

**OTIF**



**ORGANISATION INTERGOUVERNEMENTALE POUR  
LES TRANSPORTS INTERNATIONAUX FERROVIAIRES**

**ZWISCHENSTAATLICHE ORGANISATION FÜR DEN  
INTERNATIONALEN EISENBAHNVERKEHR**

**INTERGOVERNMENTAL ORGANISATION FOR INTER-  
NATIONAL CARRIAGE BY RAIL**

**Secrétaire général  
Generalsekretär  
Secretary General**


Votre référence  
Ihr Zeichen  
Your Reference

Notre référence  
Unser Zeichen  
Our Reference

Affaire suivie par  
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Berne, 7 July 2009

Mr E. Grillo-Pasquarelli  
Director  
Directorate E  
DG TREN  
European Commission  
Rue de Mot 28 (4/10)  
BE-1049 Brussels

**Consultations on three draft TSIs  
(Infrastructure, Energy systems, Locomotives and passenger rolling stock)**

Dear Mr Grillo-Pasquarelli

Thank you very much for giving OTIF the opportunity to comment on the three draft Technical Specifications for interoperability (TSI INF, TSI ENE and TSI LOC&PAS) that we received by e-mail in late March this year. Many thanks also to DG TREN and ERA for assisting in the OTIF Workshop in Zagreb on this subject.

By the deadline of 19 June 2009 the Secretariat had received a response from the following non-EC OTIF Member States in the Balkans which participated in the workshop in Zagreb: Serbia, Bosnia-Herzegovina, FYR Macedonia (and Montenegro, although Montenegro is not yet an OTIF Member State). Based on the English versions of the TSIs, they all replied that they had no comments to make.

Switzerland sent us a number of comments on all three draft TSIs; these comments are attached to this letter.

Croatia has by phone informed us that they are working on comments; when received here the comments will be forwarded to DG TREN.

The other non-EC OTIF Member States have not responded to the consultations.

The OTIF Secretariat itself, as well as those Member States commenting, find that these draft TSIs constitute a huge amount of work that has been carried out with success. The TSI will bring interoperability a big step forward, especially for locomotives and train sets where no international agreements such as RIV and RIC have so far been in place.

However, the Secretariat has some comments of principle, the first three of which, set out below, we also presented at the workshop in Zagreb:

- 1) **No “elastic” requirements, please!** In law texts the requirements should be precise and it should be possible for the user and assessor to check them and arrive at the same result, i.e. the requirements should be measurable (with acceptable tolerances indicated); otherwise the risk of (mis)interpretation and different levels required by the NoBos/authorities is obvious, resulting either in “discrimination” or “safety tourism” to the place where the lowest level of requirement is required; keywords found to indicate imprecise requirements are, for example, “appropriate”, “adequate”, “sufficient”, “safe”, etc.
- 2) **References to standards:** A main principle in a constitutional State is that the law should be (easily) accessible and free of charge for the users who have to apply it. As copies of standards are not free of charge, references to such standards in law texts (whereby the standard or part of it also becomes law) should be avoided.

Furthermore, the legislation should set out the functional requirements, not the way to accomplish them. The explanatory notes (and if appropriate the law as well) may indicate that (correct) application of a voluntary standard will result in the presumption of compliance with the corresponding TSI provision. References in law to draft standards (prEN..) are totally unacceptable; however, at the Zagreb workshop, ERA responded that only real EN standards would be referenced in the adopted TSI, otherwise the TSI would contain an annex to include the texts from the standard. We understood from the interoperability directives that the methodology using voluntary standards is the one which applies in the EC, but the draft TSIs are full of binding references to EN standards.

Of course a TSI text can be shortened by the use of such binding references; but for the user it might be a disadvantage if several standards have to be consulted when reading the TSI; and the total amount of text the user would have to read will in broad outline be the same. It must also be considered that the standards are (normally) translated by different translators than those who translated the legislation, which might also cause (unintended/unchecked) differences in the law.

