

Making the railway system
work better for society.

Document Review – Comment Sheet

Document commented (name/version):

Requestor:	
Deadline for submitting comments:	16-10-2018

Document History

Version	Date	Comments
0.1	10-12-2018	

Conventions:

Reply by requestor	
R	Rejected
A	Accepted
NWC	Noted without need to change

N°	Reviewer	Reviewer's Comments, Questions, Proposals	Reply	Proposal for the correction or justification for the rejection
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1.	LONDON FIRE BRIGADE LFB	<p>Clauses 2.2.1, 2.2.2 and 2.3(c), general observation: concern regarding distinction between 'hot' and 'cold' incidents. The emergency response procedures for fires and explosions and emission of toxic smoke or gases will differ from those applied in response to incidents such as collision and derailment. This distinction is not useful for the purpose of this document. Made specific observations below.</p> <p>Clause 2.2.1(a): The definition of fire given in this clause ("Fire is understood as a combination of heat, flames and smoke.") is imprecise.</p> <p>Clause 2.2.1(b): "Ventilation is shut down to prevent smoke distribution". The smoke control systems/smoke ventilation, is not forming a requirement for compliance with the TSI SRT</p> <p>Clause 2.2.1(b): "If a fire extinguishing system can extinguish the fire, the incident will become a 'cold' incident".</p> <p>Emergency response services will normally continue to treat a fire incident as a 'hot' incident until they can ascertain that fire, products of combustion and/or other factors no longer pose a hazard to life.</p> <p>Clause 2.2.2(b): collision, derailment and other incidents not involving fire will also impose a time constraint.</p>	NWC	<p>The LFB contribution brings very interesting information about a rescue service perception of the chapter 2 of the TSI.</p> <p>The current chapter 2 presents the principles of the safety in railway tunnels from a general perspective, and does not intend to describe precisely the role of rescue services which is a matter for national legislation as indicated in clause 2.3 (a).</p> <p>The chapter 2 has almost not evolved since the first SRT TSI was published in 2008. Its revision was not planned within the current revision of the SRT TSI and the proposals from LFB can't be accepted without being discussed by the representative bodies and NSAs.</p> <p>Consequently, the comments from LFB will be presented and discussed by the Working Party which will also agree on how to make the best usage of them (f.i. include them in the application guide or keep them as an input for a future revision).</p>
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		<p>Clause 2.2.3(a): “Prolonged stop (an unplanned stop in a tunnel, without the occurrence of a hot or cold incident, for longer than 10 minutes) is not by itself a threat to passengers and staff.”</p> <p>10 minute threshold is not useful purpose for this document. Furthermore, and following also on Clause 2.2.2(b) above, a prolonged stop event, either in a tunnel or open route environment, can pose a threat to passengers and staff in addition to the possibility of spontaneous, uncontrolled evacuation onto railway infrastructure.</p> <p>Clause 2.3(c): the definitions of ‘hot’ and ‘cold’ incidents given in this clause contradict those given in 2.2.1 and 2.2.2. For example, in 2.3(c)(2) it is stated that “In a ‘cold’ incident type” emergency response services are expected to “Provide initial help to people with critical injuries”. This imposes a clear time constraint which may be no less demanding than where fire and smoke are present.</p>		
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		<p>Clause 2.4(c): "Final place of safety: the final place of safety is the place where passengers and staff will no longer be impacted by the effects of the initial incident...".</p> <p>To remove "initial" as this could be interpreted as implying that a final place of safety is not necessarily required to be protected from the effects of incidents that develop as a result of/in conjunction with, but subsequent to, the initial incident. This may result in confusion. The removal of the word does not detract from the meaning of the clause."</p>	A	The text is modified accordingly.

