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To the attention of:
Ms. Elisabeth Werner
Director of Directorate C – Land
Directorate-General for Mobility and
Transport
European Commission

JD/AG-AD/D 2018/1703

Valenciennes, 13 JUN 2018

Subject: The Agency's Opinion ERA/OPI/2018-2 on a potential deficiency of SRT TSI in respect to requirements applicable to exposed cables in tunnels


Dear Ms Werner,

In response to your letter Ares (2018)1942018 of 11 April 2018, please find attached the Agency Opinion ERA/OPI/2018-1 regarding a possible revision of ENE TSI - design of the overhead contact line.

Should you require further clarification, please do not hesitate to contact me. For detailed questions, you may wish to contact Ms Anna Gigantino, the Head of Interoperability Unit (tel: +33 327 096 548, e-mail: Anna.GIGANTINO@era.europa.eu).

The attached opinion and the corresponding light impact assessment carried out by the Agency will be published on the Agency's website.

Yours sincerely,



Josef DOPPELBAUER
Executive Director

Enclosure: 1. Agency's Opinion N ERA/OPI/2018-2 regarding potentially excessive reaction to fire requirements for exposed cables in tunnels
2. Light Impact Assessment

Copy: A. Gigantino, A. Defossez, J. Cole

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OPINION

ERA/OPI/2018-2

OF THE EUROPEAN UNION AGENCY FOR RAILWAYS

for

THE EUROPEAN COMMISSION

regarding

Potentially excessive reaction to fire requirements for exposed
cables in tunnels

Disclaimer:

The present document is a non-legally binding opinion of the European Union Agency for Railways. It does not represent the view of other EU institutions and bodies, and is without prejudice to the decision-making processes foreseen by the applicable EU legislation. Furthermore, a binding interpretation of EU law is the sole competence of the Court of Justice of the European Union.

1. General Context

- 1.1.1. *In its letter Ares(2018)1942018 of 12/04/2018, the European Commission asked the Agency to provide an opinion about a request made by EIM related to Commission Regulation (EU) 1303/2014 concerning the technical specification for interoperability relating to 'safety in railway tunnels' of the rail system of the European Union (SRT TSI 2014)¹.*
- 1.1.2. *The request concerns the clause 4.2.2.4 of the SRT TSI 2014 on electric cables, which is requiring that exposed cables "fulfil as a minimum the requirements of classification B2ca, s1a, a1, as per Commission Decision 2006/751/EC²".*
- 1.1.3. *EIM is of the opinion that this requirement is unnecessarily strict and leads to unjustified high costs in comparison with the requirements that were applicable until 1 January 2015. In addition, EIM claims that the way this requirement was introduced in the TSI constitutes a deficiency of the TSI.*
- 1.1.4. *Therefore the Agency is asked by the European Commission to provide an Opinion on the appropriateness of the required classification from a safety and cost / benefit perspective.*

2. Legal Background

2.1. Information on the legal base:

- 2.1.1. *According to the provisions of Article 6 (4) of Directive (EU) 2016/797³, any member of the network of representative bodies referred to in Article 38(4) of Regulation (EU) 2016/796⁴ may make the Commission aware of possible TSI deficiencies. EIM is a member of the network of representative bodies.*
- 2.1.2. *According to the provisions of Article 10 (2) of the Agency Regulation, The Agency shall issue opinions at the request of the Commission on amendments to any act adopted on the basis of Directive (EU) 2016/797, especially where any alleged deficiency is signalled.*

2.2. Detail of the alleged deficiency

- 2.2.1. *Directive (EU) 2016/797 article 5 clause 3 states that "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."*
- 2.2.2. *According to EIM, the evolution of the parameter relative to the reaction to fire of exposed cables should have been subject to such cost benefit analysis, which was not the case. Consequently, EIM judges that the process of changing this parameter in the SRT TSI was deficient and that the resulting requirement is deficient too.*

¹ OJ L 356, 12.12.2014, p. 394

² Commission Decision of 27 October 2006 amending Decision 2000/147/EC implementing Council Directive 89/106/EEC as regards the classification of the reaction-to-fire performance of construction products OJ L 305, 4.11.2006, p. 8

³ Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union, OJ L 138, 26.5.2016, p. 44

⁴ Regulation (EU) 2016/796 of the European Parliament and of the Council of 11 May 2016 on the European Union Agency for Railways and repealing Regulation (EC) No 881/2004, OJ L 138, 26.5.2016, p. 1