- 3) **Open points:** The number of these should be reduced or the open points should be closed in order to obtain a higher degree of interoperability instead of allowing 25 (OTIF 43) States to complicate matters and increase costs by using different (historical) national rules. It might be difficult to eliminate open points relating to compatibility with infrastructure, but it should be kept in mind that the operator (as with road vehicle drivers) is responsible for operating a vehicle only on compatible infrastructures; the information on the infrastructure is important.

Open points not relating to compatibility with infrastructure should be closed as soon as possible by making an increased effort, as we are of the opinion that to a considerable extent, these open points remain owing to experts having different points of view or being bound by existing national laws (although the TSIs are for the future) and they are not willing/able to agree a compromise and “let go of the past”; other open points might be deemed closed by

incorporating alternative target systems or specific cases. Deadlines and timetables for the elimination of open points should be included in the TSIs.

- 4) **Translated French/German versions:** These versions seem to a considerable extent not to be of the same quality as the original English texts. This might be of less importance to other parties consulted, but to OTIF, working in the three official languages, it is not a minor problem.
- 5) **Glossary:** A list of all abbreviations and expressions (glossary) used would be useful also in the TSI LOC&PAS (possibly in an Annex).
- 6) **Detailed requirements:** In addition to the high level basic requirements we have found a number of very detailed requirements (e.g. the requirements for storage facilities for staff's personal effects, TSI LOC&PAS section 4.2.9.5), but we assume that such specifications are aimed at ensuring interoperability, i.e. the vehicle cannot be rejected or stopped if it does not fulfil national rules, but fulfils these TSI minimum requirements. Although the requirements in the whole TSI are minimum requirements, it would help to emphasise this by including the word "minimum" at the relevant places.

The non-EC OTIF Member States may still ask for specific cases to be included in the UTPs/APTU Annexes by a decision of the Committee of Technical Experts. The Secretariat and ERA have agreed that OTIF intends to use the same methodology when dealing with requests for specific cases as has been used by ERA in relation to requests from the EC Member States. ERA has promised us the necessary information, which we are still awaiting.

Non-EC OTIF Member States have said that they would be most grateful if they could have some feedback on the comments they have made in the consultation, and about the further process. OTIF is therefore asking the Commission for a copy of its TSI proposal as it will be submitted to RISC for the opinions of the EC Member States; furthermore, it would be useful to have information on the outcome of the RISC discussions and the English version as decided by the Commission. With this information, OTIF could inform its non-EC Member States of developments and start drafting the 2 column format for the OTIF UTPs in order to save time and minimise the period between the entry into force of the TSI and the corresponding UTP.

In addition to the English version the OTIF UTPs need to be available in French and German when presented to the Committee of Technical Experts for adoption. We have understood that the adoption process in the EC will be based on the English texts only, and the official translations into the EC languages to be published in the EC Official Journal will only be made after the Commission has taken a (final) decision on the TSI. We would be grateful to have the translations into French and German as soon as they are ready, rather than having to await publication, which is dependent upon the translations into the other EC languages.

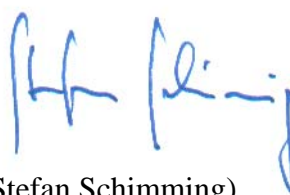
As agreed before the workshop in Zagreb, the outcome of the workshop and the whole consultation process will be reviewed in WG TECH after the summer holidays. The presentations prepared by the ERA representatives for the workshop were excellent and many participants have told us that their knowledge of the TSI principles and the specific planned regulations was substantially improved. ERA certainly publicised its work and competence very well.

It is of course regrettable that only about half of the non-EC OTIF Member States have responded to the consultation. But the deadline resulting from the 3 month limit that OTIF had, along with the short period of two weeks between the workshop and the response deadline, which was due to problems in the availability of the responsible ERA project officers for the workshop, in combination with the subject of the consultation being three voluminous and complicated draft TSIs, may have resulted in the response “no comment” or in the lack of any reaction. Some Member States may have felt overwhelmed. Some have indicated that due to other urgent tasks, their national experts were not available to assess the draft TSIs during the two week period after the workshop.

