CER

The Voice of European Railways

POSITION PAPER

Revision of Appendix T of TSI OPE (decision 2012-757/EU)

January 2013

COMMUNITY OF EUROPEAN RAILWAY AND INFRASTRUCTURE COMPANIES - COMMUNAUTÉ EUROPÉENNE DU RAIL ET DES COMPAGNIES D'INFRASTRUCTURE - GEMEINSCHAFT DER EUROPÄISCHEN BAHNEN UND INFRASTRUKTURGESELLSCHAFTEN

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1. REFERENCE DOCUMENTS

Commission Decision 2012-757/EU concerning the technical specification for interoperabilityrelating to the 'operation and traffic management' subsystemof the rail system in the European Unionand amending Decision 2007/756/EC.

2. INTRODUCTION

This Position Paper makes public the official CER beliefs and recommendations on and for the revision of Annex T of the operation and traffic management TSI. It recommends changes and amendments to be done, ensuring the deployment of a safe, sustainable, cost-efficient and reliable railway systems with all its subsystems included. The CER proposal aims to maintain at least the current global (safety and capacity) performance of the European railway network and to allow using the more modern braking equipments.

3. GENERAL COMMENTS

CER considers that the IM shall be responsible of the required braking performance, because only the IM is supposed to know which factors have been taken into account to define braking requirements that directly influence the performances of the lines. Many RUs can run trains on the same infrastructure and should follow the same safety rules to allow the IM to maximize line capacity.

ERA explains that the idea is not to have the same braking performance everywhere. Different data are necessary to calculate the braking performance. The question is who is in charge of which data. Formerly, the safety margin was a common agreement at national level. For the RUs using brake weight percentage, the braking table rules make the link between the signalling value and the rolling stock performance design.

The matter is now not only the definition of a safety margin but exactly which factors are taken into account to define and assess the required braking performance. For example, speed accuracy can be taken into account in the required stopping distance set by the IM and/or taken into account in RU assessment. Similarly the effect of the gradient can be defined in RU and IM calculation.

In CER view, defining safety margin case by case would:

1) impede interoperability: if each RU has to determine its own required brake performance for each line and each rolling stock type / train, the interoperability is in danger. In that case one can hardly speak about unrestricted free movement of rolling stock between different countries/IMs, because it takes a lot of efforts to determine for each line and each rolling stock type / train the required braking performance, based on changing information from each IM.

If on the other hand the IMs determine the required braking performance, each RU knows in front exactly at which speed he can operate his rolling stock / train, thus simplifying the free movement of rolling stock (= interoperability).

2) decrease line capacity: when each RU determines its own required brake performance, no harmonization of speeds takes place. Depending on the CSM (risk assessment) where necessary, a RU does or doesn't optimize the operational speed of his rolling stock. Large differences could occur in operational speed between different RUs on the same infrastructure for same trains. Such large differences will have negative consequences on line capacity.

If the IM determines the required braking performance, an optimization of the trains speeds on a line can be obtained, keeping a common safety level.

3) introduce unnecessary change when operating over routes equipped with existing class B signalling systems. The OPE TSI should permit braking performance requirements to be defined in terms of the existing international and/or national codes of practice for these class B systems rather than trying to artificially assign safety margins between the IM and RU.

4) increase costs: if each RU has to determine the required brake performance for each rolling stock on each line, the effort will increase costs. Certainly in a highly competitive market as for example the freight transport, this raise in cost is unwanted.

If the IM is responsible for the required braking performance, a multiplication of effort (work done by all the RUs) is prevented. Furthermore the IM in general doesn't operate in a competitive market and is therefore less vulnerable.

CER propose to amend as following the Appendix T of OPE TSI.

Until all European lines are equipped with ETCS, CER propose for braking performance to continue to use the existing code of practices (brake weight percentage, stopping distance or deceleration) which have been demonstrated to be safe and consistent with existing equipment design. Establishing any new approach will not only introduce unnecessary costs, but also could lead to overly conservative margins. In addition IM and RU must consider existing class B systems, since they use also the existing code of practices for train data input.

4. PROPOSAL OF AN UPDATED APPENDIX T OF OPE TSI

A. ROLE OF THE INFRASTRUCTURE MANAGER

The IM shall inform the RU about the braking performance required for each route and has to provide information about the route characteristics. The IM shall declare which factors have been taken into account to define the required braking performance (e.g. gradient correction, speed accuracy, train length, rolling stock related tolerances, etc).

Three options (brake weight percentage, stopping distance or deceleration) exist to define braking performance. The IM is in charge of defining for each line category or "route" the braking performance required to operate the train. The harmonised method to assess the rolling stock braking performance is in accordance with the prEN XXX (EN in preparation to replace UIC 544-1).