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		<p>Clause 1.1.4(a) and 4.2.1.2(b): clarification requested on the purpose of removing collapse of neighbouring structures from the risk scope of this document. It is very difficult to quantify the risk of a tunnel collapse to the potentially large number of structures that may be in the vicinity of a railway tunnel, especially where the tunnel is located in a metropolitan area.</p> <p>However, there may be cases where a tunnel is located directly beneath or adjacent to other structures and the collapse of the tunnel could result in the collapse of these structures.</p> <p>The requirement to design structures such that, in the event of an accident, the building will not suffer collapse to an extent disproportionate to the cause or result in the collapse of other structures may be covered in other national legislation and in relevant Eurocodes, but if this is the case this should be explicitly stated.</p>	NWC	That type of risks is removed from the scope covered by the TSI: the TSI should concentrate on its scope, which is to cover the risks for passengers and on-board staff. Other risks (that are not in the scope of Interoperability) are covered by other regulations and standards.

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		<p>Clause 4.2.1.6(3): “The height of the walkway shall be at bottom-of-rail level or higher”.</p> <p>Rails protruding above the level of the escape walkway could pose a trip hazard for evacuating passengers, staff and emergency response personnel.</p> <p>The reason for this amendment to be explained and LFB prefers the original wording of the clause to be retained.</p>	R	<p>The reason of the change comes from an ambiguous wording in the original SRT TSI (2008 version: “<i>the minimum level of the walkway shall be within the height of the rail</i>”), that was translated differently in the linguistic versions: either above the top-of-rail or above the bottom-of-rail.</p> <p>The wording of the TSI 2014 resulted in contradictions in several countries. The new wording solves this issue.</p> <p>The height of the walkway is not considered a significant parameter in terms of hazards to evacuating passengers.</p>
		<p>Clause 4.4.2: the requirement for Railway Undertakings intending to use the tunnel to be involved in the development or adaptation of the Emergency Plan has been removed. Therefore it is optional for Railway Undertakings to be involved with development or adaptation of the Emergency Plan and that the Emergency Plan must be communicated to them.</p> <p>The involvement of the relevant RUs in the development or adaptation of an Emergency Plan is essential as RUs must be able to verify that they are capable of implementing the Emergency Plan. There is a danger that, not doing that and simply communicating this to them, the Emergency Plan may not be viable.</p>	A	<p>The draft has been reworded in order to take account of all the possible cases.</p>

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		Clause 7.2.2.1 and 7.2.2.2: no reference is made to the requirement for firefighting water supplies in either the 'Renewal or upgrading of a tunnel' or 'Extension of a tunnel' clauses. The provision of adequate fire-fighting water supplies, including tunnel fire mains, is essential to fire and rescue services being able to effectively respond to fire incidents in tunnels.	R	The only requirement about water supply is that evacuation and rescue points shall be equipped with water supply (minimum 800l/min during 2 hours). The characteristics of existing tunnels would not always permit this requirement to be fulfilled. Consequently, it is proposed to state that a risk assessment shall be implemented for defining the relevance of applying the measures of clause 4.2.1.5 (1) to (3) and of clause 4.2.1.7 to a tunnel resulting from an extension.
2.	NSA CH	Chapter 4.2.1.3; Paragraph (a) (1): It should be made clear, that cables are not subject of this requirement.	A	The mention of cables is removed from the paragraph (a).
		Chapter 4.2.1.3; Paragraph (a) (3): In accordance with paragraph (a) (1) a classification should be set according table 4 of commission delegated regulation 2016/364, suggested B2ca s1 d1 a1 according German preliminary VDV-Schrift 515 (2018). Otherwise, this requirement is not testable.	R	The Agency believes that no specific class shall be required, see the answer to the comments made by Europacable.
		Chapter 4.2.1.3; Paragraph (b): It should be set clear, what means "fire load" in terms of cables, because fire reactions of cables are flammability, fire spread, toxic substances and smoke.	NWC	The proposal is noted: the clarification can be made in the Application Guide of the TSI that will be discussed in 2019.