It would be a great help to the Secretariat and the non-EC OTIF Member States in their planning if we could be informed and updated on an ongoing basis about the EC/ERA planning for future consultations. We should like to take this opportunity to ask that OTIF be consulted not only on draft TSIs but also on other EC regulations at the planning and/or drafting stage which might have an impact on the non-EC OTIF Member States and OTIF regulations, e.g. the ERA type register, the EC cross-acceptance system, the certification of Entities in charge of maintenance (ECM) and possible later certification of workshops. An example of excellent cooperation between our two organisations was the “keeper working group” set up by DG TREN, which resulted in a joint EC/OTIF definition of the term “keeper”, the ECM to be included in OTIF regulations and last but not least the MoU concerning ECM for freight wagons; two non-EC OTIF Member States have recently asked to sign the MoU.

Once again thank you very much for consulting OTIF, and now that the revised APTU and ATMF are compatible with EC regulations and have been formally adopted in the competent OTIF Revision Committee, I sincerely hope that we can expand the cooperation between the European Commission, ERA and OTIF further and improve it yet more.

Yours faithfully



(Stefan Schimming)  
Secretary General

**cc:**

- European Railway Agency (ERA)
- The OTIF Member States and Montenegro
- International Union of Railways (UIC)
- Community of European Railway and Infrastructure Companies (CER)
- European Rail Freight Association (ERFA)
- International Union of Private Railway Wagons (UIP)

- Union of European Railway Industries (UNIFE)
- European Rail Infrastructure Managers (EIM)
- International Association of Public Transport (UITP)
- International Union of combined Road-Rail transport companies (UIRR)
- European Committee for Standardisation (CEN)
- International Association of Private-Sidings Users (IVA)

**Annex(es):** 3 comments from Switzerland

**Form for comments to TSI**

Date: 15.6.2009	Coordinator's name: Roland BACHER	TSI document: <b>CR INFRA</b> (Version 3.0)
	Signature: Lorenz RIESEN	Language: English

1	2	3	4	5	6	7
Comment Identification <sup>1</sup>	Type of comment <sup>2</sup>	Chapter, paragraph, line/Table	Current text	Proposed text	Justification for change	OTIF Secretariat observations on each comment submitted
CH-1	ge	1.2	The geographical scope of this TSI is the trans-European conventional rail system as described in Annex I section 1.1 of Directive 2008/57/EC. However, the scope has not yet been extended to the whole conventional rail system as provided for in Article 1 (4) of the Directive. The basic parameters contained in this TSI have been assessed for the TEN only. An evaluation has been made as to whether these basic parameters or their values are suitable for use on the extended network and a statement made to that effect.		Clarification of the field of application.  Remark: CH takes note of the fact, that the current TSI is only applicable for the conventional TEN network.	
CH-2	te	4.2.1	The Category of Line for every section of track shall be published in the Register of Infrastructure.	Add the following sentence: The dominating type of traffic is normally the basis for its classification. Therefore it is also possible, e.g. that freight trains operate on P-Lines.	Clarification	
CH-3	ge	4.2.3.2	Requirements for lines representing specific cases, including lines built to another track gauge, are described under section 7.6.		Clarification of the field of application.  Remark: In CH the current TSI is	

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					valid only for track gauge 1435 mm (conventional TEN network, see comment CH-1)	
CH-4	te	4.2.4.1	The structure gauge shall be set on the basis of the gauge set out in table 3 of this TSI.	Add specific case (Comment CH-13)	See specific case (Comment CH-13)	
CH-5	te	4.2.5.2	Limits set out in chapter 4.2.5.2	Change limits to those, set out in EN 13803-1	The limits do not correspond to the maximum limiting values of EN 13803-1 for save and interoperable operation. It should be avoided, that the future revision of EN 13803-1 will be blocked due to differences with the current TSI.	
CH-6	ge	4.2.5.4.1	(b) 150 mm (or 1.0 m/s <sup>2</sup> uncompensated lateral acceleration) for rolling stock approved to locomotives TSI or passenger coaches TSI.		Clarification of the field of application.  Remark: CH take note (see Chapter 4.1), that those values are not normal design values (especially for small radii and points of discontinuity)	
CH-7	te	4.2.5.4.2	Limits set out in chapter	Change limits to those, set out	The limits do not corre-	