3. Analysis

3.1. The revision of the SRT TSI

3.1.1. *In the Commission Decision of 20 December 2007 concerning the technical specification of interoperability relating to safety in railway tunnels in the trans-European conventional and high-speed rail system⁵ (SRT TSI 2008), the parameter relative to the reaction to fire of exposed cables was as follows:*

“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 by compatibility of the cables with EN 50267-2-1 (1998), EN 50267-2-2 (1998) and EN 50268-2 (1999)”

3.1.2. *When revising the SRT TSI between 2011 and 2013, it was proposed by members of the Working Party to clarify which category of cable was required, and to replace the references to standards with the following:*

“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 B2_{ca}, s1a, a1, as per Commission Decision 2006/751/EC”

3.1.3. *This proposal was accepted by ERA and did not raise any comment. It was not considered by ERA as a change, but as a clarification. This is confirmed, for instance, by the report accompanying the Agency recommendation on the revision of the SRT TSI which states:*

“The TSI 2008 does not require a particular category of cables (...). It is necessary to clarify which category specified in the standards is being required (...). Therefore, the category has been clarified in the revised TSI”.

3.1.4. *It is also confirmed by the Impact Assessment report that quantifies the number of clauses that have been revised between the SRT TSI 2008 and the SRT TSI 2014: for the energy subsystem, three clauses have been revised of which one was simplified and two were clarified; there was no new requirement.*

3.1.5. *Decision 2006/751/EC classifies the cables into several classes according to their reaction-to-fire performance but does not specify which class is to be used for which application.*

3.1.6. *In some Member States (e.g. France), the regulation requires that cables in railway tunnels fulfil the requirements of classification B2_{ca}, but this is not the case in all Member States (e.g. UK). Consequently, at least for those, this change of parameter should have been considered a new requirement.*

⁵ OJ L 64, 7.3.2008, p. 1

3.2. Impact of the requirement on the level of safety in tunnels

3.2.1. *The SRT TSI lists the risk it covers: “only specific risks to the safety of passengers and on-board staff”. The coverage of other risks is explicitly excluded in the TSI, such as the health and safety of staff involved in maintenance of the fixed installations in tunnels and financial loss due to damage to structures and train.*

3.2.2. *The line of defence for the promotion of safety in tunnels comprises four successive layers: prevention, mitigation, evacuation and rescue. The largest contribution is in the area of prevention followed by mitigation and so on. In consequence of what, the risk of reaching the evacuation and rescue phase in the tunnel is small.*

3.2.3. *For the safety of passengers and on-board staff, the fire risk scenarios are described in the TSI:*

In case the fire starts on a train, whenever possible the train leaves the tunnel. Technical measures are in place to ensure that the train has sufficient running capability to leave the tunnel or, in the case of very long tunnels, to reach a “fire fighting place” where passengers can evacuate swiftly and where rescue services can intervene.

If a fire starts in a tunnel or in a technical room, it is detected and the drivers of the trains that are in the tunnel are instructed to act in compliance with the incident scenarios described in the Emergency Plan.

3.2.4. *According to these scenarios, having class B2ca cables all along any tunnel brings very limited benefit to the safety of passengers and on-board staff.*

3.2.4.1. *In case of a fire on-board the train, the train should be able to leave the tunnel; B2ca cables bring no benefit.*

3.2.4.2. *In case of a fire on-board the train and the size of the fire is such that train can't leave the tunnel; the train has to stop in the tunnel and evacuate passengers. The elements contributing to the fire are mostly the components of the train. Exposed tunnel cables could bring additional fire load but in limited quantity compared with the train itself. Most important is that the tunnel cables emit no toxic gases and can self-extinguish, both characteristics that do not require category B2ca. Having B2ca cables represents only a very limited benefit to the safety of passengers and on-board staff.*

3.2.4.3. *In case of a fire starting in the tunnel or in a technical room, it is unlikely that trains will be affected because fire detection systems are in place (required by the TSI) and operational measures will ensure that trains leave the tunnel and no further train enters. This may depend on the type of operation in the tunnel and the number of trains present in the tunnel, but the requirement to have B2ca cables in all tunnels brings no benefit to the safety of passengers and on-board staff.*

3.2.5. *In conclusion, considering the scope and scenarios of the risks covered by the SRT TSI, the new requirement brings no benefit to the level of safety in tunnels.*

3.3. Outputs of the SRT TSI Working Party discussion and of the consultation of NSAs & NRBs

3.3.1. *Note: this part has been completed after the consultation of NSAs and NRBs and after the SRT TSI Working Party meeting of 23rd May 2018.*