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		<p>Chapter 4.2.2.1:</p> <p>It is not clear, which requirements are to be applied for tunnels equal or less than 5 km length:</p> <p>Is it allowed to divide in segments? If yes, is it necessary to switch off the traction energy supply of each segment?</p> <p>From our point of view it should be set as "This specification applies to all tunnels".</p>	A	<p>It is proposed to apply this specification to tunnels of more than 1km for consistency with chapter 4.2.2.2. By doing so, no requirement apply to tunnels of less than 1km.</p> <p>See also section 4.4.4 (a) regarding switching off the traction power supply system.</p>
		<p>Chapter 4.2.2.1; Paragraph (a):</p> <p>According the new regulation it is no longer required to divide tunnels into sections. This is a major change. We are wondering why tunnels up to now have to be divided and this requirement will be no longer valid. Please, could you give us the reason why?</p> <p>It seems to be better to identify the reason and the target of segmentation of overhead lines or conductor rails in coordination with the emergency plan. We suggest to revise this paragraph accordingly.</p>	NWC	<p>The Working Party considered that the requirement on sectioning should allow more flexibility for instance depending on the expected operation of the tunnel. It was also remarked that the length of the sections could take into account the tunnel length, the operating program and the signalling system. In some cases, the only reason for sectioning the contact line was to fulfil the TSI requirement.</p> <p>Therefore, it was decided to remove that requirement. The Application Guide may provide some explanations on the reason and target of such sectioning of the contact line.</p>

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		Chapter 4.2.2.2: We are wondering why the paragraph (c) was deleted. Please, could you give us the reason why?	NWC	This paragraph expresses an operational requirement. Therefore, it was transferred to the chapter 4.4.4: <i>“(c) Procedures and responsibilities for earthing of the contact line shall be defined between the Infrastructure Manager and the emergency response services, and reported in the emergency plan.”</i>