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			4.2.5.4.2	in EN 13803-2	spond to the maximum limiting values of EN 13803-2 for save and interoperable operation. It should be avoided, that the future revision of EN 13803-2 will be blocked due to differences with the current TSI.	
CH-8	te	4.2.7.3	(a) the maximum total dynamic lateral force exerted by a wheelset on the track, which are defined in the HS and CR Rolling Stock TSIs: $(\Sigma Y_{2m})_{lim} = 10 + (P/3)$ kN		Clarification of the field of application.  Remark: According to the Implementing Provisions of the Railway Ordinance (AB-EBV, SR 742.141.11) the limiting values for lateral force for general use in CH is: $(\Sigma Y_{2m})_{lim} = 0.85 (10 + (P/3))$ kN. The maximum value $(\Sigma Y_{2m})_{lim} = 10 + (P/3)$ kN can only be used according to special approval, especially taking into consideration the type of superstructure.	

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CH-9	te	4.2.9.1	The Infrastructure Manager shall determine appropriate immediate action, intervention and alert limits for the following parameters:	Add specific case (Comment CH-13)	CH only defines two levels for intervention (see specific cases; comment CH-13).	
CH-10	ge	4.2.9.1	When determining these limits, the Infrastructure Manager shall take into account the track quality limits used as the basis for vehicle acceptance. Requirements for vehicle acceptance are set out in the CR and HS rolling stock TSI. The Infrastructure Manager shall also take into account the effects of isolated defects acting in combination. The immediate, intervention and alert limits adopted by the Infrastructure Manager shall be recorded in the maintenance plan required by section 4.5 of this TSI.		Clarification of the field of application.  Remark: CH take note of the fact, that the values set out in the current TSI for track geometrical quality and limits on isolated defects are mentioned in terms of an overall umbrella.	
CH-11	ge	4.2.10	The requirements of this paragraph are only applicable to the passenger platforms where trains complying with the HS and CR rolling stock TSI are intended to stop on normal ser-		Clarification of the field of application.  Remark: In CH only platforms used in international service	

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			vice.		<p>have to comply with the requirements of chapter 4.2.10.</p> <p>Otherwise the requirements of chapter 4.2.10 would also be applicable to platforms only used for local traffic if this traffic is coincidentally operated with RST complying with the TSI RST.</p> <p>From CH point of view it is not the intention of the TSI that every local station on a TEN line must comply with the requirements of chapter 4.2.10.</p>	
CH-12	ge	7.3.3 / 7.3.4	see TSI		<p>Clarification of the field of application.</p> <p>Remark: CH take note, that existing lines (not being part of a renewal or upgrading process) do not have to comply with the requirements of the current TSI.</p>	
CH-13	te	7.6.14	Particular features on the Swiss	Add text (7.6.14, see below)	Particular features on the	

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			network.		Swiss network.	

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**7.6.14 PARTICULAR FEATURES ON THE SWISS NETWORK**

7.6.14.1 STRUCTURE GAUGE (4.2.4.1)

**P cases**

The structure gauges shall be set on the basis of the gauges EBV O1, EBV O2, EBV O3 and EBV O4, whose dimensions and application fields are defined in the Implementing Provisions of the Railway ordinance (AB-EBV, SR 742.141.11), art. 18. The cinematic method of calculation according to prEN 15273-3, Annex C, Tables C.1 and C.4 is used to define all EBV structure gauges.