- 3.3.2. *During the consultation, comments have been received from NSAs France and Norway and from EIM and CER. Those comments are gathered in annex 2. Only NSA France expressed the opinion that class B2ca should be retained in the TSI; NSA Norway would favour class Dca as a minimum while EIM and CER support the Agency proposal.*
- 3.3.3. *During the SRT TSI Working Party meeting of 23rd May 2018, participants generally supported the opinion that requiring the use of B2ca cables is unnecessarily strict, with the exception of NSA France. The discussion that took place in the Working Party was mostly about the need to specify a minimum class or not. In case B2ca is not retained, NSA FR would prefer not to have any requirement to avoid contradiction with national references. NB Rail expressed a preference for minimum requirement at European level in case there are not national references for some Member States. CER underlined that the requirement of low flammability, low fire spread, low toxicity and low smoke density is anyway not consistent with class Eca because this class does not really set up a threshold on these parameters.*
- 3.3.4. *As a conclusion, ERA proposed to retain only the reference to the Construction Product Regulation and the general requirements of low flammability, low fire spread, low toxicity and low smoke density, similarly to what was specified in the SRT TSI 2008. This general requirement is sufficient to eliminate the lowest classes Eca and Fca that don't have such characteristics. It is not considered necessary to specify any higher class as this has no effect neither on Interoperability nor on Safety of passengers and on-board staff.*

3.4. Evolution of the European technical regulation

- 3.4.1. *Decision 2006/751/EC referred in the SRT TSI 2014 has been repealed by Commission Delegated Regulation (EU) 2016/364 of 1 July 2015 on the classification of the reaction to fire performance of construction products pursuant to Regulation (EU) No 305/2011 of the European Parliament and of the Council⁶.*
- 3.4.2. *This evolution takes place in the more general transition from the Construction Products Directive⁷ (CPD) to the Construction Products Regulation (CPR), requiring CE marking and Declaration of Performance (DoP) for all construction products.*
- 3.4.3. *The CPR requires additional testing/certification, which severity grows with the level of performances declared. Tests are more sophisticated and certifying the conformity to the DoP of Class C_{ca} and B2_{ca} cables is particularly strict. Most of cables of Classes D_{ca} and above require a full redesign to warrant the conformity of all types to the DoP. New materials have been developed on purpose to fulfil the new classes and the additional requirements like flaming droplets⁸.*
- 3.4.4. *In brief, the characteristics of each class is as follows:*
- | | |
|-------------|---|
| <i>Aca</i> | <i>No reaction</i> |
| <i>B1ca</i> | <i>Very low reaction Non flame propagator. Non fire propagator (1.75m)
Very low heat emission</i> |
| <i>B2ca</i> | <i>Low reaction Non-flame propagator. Non-fire propagator (1.5 m)
Low heat emission</i> |
| <i>Cca</i> | <i>Reduced reaction Non-flame propagator. Non-fire propagator (2m)
Reduced heat emission</i> |
| <i>Dca</i> | <i>Improved reaction Non-flame propagator
Improved heat emission</i> |
| <i>Eca</i> | <i>Basic reaction Non-flame propagator</i> |
| <i>Fca</i> | <i>Undetermined</i> |
- 3.4.5. *The CPR Classification is the common language to define the level of fire performances of cables. Any decision on which Class to adopt for a particular application is a National matter and could vary between different Member States. The wide range of combinations of the parameters (Class + smoke + acidity + droplets) gives the Member States a great flexibility. Not every Member State regulates the fire performances of cables⁹.*
- 3.4.6. *For instance, in UK the responsibility is vested in the Ministry of Housing, Communities and Local Government that has consistently said that it will not make any prescriptive legal requirement on reaction to fire for cables, as stated recently in a position paper from the British Cable Association (BCA)¹⁰.*
- 3.4.7. *The entry into force of Commission Delegated Regulation (EU) 2016/364 was the opportunity for associations of cable manufacturers to issue guidance on which class of cable to use for which application.*

⁶ OJ L 68, 15.3.2016, p. 4

⁷ Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products, OJ L 40, 11.2.1989, p. 12

⁸ Source : <http://www.europacable.eu/wp-content/uploads/2017/08/CPR-FAQ.pdf>

⁹ Source : <http://www.europacable.eu/wp-content/uploads/2017/08/CPR-FAQ.pdf>

¹⁰ Source : http://www.bcauk.org/application/files/4215/2292/1826/CPR_and_cables_-_UK_position_March_2018.pdf

3.4.8. The BCA recommends to adopt the following guidance:

Always specify that cables must have the CE marking according to CPR, accompanied by a Declaration of Performance;

Specify cables of class Eca or higher;