3.	<p>EUROPACABLE, supported by contributions from CABLEBEL, ANIE/AICE, FACEL, FEDET, AVK, TopCable</p>	<p>The organisation strongly asks to preserve the class B2ca-s1a,a1 as the minimum requirement for exposed cables. Omitting the B2ca,s1a,a1 categorisation:</p> <ul style="list-style-type: none"> - contradicts Commission Regulation (EU) 1303/2014: “existing safety levels shall not be reduced in a country”. On top, FEDET refers to the Dutch standard NEN 8012 where for high fire hazard application B2ca s1d1a1 is prescribed. - open the possibility to install cables with lower fire performance requirements. References to different standards are provided to indicate that cable classes C and D have lower fire safety performance. <p>This lower fire performance requirements for cables will only result in a higher fire risk in rail tunnels, if the fire load of the cables concerned represent a substantial hazard. It is the case due to the volumes of cables installed per kilometre of subway and train tunnels longer than 1 km (estimations are provided by almost all organisations).</p> <p>In addition, in EUROPACABLE position, supported by ANIE/AICE, FACEL, FEDET and AVK:</p> <p>the previous point 3 is supported by the analysis provided by the Dutch Fire Service Academy as part of the Netherlands Institute for Safety (IFV) which is submitted separately in this consultation.</p>	<p>R to comments 3 to 7</p>	<p>The following answer below covers comments 3 to 7:</p> <p>ERA takes note of the opposition of cable manufacturers to the removal of the specific requirement for class B2ca, s1a, a1 cables.</p> <p>The arguments developed by Europacable are supported by several national organisations and some manufacturers. Here under are ERA answers to the arguments presented.</p> <p>On the revision of the SRT TSI between 2008 and 2014</p> <p>From the SRT TSI 2008 to the SRT TSI 2014, the parameter relative to the reaction to fire of exposed cables evolved from:</p> <p><i>In case of fire, exposed cables shall have the characteristics of low flammability, low fire spread, low toxicity and low smoke density.</i></p> <p><i>These requirements are fulfilled by compatibility of the cables with EN 50267-2-1 (1998), EN 50267-2-2 (1998) and EN 50268-2 (1999)</i></p> <p>to:</p> <p><i>“In case of fire, exposed cables shall have the characteristics of low flammability, low fire spread, low toxicity and low smoke density. These requirements are fulfilled when the cables fulfil as a minimum the requirements of classification B2CA, s1a, a1, as per Commission Decision 2006/751/EC”</i></p> <p>The referred ENs in the SRT TSI 2008 include tests methods for cables but not mandatory performance requirements. On the contrary, this is the case for classification B2CA, s1a, a1. This evolution was not considered by ERA as a change, but as a clarification. This was a mistake of ERA, as this</p>
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		<p>In addition, in EUROPACABLE position, supported by ANIE/AICE, FACEL and AVK:</p> <p>tragic accidents demonstrate that trains will not always be able to leave a rail or subway tunnel or get to a safe spot in case of fires as it is assumed in the Technical Opinion ERA/OPI/2018-2</p> <p>The requirement for cables of category B2ca,s1a,a1 in the revised SRT TSI 2014 does not represent a new requirement but merely a clarification. The move from STR TSI 2008 to SRT TSI 2014 was merely a precision of the requirements related to cables taking into account technical progress (New fire tests and fire classes in accordance to Constructive Product Regulation).</p> <p>As it is a clarification, there was no need for a cost/benefit analysis in the TSI SRT 2014 and the process was handled correctly. In return, the new proposal from ERA to remove the B2ca,s1a,a1 classification is not justified by a cost benefit analysis which would, however, be necessary for such a reduction</p>		<p>change was clearly a new requirement, at least in several Member States: if in some Member States (e.g. France), the national regulation in force already required cables of class B2ca, s1a, a1 (and for them the evolution was actually a clarification), this was not the case in all Member States. Consequently, this change should not have been considered a clarification for the complete European railway system, but a new requirement. Being a new requirement, it should have been subject to a cost benefit analysis as required by Directive (EU) 2016/797 article 5 clause 3 stating that <i>“when drafting or reviewing each TSI, including the basic parameters, the Agency shall take account of the estimated costs and benefits of all the technical solutions considered, together with the interfaces between them, so as to establish and implement the most viable solutions.”</i></p> <p>The fact that the analysis was not done can be considered a deficiency in the SRT TSI 2014. Consequently, this parameter in the SRT TSI 2014 is deficient.</p> <p>On the safety of rail passengers and on-board staff</p> <p>The purpose of the SRT TSI is to define a coherent set of tunnel specific measures for the infrastructure, energy, rolling stock, control-command and signalling and</p>

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4.	LEONI	<p>The organisation strongly asks to preserve the class B2ca-s1a,a1 as the minimum requirement for exposed cables. Omitting the B2ca,s1a,a1 categorisation:</p> <p>Open the possibility to install cables with lower fire performance requirements. References to different standards and fire tests are provided to indicate that cable class D have lower fire safety performance.</p> <p>This lower fire performance together with the volumes of cables installed per kilometre train tunnels longer than 1 km (estimations are provided per km), makes omitting these requirement an important safety issue.</p> <p>The fire safety requirements in Switzerland have always been high for open cable Installation in railway tunnels. Before SRT TSI 2013, the Switzerland requirement included EN 60332-3-24 for fire spread, EN 61034-1/2, for smoke and EN 60754-1 and -2 or EN 50267-2-1 and -2-2 for low toxicity (absence of halogens). With SRT TSI 2013, the B2ca,s1a,a1 was added (see AB-EBV), formulating the past requirements in the new CPR-frame.</p>		<p>operation subsystems, thus delivering an optimal level of safety in tunnels in the most cost-efficient way.</p> <p>This is an essential aspect of the SRT TSI: it provides a system approach to safety in railway tunnels. This system approach consists in identifying, on the basis of incident scenarios described in chapter 2 of the SRT TSI, relevant measures which control or significantly reduce the risks and to distribute these measures to the concerned subsystems.</p> <p>Therefore, measures are not only addressing the tunnel itself but also the other subsystems such as rolling stock. Passenger rolling stock, for instance, have a certain running capability (5km or 20km) that gives them the ability to cover such distance with a fire on-board and to evacuate passengers once they are out of the tunnel or once they have reached a designated stopping point equipped for a swift evacuation.</p> <p>As highlighted in the Technical Opinion ERA/OPI/2018-2, according to the incident scenarios, having class B2ca, s1a, d1 exposed cables all along any tunnel would bring very limited benefit to the safety of passengers and on-board staff. Consequently, that requirement has been qualified as unnecessarily strict in the Technical Opinion. In addition, even if the length of cables in tunnels could be significantly large, most of them are normally not exposed.</p>