Description of compatibility of EBV gauges with gauges of prEN 15273-3:

- EBV O1: Includes gauge GA. Calculation method according to prEN 15273-3, Annex C, Table C.1 is used. Tables C.2 and C.3 are **not accepted**. The standard loadings for gauge GA, defined in UIC 506, Annex 2, Section 1.1 are accepted in operation.
- EBV O2: Includes gauge GB. Calculation method according to prEN 15273-3, Annex C, Table C.1 is used. Tables C.2 and C.3 are **not accepted**. The standard loadings for gauge GB, defined in UIC 506, Annex 2, Section 1.2 are accepted in operation.
- EBV O3: Special Swiss gauge without direct compatibility to prEN 15273-3.
- EBV O4: Compatible to gauge GC according to prEN 15273-3, Annex C, Figure C.3 and Table C.4.

7.6.14.2 DETERMINATION OF IMMEDIATE ACTION, INTERVENTION, AND ALERT LIMITS (4.2.9.1)

**P cases**

All Categories of Line

The Infrastructure Manager shall determine appropriate immediate action and intervention limits for the following parameters:

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**Form for comments to TSI**

Date: 15.06.2009	Coordinator's name: Roland BACHER	TSI document: IU-ENE-081219-TSI 3.0
	Signature: Mike SCHWELLER	Language: English

1	2	3	4	5	6	7
Comment Identification <sup>1</sup>	Type of comment <sup>2</sup>	Chapter, paragraph, line/Table	Current text	Proposed text	Justification for change	OTIF Secretariat observations on each comment submitted
CH-01	ed	4.2.20.2 4.2.20.3		<i>Add a picture for explanation like TSI ENE HS.</i>	better understanding	
CH-02	ed	Annex E		<i>Add all symbols to the table of symbols and abbreviations E.1.3</i>	better understanding	
CH-03	ge	7.5.2		<i>Add following <b>Specific Case</b>: Particular features on the Swiss network P case Trains operating on the Swiss network shall be provided with secondary 1450 mm pantographs (with horns made of insulating material).</i>	The investment of changing the gauge of the overhead contact lines and the gauge of existing tunnels and in stations to meet the requirements of the 1600 mm Euro pantograph is prohibitive.  For new and several upgrade lines the 1600 mm Euro pantograph will be taken into account and referred in the registry of infrastructure.	

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Date: 15.6.2009	Coordinator's name: Roland BACHER	TSI document: TSI "LOCOMOTIVES AND PASSENGER RST" Version 2.4
Signature: Daniel KIENER		Language: English

1	2	3	4	5	6	7
Comment Identification <sup>1</sup>	Type of comment <sup>2</sup>	Chapter, paragraph, line/Table	Current text	Proposed text	Justification for change	OTIF Secretariat observations on each comment submitted
CH-01	ge	open	none	A list of abbreviations would be useful.		
CH-02	ge	open	none		Requirements on the vehicle side which have to be fulfilled for implementing an ETCS on-board equipment are missing and would be useful: e.g. the traction cut-off must be possible in a save way which corresponds with the safty level of the ETCS on-board equipment.	
CH-03	ge	4.2.2.7	Requirement for fixed devices "to withstand 5g in longitudinal direction" is contradictory to EN 12663-1:2007 quoted 5 lines above: There, you should find 3g for cat. L, 5 g for cat P-I and 3 g for cat. P-II vehicles.		error?  The contradiction following EN 12663-1 to be corrected?	
CH-04	te	4.2.3.4.2	Table 1: Conditions for contact conditions...		error  The mathematical symbols of relations in accordance with EN 14363:2005 Table	