Preferably use cables described as low fire hazard or equivalent (Low Smoke Halogen Free), in particular where fire safety requirements are high or very high;

Ensure that low fire hazard cables above class Eca include the additional classifications for smoke, acidity and, for particular applications, flaming droplets;

Avoid cables classified as Fca, as they are likely to burn uncontrollably in a fire;

In case of doubt, consult the manufacturer

3.4.9. The French cable manufacturers association (SYCABEL = French Syndicat Professionnel des Fabricants de Fils et Câbles Électriques et de Communication) also provides a recommendation where four classes of cables are mentioned : **optimal** (B2ca, s1a, d1, a1), **improved** (Cca, s1, d1, a1), **basic1** (Dca, s2, d2, a2) and **basic2** (Eca)¹¹.

3.4.10. The SYCABEL mostly recommends to use **improved** or **basic1** cables. For high buildings, hospitals, concert halls or road tunnels, **improved** cables are recommended. The only case where **optimal** cables are recommended is the case of railway tunnels and underground stations, due to the European (SRT TSI) and French regulations that make such class mandatory.

¹¹ https://www.sycabel.com/upload/docs/application/pdf/2016-10/dir1/guide_rpc_applique_aux_cables_dif.pdf

4. The opinion

- 4.1.1. *The Agency is of the opinion that the requirement for cables of category B2ca, s1a, a1 in the revised SRT TSI 2014 was a new requirement and not a clarification. In consequence, the cost and benefits of this new requirement should have been analysed. The fact that the analysis was not done can be considered a deficiency in the SRT TSI 2014.*
- 4.1.2. *The Agency considers that this requirement is unnecessarily strict: given the risks covered by the SRT TSI and given the risk scenarios, cables of category B2ca will bring no additional safety to passengers and on-board staff. More specifically, requiring B2ca in all areas of all tunnels, regardless of the tunnel characteristics and of the type of operation, is unnecessarily strict.*
- 4.1.3. *The Agency notes that the category of cables has no influence on Interoperability.*
- 4.1.4. *The Agency remarks that the Construction Products Regulation lays down harmonised rules for the marketing of construction products in the EU, provides a common technical language to assess their performance and ensures that reliable information is available, but that it does not require any specific class for a particular application. The Agency notes that this was the approach followed in the SRT TSI 2008 where standards to apply were referenced without requiring any performance.*
- 4.1.5. *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.*
- 4.1.6. *For the ongoing revision of the SRT TSI, the Agency will propose to keep the general requirement low flammability, low fire spread, low toxicity and low smoke density and to make a reference to the CPR requiring that cables have the CE marking and are accompanied by a Declaration of Performance, without specifying further which class shall be used.*
- 4.1.7. *In complement, the Agency may propose a guidance in the application guide of the TSI for the risk assessment, on the basis of which the class of cable to use for a specific tunnel can be determined.*
- 4.1.8. *Pending the revision of the SRT TSI, the present opinion should constitute an acceptable means of compliance to the Commission Regulation (EU) 1303/2014 concerning the technical specification for interoperability relating to 'safety in railway tunnels' of the rail system of the European Union.*

Valenciennes,



Josef DOPPELBAUER
Executive Director

ANNEX 1 – Commission request



EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR
MOBILITY AND TRANSPORT



Request of the Commission to the Agency for an Opinion/Advice

Requesting Organisation (name, address)	DG MOVE, C4	
Contact information	Jonathan COLÉ	
Legal base	Opinion	<ul style="list-style-type: none"> → Agency Regulation Art. 25 and 26 → Agency Regulation Art. 10.1 → Agency Regulation Art. 10.2 → Agency Regulation Art. 19 → Agency Regulation Art. 42
	Advice	→ Agency Regulation Art. 41
Objective	To assess the appropriate fire resistance classification to be applied to cable in tunnel	
Scope	Point 4.2.2.4 of the Annex of Regulation (EU) 1303/2014	
Task Description	<p>Point 4.2.2.4 of the Annex of Commission Regulation (EU) 1303/2014 (SRT TSI) sets out fire resistance requirements for exposed cable in tunnel of more than one kilometre long.</p> <p>In accordance with SRT TSI, exposed cables shall be of classification B2CA, s1a and a1 in accordance with Commission Decision 2006/751/EC.</p> <p>The European Rail Infrastructure Managers (EIM) association notified DG MOVE of a possible deficiency resulting from too strict requirements applicable to exposed cables in tunnel. These requirements may be unnecessarily strict and lead to excessive costs in comparison with requirements which ensure an equivalent safety level and were applicable until 1 January 2015. EIM points out the impact assessment carried out for SRT TSI revision and which led to set the required classification may have failed to consider the appropriate costs and benefits.</p>	
Key input documents	SRT TSI, Regulation (EU) 1303/2014	
Request to be sent to:	opinionadvice@portal.era.europa.eu	