5.	Fire Service Academy (as part of the Institute for Safety (IFV))	<p>The organisation strongly asks to preserve the class B2ca-s1a,a1 as the minimum requirement for exposed cables:</p> <p>There is no guarantee that a train on fire, that is located in a railway tunnel, will always proceed to a safe spot. No risk analyses or failure probabilities are calculated which would justify the assumption that a train on fire will arrive to a safe spot.</p> <p>Therefore, there is a realistic chance that an evacuation or rescue of people needs to take place <i>inside</i> a railway tunnel.</p> <p>Cables can be identified as a major part of the fire load in railway tunnels, due to the volume of cables in tunnels (<i>estimations are provided</i>). In addition, the instruction of the Dutch fire service includes information on cables being one of the most important fuels in tunnel fires.</p> <p>Cables of class C, D or E contribute to a greater development of flammability, fire spread, toxicity and smoke density than B2ca, s1a, a1, cables (based on the different classification of cables based on the applicable European standards (e.g. EN 13501-6, EN 60332-1-2 and EN 50399))</p> <p>Based on the proposed change, cables of class B2ca, s1a, a1, will not be applied anymore in tunnels, but instead cables of class C and D will be installed.</p> <p>The proposed change will lead to a decrease of the fire safety in railway tunnels, and therefore</p>	<p>That does not mean that such class should not be used at all in railway tunnels. Unlike a road tunnel where vehicles can be expected all along the tunnel at any time, the occupancy of a railway tunnel can be determined and analysed according to the operational regime of the tunnel, and the conditions for evacuation determined on the basis of the risk scenarios. It can be appropriate to use class B2CA, s1a, d1 cables at some identified tunnel locations.</p> <p>On the need for a specific categorisation in the SRT TSI</p> <p>As indicated on the European Commission webpage about the Construction Products Regulation, <i>“the Construction Products Regulation lays down harmonised rules for the marketing of construction products in the EU. It provides a common technical language to assess the performance of construction products. It ensures that reliable information is available to professionals, public authorities, and consumers, so they can compare the performance of products from different manufacturers in different countries.”</i></p> <p>Among its benefits, it allows <i>“national authorities to set performance requirements using the harmonised European standard or European Assessment Document”</i> and <i>“users of construction products to better define their performance demands”</i>.</p> <p>It is not the intention of the Construction Product Regulation to require any specific class for a particular application. This is highlighted in the Regulation itself, for instance in the following:</p>
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		also to decreased safety of train crews and passengers.		Recital (3): <i>This Regulation should not affect the right of Member States to specify the requirements they deem necessary to ensure the protection of health, the</i>