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					7 to be corrected.	
CH-05	te	4.2.4.2.1	Units shall be equipped with: - a main brake function used during operation for service and emergency braking. - a parking brake function used when the train is parked, allowing the application of a brake force without any available energy on board for an unlimited period of time.	The gradient is not mentioned, but it must be possible to park also in the steepest gradient safely.	Not clear enough defined.	
CH-06	te	4.2.4.2.1	In case of unintentional train separation, the two parts of the train shall be brought to a standstill; the braking performance on the two parts of the train is not required to be identical to the braking performance in normal mode.	To be set additionally: The braking performance of each separated part must be so that the part in the back does not crash in the front part while braking.	Safety of passenger.	
CH-07	ge	4.2.4.2.1	In the event of the braking energy supply being disrupted or the power supply failing, it shall be possible to hold in a stationary position a unit with maximum load (design mass under exceptional	Swiss requirement: 50‰	<b>Specific Case</b>	

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			payload) on a 35‰ gradient by using the friction brake of the main brake system alone, for at least two hours.			
CH-08	te	4.2.4.4.2	When the speed of the train is higher than 15 km/h, the service brake activation shall lead automatically to the cut-off of all tractive effort; this cut-off shall not be reset until the traction command is cancelled by the driver.		The reason of this limitation is not clear. If there are very bad conditions and a train runs down a gradient it is possible that: - the train speed indication goes to 0 km/h - the train itself has a speed far above 15km/h. All a driver can do under these circumstances is to accelerate with tractive effort against the brakes and wait until speed of the train and the driving wheels are nearly equal. With the 15km/h restriction this will not be possible and the train damage is guaranteed.	
CH-09	te	4.2.4.4.5	For other units, the parking brake command shall be either	From the Swiss point of view it would be better to activate	safty on mountain operation when parking in	

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			activated manually, or activated automatically when the unit is switched off.	the parking brake automatically when the drivers cab is switched off (no drivers cab is equipped).	gradient	
CH-10	te	4.2.4.5.4	This calculation shall include the scenario consisting of 2 successive emergency brake applications from the maximum speed (time interval corresponding to the time needed to accelerate the train up to the maximum speed) on level track for the load condition "design mass under exceptional payload".		Very good that two successive brakes are needed!  It would be worth to know the virtual technical maximum speed the brake system can resist without having to much energy to absorb and damaging the system. This would help for easy calculating the maximum possible speed in gradient running down which can be safely permitted and the brake system is able to cope with the energie which has to be absorbed.	
CH-11	te	4.2.4.5.4	The result (maximum line gradient, associated length and operating speed) shall be recorded in the rolling stock register defined in clause 4.8 of	To set additionally: And after that 46 km consistant gradient a safe braking to the standstill must be possible without damaging the braking	safety issue	

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1	2	3	4	5	6	7
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			this TSI. The following "reference case" for the slope to be considered is suggested: maintain the speed of 80 km/h on a slope of 21‰ constant gradient over a distance of 46 km. If this reference case is used, the rolling stock register shall only mention the compliance to it.	system (from an energy point of view).  For Swiss network conditions 27‰ would be more useful.		
CH-12	te	4.2.4.6.1	The following values: 0.15 for units designed to carry passengers and assessed for general operation, and for units assessed in fixed or pre-defined formation(s) having more than 7 and less than 16 axles. 0.13 for locomotives and units assessed in fixed or pre-defined formation(s) having 7 axles or less. 0.17 for units assessed in fixed or predefined formation(s) having 16 axles or more.	We would prefer from our experience: <b>0.13</b> for units designed to carry passengers and assessed for general operation, and for units assessed in fixed or pre-defined formation(s) having more than 7 and less than 16 axles. <b>0.15</b> for units assessed in fixed or predefined formation(s) having 16 axles or more.	Experience in Swiss railway operations shows that these are limits which under normal circumstances can be met.	
CH-13	te	4.2.4.6.2	For units equipped with a dynamic braking system, a WSP system shall control the dynamic	The electric brake force should be always available.	Why reducing the electrical brake force?	