ANNEX 2 – Consolidated list of comments
Document commented (name/version): Opinion - ERA/OPI/2018-2

Requestor:	Antoine Defossez
Deadline for submitting comments:	30 May 2018


Conventions:

Type of Comment		Reply by requestor
G	General	R Rejected
M	Mistake	A Accepted
U	Understanding	D Discussion necessary
P	Proposal	NWC Noted without need to change

Review Comments <if necessary add extra lines in the table>

N°	Reference (e.g. Art, §)	Type	Reviewer	Reviewer's Comments, Questions, Proposals	Reply	Proposal for the correction or justification for the rejection
1.	Title	M	1	<p><i>"Potentially excessive fire <u>resistance</u> requirements for exposed cables in tunnels"</i></p> <p>This T.O concerns the cables requirements for the performance characteristic reaction- to-fire and not the requirements of fire resistance.</p> <p>Proposal:</p> <p><i>"Potentially excessive <u>"reaction to fire"</u> requirements for exposed cables in tunnels"</i></p>	A	
2.	3.4.10	M	1	<p>This paragraph is inconsistent with the SYCABEL document (see attached file) with clearly requires the use of <u>improved</u> cables for "public establishment" (ERP) like Hospital or "Immeubles de grande hauteur" (IGH)</p>	A	<p>The wording is modified to better reflect that the SYCABEL recommends 'improved' cables for hospitals and high buildings.</p>

N°	Reference (e.g. Art, §)	Type	Reviewer	Reviewer's Comments, Questions, Proposals	Reply	Proposal for the correction or justification for the rejection
3.	4		1	<p>We are generally opposed to cancel or reduce the requirements "B2ca, s1a, a1".</p> <ul style="list-style-type: none"> - The revision of the TSI should not lead to a reduced level of safety. - What is the "extra-cost" due to this requirement? (and compare to a total cost of a project). - In case of fire and evacuation, a lower reaction to fire may lead to panic. - No other document defines requirement on which class of cable to use for which application. If there is no requirement in the TSI, there will be no more requirement. - The experience shows that the cable installed on the cable trays can be a vector of propagation of fire. <p>The directive 2016/797 clearly states (ANNEX III – Point 1.1.4) :</p> <p><i>"The design of fixed installations and rolling stock and the choice of the materials used must be aimed at limiting the generation, propagation and effects of fire and smoke in the event of a fire"</i></p>	NWC	<p>The Agency does not consider that the T.O results in a reduction of the requirements but in the correction of an excessive requirement.</p>

N°	Reference (e.g. Art. §)	Type	Reviewer	Reviewer's Comments, Questions, Proposals	Reply	Proposal for the correction or justification for the rejection
4	4.1.6		1	<p>"shall as a minimum be of category Eca"</p> <p>The category Eca is not sufficient:</p>  <p>B2ca.docx</p>	D	Further to discussions in the SRT WP, ERA proposes to keep the general requirements of low flammability, low fire spread, low toxicity and low smoke density and to make a reference to the new Construction Products Regulation, without mentioning a minimum class.
5	Conclusion	P	1	<p>Need to clarify the notion of "exposed cables".</p> <p>Proposal:</p> <p>Exposed cables: in case of fire of the exposed cables, the passengers and staff can be impacted (smoke, opacity, toxicity, temperature).</p>	A	Further to discussions in the SRT WP, ERA will propose in the application guide to make a reference to the definition of 'exposed area' as defined in EN 45545-1
6	All		2	<p>Agrees with the current viewpoint on this matter and is supporting the view that ERA has presented regarding this topic.</p> <p>There is no further comments at this time.</p>	NWC	