Unless the IM and RU have agreed on another unit to express the braking performance, the required braking performance shall be expressed:

1) for trains able to run at a speed higher than 200 km/h on lines with maximum speed higher than 200 km/h, in deceleration profile and equivalent response time on level track ;
2) for other lines, in deceleration (as above in 1), in brake weight percentage or in stopping distance ;

   If so requested by the RU, the IM shall also deliver the requirements in the alternate unit (brake weight percentage, stopping distance or deceleration);

B. ROLE OF THE RAILWAY UNDERTAKING

The RU shall ensure that each train satisfies or exceeds the braking performance required by the IM. Therefore the RU shall determine the braking performance of a train taking into account the train composition and operational status of the brake (e.g. number of isolated brakes).

The braking performance resulting from the checking of the actual train (like train composition, brake availability, brake position) will be used as an input value for any operational rule to be subsequently applied to the train.

The RU is in charge of assessing the train braking performance in accordance with the prEN XXX (EN in preparation to replace UIC 544-1).

C. BRAKING PERFORMANCE NOT ACHIEVED

If a train does not reach the braking performance required by the IM for the routes the train shall run, the RU has to respect the resulting constraints given by the IM (e.g. speed restrictions).

The IM has to set up rules to be used in case of rescue purposes and to make these rules available to the RUs.

5. AMENDMENTS TO THE TSI IN FORCE FROM 1RST JANUARY 2014

Following text is a copy of the appendix T included in the "*Commission Decision 2012-757/EU concerning the technical specification for interoperability relating to the 'operation and traffic management' subsystem of the rail system in the European Union and amending Decision 2007/756/EC*".
The amendments included in part 4 of this position paper are marked in red: new text are highlighted in yellow, deletion are strikethrough.

Appendix T: Braking performance

A. ROLE OF THE INFRASTRUCTURE MANAGER

The IM shall inform the RU about the braking performance required for each route and has to provide information about the route characteristics. The IM shall declare which factors have been taken into account to define the required braking performance (e.g. gradient correction, speed accuracy, train length, rolling stock related tolerances, etc).~~*The IM has to ensure that the impact of the route characteristics and track-side related margins are included in the required braking performance.*~~

Three options (brake weight percentage, stopping distance or deceleration) exist to define braking performance. The IM is in charge of defining for each line category or "route" the braking performance required to operate the train. The harmonised method to assess the rolling stock braking performance is in accordance with the prEN XXX (EN in preparation to replace UIC 544-1).

Unless the IM and RU have agreed on another unit to express the braking performance, the required braking performance shall be expressed:

1) for trains able to run at a speed higher than 200 km/h on lines with maximum speed higher than 200 km/h, in deceleration profile and equivalent response time on level track;
2) for other lines, in deceleration (as above in 1), in brake weight percentage, or in stopping distance ~~*for train sets or for fixed train compositions, unable to run at a maximum speed higher than 200 km/h, in deceleration (as above in 1) or in brake weight percentage*~~;

   If so requested by the RU, the IM shall also deliver the requirements in the alternate unit (brake weight percentage, stopping distance or deceleration)~~*, if so requested by the RU*~~;

~~*3) for other trains (variable compositions of trains unable to run at a maximum speed higher than 200 km/h): in brake weight percentage.*~~

B. ROLE OF THE RAILWAY UNDERTAKING

The RU shall ensure that each train satisfies or exceeds the braking performance required by the IM. Therefore the RU shall determine~~calculate~~the braking performance of a train taking into account the train composition and operational status of the brake (e.g. number of isolated brakes).

~~*The RU must take into account the vehicle or train set braking performance determined when placed in service. Rolling Stock-related margins like reliability and availability of the brakes have to be considered. The RU must also take into account the information about route characteristics which affect the train behaviour when tuning the braking performance for stopping and securing a train.*~~

The braking performance resulting from the checking of the actual train (like train composition, brake availability, brake position ~~*settings*~~) will be used as an input value for any operational rule to be subsequently applied to the train.

The RU is in charge of assessing the train braking performance in accordance with the prEN XXX (EN in preparation to replace UIC 544-1).

C. BRAKING PERFORMANCE NOT ACHIEVED

~~*The IM has to set up rules to be used if a train does not reach the required braking performance and has to make these rules available to the RUs.*~~

If a train does not reach the braking performance required by the IMfor the routes the train shall run, the RU has to respect the resulting constraints given by the IM (e.g.~~*like*~~speed restrictions).

The IM has to set up rules to be used in case of rescue purposes and to make these rules available to the RUs.

Disclaimer

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