module CB or design examination according to module CH1.

(**) Module CV shall be used in case the manufacturer of friction element for wheel tread brakes has no sufficient return of experience (according to its own judgment) for the proposed design

(c) the following point 6.1.2.5 is inserted below point 6.1.2.4:

‘6.1.2.5. Friction elements for wheel tread brakes

The demonstration of conformity of friction elements for wheel tread brakes shall be carried out by determining the following friction element properties in accordance with the European Railway Agency (ERA) technical document ERA/TD/2013-02/INT version 2.0 of XX.XX.2014 published on the ERA website (<http://www.era.europa.eu>):

- dynamic friction performance (chapter 4);
- static friction coefficient (chapter 5);
- mechanical characteristics including properties in respect to shear strength test and flexural strength test (chapter 6).

Demonstration of the following suitabilities shall be carried out in accordance with chapters 7 and/or 8 of the ERA technical document ERA/TD/2013-02/INT version 2.0 of XX.XX.2014 published on the ERA website (<http://www.era.europa.eu>), if the friction element is intended to be suitable for:

- train detection by systems based on track circuits; and/or
- severe environmental conditions.

If a manufacturer does not have sufficient return of experience (according with its own judgement) for the proposed design, the type validation by in-service experience procedure (module CV) shall be part of the assessment procedure for suitability for use. Before commencing in-service tests, a suitable module (CB or CH1) shall be used to certify the design of the interoperability constituent.

The in-service tests shall be organised on request from the manufacturer, who must obtain agreement from a railway undertaking that will contribute to such an assessment.

The suitability for train detection by systems based on track circuits for friction elements intended to be used in subsystems beyond the scope set out in chapter 7 of the ERA technical document ERA/TD/2013-02/INT version 2.0 of XX.XX.2014 published on the ERA website (<http://www.era.europa.eu>) may be demonstrated using the procedure for innovative solutions described in point 6.1.3.

The suitability for severe environmental conditions by a dynamometer test for friction elements intended to be used in subsystems beyond the scope set out in clause 8.2.1 of the ERA technical document ERA/TD/2013-02/INT version 2.0 of XX.XX.2014 published on the ERA website (<http://www.era.europa.eu>) may be demonstrated using the procedure for innovative solutions described in point 6.1.3.’

(d) point 6.1.3 is replaced by the following:

‘6.1.3. *Innovative solutions*

If an innovative solution referred to in Article 10a is proposed for an interoperability constituent, the manufacturer or his authorised representative established within the Union shall apply the procedure set out in Article 10a.’

(e) in point 6.2.2.3, the third subparagraph is replaced by the following:

‘As an alternative to performing on-track tests on two different rail inclinations, as set out in clause 5.4.4.4 in EN 14363:2005, tests may be carried out on only one rail inclination, if it is demonstrated that the tests cover the range of contact conditions as set out in section 1.1 of ERA technical document ERA/TD/2013/01/INT version 1.0 of 11.2.2013 published on the ERA website (<http://www.era.europa.eu>).’

(f) point 6.2.3 is replaced by the following:

‘6.2.3. *Innovative solutions*

If an innovative solution referred to in Article 10a is proposed for the ‘rolling stock – freight wagons’ subsystem, the applicant shall apply the procedure set out in Article 10a.’

(5) In chapter 7 ‘Implementation’, point 7.1.2(j), the second sentence is deleted.

(6) In Appendix A, the last row of Table A.1 is deleted.

(7) Appendix C is amended as follows:

(a) in section 9, indent (l) is replaced by the following:

‘(l) If the brake system requires a ‘friction element for wheel tread brakes’ interoperability constituent, the interoperability constituent shall, in addition to the requirements of point 6.1.2.5, comply with UIC leaflet 541-4:2010. The manufacturer of the friction element for wheel tread brakes, or his authorised representative established within the Union, shall in that case obtain the UIC approval.’

(b) in section 14, the second subparagraph is replaced by the following:

‘With regard to the use of wheel tread brake systems, this condition is deemed to be met if the ‘friction element for wheel tread brakes’ interoperability constituent is, in addition to the requirements of point 6.1.2.5, compliant with UIC leaflet 541-4:2010, and if the wheel:

- is assessed in accordance with point 6.1.2.3; and
- fulfils the conditions of Section 15 of Appendix C.’

(8) Appendix D is amended as follows:

(a) the following rows are inserted below the row containing the text ‘Parking brake | 4.2.4.3.2.2’ in the cell in the ‘Characteristics to be assessed’ column:

Friction elements for wheel tread brakes	4.2.4.3.5	–	–
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	6.1.2.5	ERA technical document ERA/TD/2013-02/INT version 2.0 of XX.XX.2014	all
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- (b) the row containing the text ‘EN 15551:2009+A1:2010’ in the cell in the ‘References to mandatory Standard’ column is replaced by the following:

	EN 15551:2009+A1:2010	6.2, 6.2.3.1
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- (c) the following row is inserted below the row containing the text ‘UIC leaflet 542:2010’ in the cell in the ‘References to mandatory Standard’ column:

	UIC 541-4:2010	all
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- (9) In Appendix E, section 1, the first subparagraph is replaced by the following:

‘The colour of tail lamps shall be in accordance with clause 5.5.3 of EN 15153-1:2013.’

- (10) In Appendix F, the following row is inserted below the row with text ‘Wheel slide protection (WSP)’ in the cell in the ‘Element of the Rolling Stock sub-system’ column:

Friction elements for wheel tread brakes	4.2.4.3.5	X	X	X	6.1.2.5
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