7	ERA-OPI-2018-2_cables-in-tunnels	3	<p>We would like to have a minimum requirement in the TSI of category Dca. The reason we would like Dca is:</p> <ul style="list-style-type: none"> - The manual N601 from our Road Administration (for electrical installations) have in chapter 11 requirements for cables in tunnels. They have three categories of cables to be used in tunnels. Category 1 – cables that emit a lot of smoke and irritating exhaust gases in case of fire. These cables must satisfy the CPR fire class Eca. The cables are used in trenches, in conduit trenches and where the cables are installed in other fire proofing systems. Category 2 – cables that are smokeless in a fire situation, often referred to as “halogen free”. In open installation arrangements for the supply of non-critical equipment, the minimum of cable class 2 must be used. The cables must satisfy the CPR fire class: Dca-s2d2a2. - we do not support a minimum requirement of Eca - If the minimum requirement of Dca is not taken into the TSI, we support the suggestion that the class of the cables used in a tunnel should be regulated in a National matter. If this is the case – we are of the opinion that it should be mentioned clearly that this is a National matter. 	R	<p>Further to discussions in the SRT WP, ERA proposes to keep the general requirements of low flammability, low fire spread, low toxicity and low smoke density and to make a reference to the new Construction Products Regulation (CPR), without mentioning a minimum class.</p> <p>As highlighted in the T.O and discussed in the WP, the class that is chosen has no impact on the safety of passengers and on-board staff. In addition, the class of cables has no impact on Interoperability. Consequently, ERA does not think it is a necessary parameter for the TSI.</p>
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N°	Reference (e.g. Art. 5)	Type	Reviewer	Reviewer's Comments, Questions, Proposals	Reply	Proposal for the correction or justification for the rejection
				<p>- Would it be relevant for ERA to have a look at some of the standards that exists for cables, fire resistance etc.? For instance EN 45545 (maybe part 2 would be relevant, even if it is for rolling stock. EN 45545-2 Railway Applications – Fire protection on railway vehicles – part 2: Requirements for fire behaviour of materials and components), EN 50264 (Railway applications – railway rolling stock power and control cables having special fire performance. In the introduction chapter it says that EN 50264 series specifies cables for power, control and associated circuits which, in the event of fire, will limit the risk to people and improve the safety on railways in general.)</p>		

Note: This table could be changed according to the requestor's needs

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Light Impact Assessment

ERA/OPI/2018-2: Fire resistance requirements for exposed cables in tunnels

	<i>Elaborated by</i>	<i>Validated by</i>	<i>Approved by</i>
<i>Name</i>	T. HOLVAD	A. DEFOSSEZ, O. GHERGHINESCU	J. DOPPELBAUER
<i>Position</i>	Economic Evaluation Officer	Project Officer IOP, HoS EcoEV	ED
<i>Date</i>	01/06/2018	01/06/2018	12/06/2018
<i>Signature</i>			

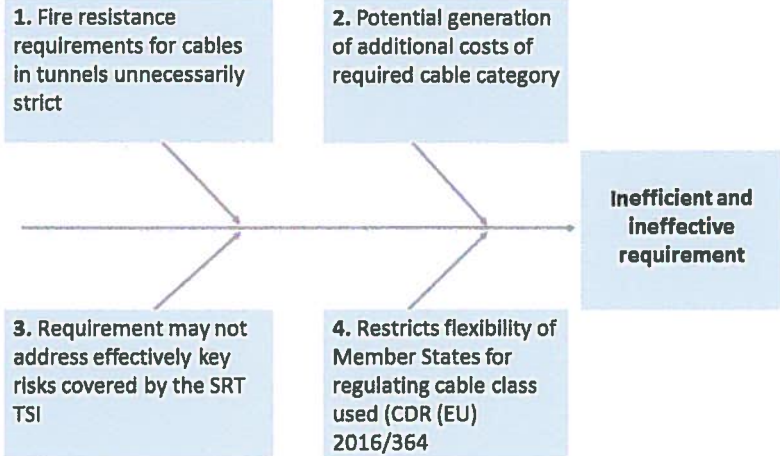
Document History

<i>Version</i>	<i>Date</i>	<i>Comments</i>
0.1	07/05/2018	First version of document
0.2	14/05/2018	First draft of impact assessment
0.3	01/06/2018	2nd draft of impact assessment following consultation and WP SRT TSI discussion

Contents

1.	Context and problem definition	3
1.1.	Problem and problem drivers.....	3
1.2.	Main assumptions	3
1.3.	Stakeholders affected.....	4
1.4.	Evidence and magnitude of the problem	4
1.5.	Baseline scenario	4
1.6.	Subsidiarity and proportionality.....	4
2.	Objectives	5
2.1.	Strategic and specific objectives	5
2.2.	Link with Railway Indicators	5
3.	Options	6
3.1.	List of options	6
3.2.	Description of options	6
3.3.	Uncertainties/risks	6
4.	Impacts of the options.....	7
4.1.	Impacts of the options (qualitative analysis).....	7
4.2.	Impacts of the options (quantitative analysis)	8
5.	Comparison of options and preferred option	8
5.1.	Effectiveness criterion (options' response to specific objectives)	8
5.2.	Efficiency (NPV and B/C ratio) criterion	8
5.3.	Summary of the comparison	8
5.4.	Preferred option(s)	9
5.5.	Further work required	9
6.	Monitoring and evaluation.....	9
6.1.	Monitoring indicators.....	9
6.2.	Future evaluations.....	9