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			brake force; in case this WSP system is no more available, the dynamic brake force shall be inhibited, or limited in order not to lead a wheel/rail adhesion higher than 0.15.		For operation on mountain lines this requirement is not appropriate.  Electrical brake force should always be available. While running a train downhill under wet conditions, in tunnels the driver can make use of better adesion.	
CH-14	te	4.2.4.7	Where the braking performance of the dynamic brake or of braking system linked to the traction system is included in the performance of the emergency braking defined in clause 4.2.4.5.2, the dynamic brake or the braking system linked to traction shall be included in the safety analysis performed to demonstrate the compliance with the safety requirements set out in clause 4.2.4.2.2 for the emergency brake function.		When we understand all correctly it will be possible that the electric braking can be included in the brake calculation.  From a safety point of view, especially in mountain operation the electric braking must not be a part of the braking calculation. There must be an automatic compensation when the electrical part is suddenly missing!	

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CH-15	ge	4.2.4.10	The braking performance developed by the rescued train in this particular operating mode shall be evaluated by a calculation, but is not required to be the same as the braking performance described in clause 4.2.4.5.2. The calculated braking performance shall be part of the technical documentation specified in clause 4.2.12. This requirement does not apply to units which are operated in a train formation of less than 200 tons (load condition "design mass in working order").		Why are trains with less than 200 tons excluded?	
CH-16	te	4.2.7.2.1	HORN UIC 644 as basis	HORN EN 15153-2:2007 as basis.	The frequencies in this TSI correspond to UIC 644 but are not in line with any of the four cases in EN 15153-2:2007 (EN 15153-2:2007 is cited in the following chapter)	
CH-17	ge	4.2.6.2.2	<b>SLIPSTREAM EFFECTS ON PASSENGERS ON</b>		This is so far not a safety problem, since no accident	

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			<p><b>PLATFORM</b> Rolling stock running in the open air at a maximum operating speed <math>v_{tr} &gt; 160</math> km/h, shall not cause the air speed to exceed value <math>u_{2\sigma} = 15,5</math> m/s at a height of 1,2 m above the platform and at a distance of 3,0 m from the track centre, during the passage of rolling stock. Conformity shall be assessed on the basis of full-scale tests under conditions specified in EN 14067-4 clause 7.5.2. The measurements shall be performed on a platform of a height between 100 mm and 400 mm above top of rail. The formation to be tested is specified below for different types of rolling stock:</p>		<p>due to aerodynamic effects (especially slipstream) have been reported in the last years.</p> <p>Since the criteria have to be proven by testing, the test as described can only be performed with completed vehicles. Test results at this stage are too late.</p> <p>These criteria should be softened or even omitted.</p>	
CH-18	ge	7.3.2.20	<p><b>PANTOGRAPH HEAD GEOMETRY</b> Trains intended to be operated in France and Switzerland , or on other lines outside the TEN with catenary systems only</p>	1450 mm pantograph: To be set also as Swiss <b>Specific Case.</b>	Cf. also with Swiss comments on CR TSI Energy.	

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			compatible with 1450mm pantographs, shall be provided with 1450 mm wide pantographs heads. On these trains it is allowed to install only pantographs with head geometry of length 1450 mm as long as			
CH-19	ge	4.2.7. 1.2	<b>MARKER LIGHTS</b> The colour of marker lamps shall be in accordance with EN 15153-1:2007, clause 5.4.3 (values for "full marker lamp") and clause 6.1 (test).	<b>Specific Case:</b> Swiss emergency signal: three red lights on the front (instead of the white marker lights.)		
CH-20	te	4.2.9.3.1	Any lack of driver's activity when the train is in driving configuration (cab activated) and is moving (criterion for movement detection is at a low speed threshold) shall be detected within 30 to 60 seconds and shall lead, in the absence of driver reaction, to a full service brake or an emergency brake application on	To be set additionally: When the driver releases the automatic vigilance device (also called dead man's handle), a warning signal shall be activated and without reaction of the driver within 3 to 5 seconds the automatic brake shall be applied.	Vigilance device requirement with 30 to 60 sec / no reaction (slow mode) <b>and</b> 3 to 5 sec / handle released (fast mode) has been successfully practicing in Switzerland for several years.	

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			the train.			

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