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6.	SYCABEL	<p>The organisation strongly asks to preserve the class B2ca-s1a,a1 as the minimum requirement for exposed cables:</p> <p>the requirement for cables of category B2ca,s1a,a1 in the revised SRT TSI 2014 represents a clarification and an evolution</p> <p>The proposed change is against the whereas 18 of TSI SRT: “In addition, in accordance with Article 4 of the same directive, Member States shall ensure that railway safety is generally maintained and, where reasonably practicable, continuously improved, taking into consideration the development of Community legislation and technical and scientific progress and giving priority to the prevention of serious accidents.”</p> <p>Cables of class C, D or E contribute to a greater development of flammability, fire spread, toxicity and smoke density than B2ca, s1a, a1, cables (based on the different classification of cables based on EN 13501-6. On top, class Dca has no requirements for fire performance. Consequently, there is a degradation in the level of safety.</p> <p>The prescription of the SYCABEL guide are adapted for the different types of constructions.</p>		<p><i>environment and workers when using construction products.</i></p> <p>Article 27 (6): <i>When the Commission has established classification systems in accordance with paragraph 1, Member States may determine the levels or classes of performance to be respected by construction products in relation to their essential characteristics only in accordance with those classification systems.</i></p> <p>The Agency believes that the SRT TSI should not go against this application of the principle of proportionality. The SRT TSI shouldn't go beyond what is necessary in order to achieve its objective, which is to permit the free movement of TSI-compliant vehicles to run under harmonised safety conditions in railway tunnels. First, the class of cables has no influence on the free movement of TSI-compliant vehicles (Interoperability). Second, the harmonised safety conditions do not require the mandatory usage of class B2CA, s1a, d1 cables over the full length of all European railway tunnels. Therefore, the Agency is of the opinion that the class of cables to be used in a tunnel should not be strictly regulated by the TSI and should remain a National matter. Should a specific class be required in the SRT TSI, it could eventually be different from National requirements in the Member States that make the choice to “<i>specify the requirements they deem necessary</i>”. This would be a source of uncertainty and contradiction.</p>

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7.	ZVEI German Cable Makers Association	<p>It proposes to leave a reference to a European fire class for cables as:</p> <p>it gives clear instructions to the user and corresponds to the idea of a uniform European regulation regarding the classification of the fire behaviour of cables</p> <p>it is proposed the highest possible safety standard and not to use unclear definitions, which would lead to a different level of security within Europe. For the real majority of cable products, this corresponds to class B2ca, s1, d1, a1.</p> <p>this organisation understands the Position of the ERA that, in very few and special cases, there might be cables that do not meet the requirements of class B. However only very few products, like radiating cables, currently cannot reach this class. In these cases, the highest possible class should be selected until the technical development allows to reach the class B</p> <p>With regard to the ERA opinion, class Dca, which is not excluded from that opinion, has no requirements for fire propagation and it is contrary to the European idea of safety in the directive. This means that exceptions (in that special cases) to the B2ca classification requires at least a Cca classification</p>		<p>The functional requirement of low flammability, low fire spread, low toxicity and low smoke density is sufficient, as this approach was followed in the SRT TSI 2008.</p> <p>On the reduction of the existing safety level</p> <p>The Agency does not share the point of view that reverting to the previous wording of the TSI would contradict the statement that <i>“existing safety levels should not be reduced in a country”</i>. This statement is intended to allow Member States to <i>“retain more stringent requirements, as long as these requirements do not prevent the operation of TSI compliant trains”</i> and to <i>“prescribe new and more stringent requirements for specific tunnels”</i>. This statement is therefore another illustration of the principle of proportionality applied by the SRT TSI: not go beyond what is necessary in order to achieve its objective, which is interoperability under harmonised safety conditions.</p> <p>The Construction Products Regulation fully entered into force, after a transitional period of co-existence with previous requirements, on 1st July 2017. The Agency was first made aware of an issue with the required class of cables already in September 2017; this fast feedback from the sector shows the tangibility of the concern. The Technical Opinion ERA/OPI/2018-2 was delivered on June 12th, 2018 and since that date the requirement for class B2ca cables, considered deficient, isn't applicable. In conclusion, given the duration of tunnel projects, the impact of that SRT TSI requirement is certainly very limited.</p>

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8.	CER	CER detailed list of comments is available in the dedicated space to this consultation on the ERA website under the title "CER Comment on Draft Recommendation 006REC1078"		These comments have been discussed in the working party