1. Context and problem definition

<p>1.1. Problem and problem drivers</p>	<p>The overarching problem considered in this Technical Opinion (ERA/OPI/2018-2) is highlighted below:</p>  <p>In particular, this problem refers to a potential inefficient and ineffective requirement in the SRT TSI re. fire resistance requirements for exposed cables in tunnels (Clause 4.2.2.4).</p> <p>This problem is linked to the following problem drivers:</p> <ul style="list-style-type: none"> › <i>Fire resistance requirements for cables in tunnels are unnecessarily strict as these apply to all areas in all tunnels in contradiction with a risk-based approach</i> › <i>The possibility that the specific class required (B2ca) in accordance with Clause 4.2.2.4 of the SRT TSI generate additional costs (problem of efficiency)</i> › <i>The requirement may not address key risks covered by the SRT TSI (for passengers and on-board staff) considering the fire risk scenarios (problem of efficiency and effectiveness) set out in the TSI along with the technical and operational measures in place</i> › <i>Requiring a specific class of electric cable is potentially inconsistent with Commission Delegated Regulated 2016/364 on the classification of the reaction to fire performance of construction products where Member States are given flexibility regarding regulating the fire performance of cables</i>
<p>1.2. Main assumptions</p>	<p>The problem is delimited by the following:</p> <ul style="list-style-type: none"> › <i>SRT TSI 2014 with particular reference to Clause 4.2.2.4</i> › <i>Impact Assessment accompanying the Agency's recommendation for revising the SRT TSI</i> › <i>Commission request for opinion concerning the SRT TSI (11/04/2018)</i>

1.3. Stakeholders affected	<i>Category of stakeholder</i>	<i>Importance of the problem</i>
	Infrastructure managers	5 (high)
	Passengers and on-board staff	1 (low)
	The Agency is asked by the European Commission to provide a (technical) opinion following a request made by EIM (European Rail Infrastructure Managers)	
1.4. Evidence and magnitude of the problem	See SRT TSI – clause 4.2.2.4 In addition, information provided as part of the documentation accompanying EIM's request to the European Commission.	
1.5. Baseline scenario	The baseline scenario would imply that the requirement for a particular class of cable in clause 4.2.2.4 is retained. As such this does not provide flexibility for entities responsible for tunnel construction / upgrades / renewals and may be unnecessarily strict as it applies to all areas for all tunnels. This requirement may only bring limited or no additional safety benefits to passengers and on-board staff. Furthermore, there is a risk that the requirement could bring additional costs to the concerned stakeholders.	
1.6. Subsidiarity and proportionality	Within current scope of the SRT TSI	

2. Objectives

<p>2.1. Strategic and specific objectives</p>	<p>The strategic objective(s) of the Agency with which this initiative is coherent:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Europe becoming the world leader in railway safety <input checked="" type="checkbox"/> Promoting rail transport to enhance its market share <input checked="" type="checkbox"/> Improving the efficiency and coherence of the railway legal framework <input type="checkbox"/> Optimising the Agency’s capabilities <input type="checkbox"/> Transparency, monitoring and evaluation <input checked="" type="checkbox"/> Improve economic efficiency and societal benefits in railways <input type="checkbox"/> Fostering the Agency’s reputation in the world <p>The project’s general objective: to contribute towards:</p> <p>Improved efficiency and effectiveness of requirement in SRT TSI for cables in tunnels</p> <p>Specific objectives:</p> <ol style="list-style-type: none"> 1. <i>Facilitate more flexible requirement on cables in tunnels while preserve safety level</i> 2. <i>Avoid imposition of undue costs related to cables in tunnels</i> 3. <i>Ensure key risks of SRT TSI are addressed</i> 4. <i>Allow flexibility for MS re. regulating class of cable in line with CPR 2016/364</i>
<p>2.2. Link with Railway Indicators</p>	<p>Overall, there is a general link to the Railway Indicators for Operational Activity Area 2 (Remove technical barriers). However, given the very specific nature of the issue considered it is unlikely that any recommendation put forward will be measurable by the Railway Indicators.</p>

3. Options

3.1. List of options	<p>Note: <i>In the case of opinions with a very narrow technical focus (e. g. clarification of legal texts), where multiple options cannot be identified, fill in Chapters 3 and 4 only with one option, demonstrating that no alternative options could be analysed. Do not fill in Chapter 5.</i></p> <ul style="list-style-type: none"> › <i>(Option 0: Baseline - No change regarding the provision for specific class for cables re. fire resistance requirements, clause 4.2.2.4, SRT TSI)</i> › Option 1: <i>Adjustment such that the class of cables to use in a tunnel is not regulated in the SRT TSI (in accordance with the situation in the first version of the TSI from 2008)</i>
3.2. Description of options	See point 3.1
3.3. Uncertainties/risks	The main risks / uncertainties to consider are: 1) extent to which fire resistance requirements for cables (in clause 4.2.2.4 of the SRT TSI) are unnecessarily strict; 2) extent to which this clause bring no additional safety benefits to passengers and on-board staff; 3) cost implications of imposing cables of category B2ca, s1a, a1.

4. Impacts of the options

<p>4.1. Impacts of the options (qualitative analysis)</p>	<p>The qualitative analysis is considering the impacts from a European perspective.</p>		
	<i>Category of stakeholder</i>	<i>Option 1</i>	
	Infrastructure managers	Positive impacts	Scope for more flexibility regarding the choice of class of cables to be used, thereby facilitating a risk-based approach rather than one single solution. This may provide the possibility for cost savings compared to the current requirements
		Negative impacts	On the basis of the available evidence it is likely that there would not be any adverse impacts for IMs
	Passengers and on-board staff	Positive impacts	No significant positive impacts are likely to be generated for passengers and on-board staff from Option 1
		Negative impacts	The only potential issue for passengers and on-board staff would be linked to possible changes in risks associated with not imposing a high performance class of cables in all areas in all tunnels. However, it is considered that overall Option 1 would not result in any significant change in risks.
	Overall assessment (input for section 5.1)	Positive impacts	Overall, Option 1 is likely to generate positive impacts for the concerned stakeholders with specific reference to those responsible for tunnel construction and management.
		Negative impacts	On the basis of the available evidence it is likely that there would not be any significant negative impacts.
	<p>On the basis of the available information to date Option 1 is likely to generate advantages that would outweigh any disadvantages. In particular, this option provides more flexibility regarding the choice of class for cables within a risk-based approach rather than a general requirement for one class only. Moreover, Option 1 would ensure consistency between Clause 4.2.2.4 in the SRT TSI and Commission Delegated Regulated 2016/364 on the classification of the reaction to fire performance of construction products where Member States are given flexibility re. regulating the fire performance of cables.</p>		

	In particular, it should be stressed that removing the requirement for a specific class of cable to be used does not imply that this class of cable should not be used in areas of tunnels where it is considered appropriate according to the risks involved. This decision should be taken within the overall context of risk management for tunnels.
4.2. Impacts of the options (quantitative analysis)	No quantification

5. Comparison of options and preferred option

THIS SECTION WILL NOT BE COMPLETED (AS INDICATED IN SECTION 3)

5.1. Effectiveness criterion (options' response to specific objectives)	<Based on the findings from section 4.1, assess the extent to which the various options respond to the specific objectives, from 1-very low response to 5-very high response and calculate the average score (effectiveness).>			
		<i>Option 0 (baseline)</i>	<i>Option 1</i>	<i>Option ...</i>
	<Specific Objective 1>			
	<Specific Objective ...>			
	Overall score			
	Effectiveness (average score)			
5.2. Efficiency (NPV and B/C ratio) criterion	<Based on the findings from section 4.2, rate the overall efficiency of the various options as follows:			
	<ul style="list-style-type: none"> > 1 if B/C ratio <1 or NPV <=0 > 5 if B/C ratio >1 and NPV >0 			
		<i>Option 0 (baseline)</i>	<i>Option 1</i>	<i>Option ...</i>
	Efficiency			
5.3. Summary of the comparison	<Use the next table to summarize the outcomes of sections 5.1 and 5.2.>			
		<i>Option 0 (baseline)</i>	<i>Option 1</i>	<i>Option ...</i>
	<i>Effectiveness</i>			
	<i>Efficiency</i>			

	Overall rating			
5.4. Preferred option(s)	<p><Based on the overall rating, indicate if possible the preferred option. If no quantification of impacts was possible, conclusions may be drawn based on the effectiveness criterion.></p> <p><If no preferred option, indicate the remaining options to be considered further and the discarded options.></p>			
5.5. Further work required	<p><Indicate further work and consultation which could impact the conclusion. Are there uncertainties related to the preferred option(s)?></p>			

6. Monitoring and evaluation

6.1. Monitoring indicators	No monitoring indicators are defined.
6.2. Future evaluations	No future evaluation are envisaged.