



Organisation intergouvernementale pour les transports internationaux ferroviaires  
Zwischenstaatliche Organisation für den internationalen Eisenbahnverkehr  
Intergovernmental Organisation for International Carriage by Rail

**OTIF/RID/CE/GTT/2016-A**

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**TO THE GOVERNMENTS OF THE MEMBER STATES OF OTIF AND  
TO REGIONAL ORGANISATIONS WHICH HAVE ACCEDED TO COTIF**

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**Final report of the 14<sup>th</sup> session of the RID Committee of Experts' working group on  
tank and vehicle technology**

**(Hamburg, 12 and 13 April 2016)**

1. At the invitation of GATX, the 14<sup>th</sup> session of the RID Committee of Experts' working group on tank and vehicle technology was held on 12 and 13 April 2016 in Hamburg.
2. The following RID Contracting States took part in the work of the 14<sup>th</sup> session of the working group on tank and vehicle technology (see also Annex I):

Belgium, France, Germany, Netherlands, Poland, Romania, Switzerland and the United Kingdom.

The following non-governmental international organisations were represented: International Union of Railways (UIC) and International Union of Wagon Keepers (UIP).

3. As decided at the 44<sup>th</sup> session of the RID Committee of Experts (see report OTIF/RID/CE/2007-A, paragraph 108), Mr Rainer Kogelheide (Germany) chaired the meeting and Mr Arne Bale (United Kingdom) was the deputy chairman.

#### **ITEM 1: Approval of the agenda**

*Document:* A 81-03/503.2015 (Secretariat)

4. The provisional agenda contained in calling notice A 81-02/502.2016 dated 8 February 2016 was adopted.

#### **ITEM 2: Examination of tank-related measures**

*Document:* OTIF/RID/CE/GTT/2016/1 (Germany)

5. Based on document OTIF/RID/CE/GTT/2016/1 submitted by Germany, the working group first discussed the tank-related provisions newly adopted by the US and Canadian authorities for the construction and retrofitting of tank-wagons for the carriage of flammable liquids.
6. The representative of France reminded the meeting that the newly applicable provisions in North America had to be seen in the particular economic context. They had been issued following several accidents involving a specific substance (crude oil) and were related to the increasing extraction of crude oil by fracking in North America. The working group should check whether these new provisions were also relevant to classes of dangerous goods other than Class 3 and to other modes. In addition, a cost/benefit analysis would first have to be carried out for any new measure.
7. The representative of UIC pointed out that unlike in the USA and Canada, no sharp increase in the transport of Class 3 substances should be anticipated in Europe. For this reason, a cost/benefit analysis in the European context would also lead to other results.
8. The representative of UIP said that railway operations in North America and Europe could not be compared with each other. Freight trains in North America could be up to 2.5 km long, the total weight of the trains was about ten times higher than in Europe and the axle load could be up to 35 tons.
9. The working group also pointed out that in the North American provisions, the self-supporting tank design and the resulting tractive and compressive forces to be absorbed by the tank would have to be taken into account. In Europe, self-supporting tanks were only widespread in the United Kingdom.

*Minimum wall strength of shells*

10. The working group noted that in contrast to the USA and Canada, where the requirements for the minimum wall thickness of shells were linked to operational conditions (train weights), in Europe the minimum wall strength depended on the substance to be carried.
11. In RID and ADR, the minimum wall strength is calculated in accordance with EN standard 14025, where, among other things, the calculation pressure, the tank construction and the material properties have to be considered. The calculation pressure again depends on the substance-specific classification.
12. The working group agreed that increasing the wall thickness would improve safety, but would at the same time lead to heavier wagons, which would not be acceptable in the European market. As the European method for calculating the minimum wall thickness had proved itself in European land transport, the working group saw no need to amend the existing provisions.

*Fire protection insulation and jackets*

13. The representative of France pointed out that the RID/ADR/ADN Joint Meeting's "BLEVE" working group had already examined in depth the subject of protecting the tank against exposure to fire and had submitted its findings to the Joint Meeting in September 2014. These findings had shown that fire protection insulation in conjunction with pressure relief valves could certainly improve safety. However, the Joint Meeting had not taken a decision on this and had only made recommendations for further work (see also report OTIF/RID/RC/2014-B (ECE/TRANS/WP.15/AC.1/136), paragraphs 51-54). At present, only **France would** be carrying out further investigations in this area.
14. The working group agreed that insulating thermal protection measures could certainly reduce the risks when a tank was exposed to fire, but that the cost/benefit ratio of such measures was controversial. If these measure were to be pursued, this would have to take place at Joint Meeting level.

*Head shields over the entire tank ends*

15. The working group established that RID already contained equivalent provisions on protecting the tank ends in special provisions TE 22 and TE 25. However, as these provisions only apply to certain substances, the question arose as to whether the scope should be extended to include other substances. In RID the provisions of 6.8.2.1.29 (minimum distance between the headstock plane and the tank) and 6.8.3.1.6 (**higher energy absorption buffers for Class 2**) were also applicable, the aim of which was also to protect the ends of the tank.
16. The Netherlands had already submitted a proposal to extend the scope of special provision TE 22 to the 2<sup>nd</sup> and 4<sup>th</sup> sessions of the RID Committee of Experts' standing working group (Copenhagen, 18 to 22 November 2013 and Madrid, 17 to 20 November 2014). As the outcome of the cost/benefit analysis had been negative, it was decided at that time not to extend the scope of special provision TE 22 (see also report OTIF/RID/CE/GTP/2013-A, paragraphs 47-52 and report OTIF/RID/CE/GTP/2014-B, paragraphs 18-21).
17. The representatives of UIC and France pointed out that the provisions on protecting the ends of the tank were relatively new and that for this reason, insufficient data would be available to assess the effectiveness of this measure.
18. The working group came to the conclusion that a possible extension of the scope of the measures to protect the tank ends could certainly improve safety and when better data were available, their cost/benefit ratio should again be examined.

*Protection of top service equipment*

19. The working group noted that RID 6.8.2.2.1 and 6.8.2.2.4 contained sufficient provisions concerning protection against the leaking of substances if the tank overturned. As it was possible, but highly unlikely, that a tank would roll over, there was no need for additional measures to protect the top service equipment from being damaged. For particularly dangerous substances of Class 2, RID 6.8.3.2 already contained additional provisions.

*Devices to protect against the unintended opening of bottom valves*

20. On this point, the working group agreed that the provision in RID 6.8.2.2.2 aimed at protecting against the unintended opening of bottom valves was older and more far-reaching, and therefore saw no need to amend the existing provisions.

**ITEM 3: Examination of other measures**

*Document:* OTIF/RID/CE/GTT/2016/1 (Germany)

*Improved substance classification*

21. The working group agreed that potential classification issues would not fall within the competence of this working group and noted that such issues were already dealt with by the UN Sub-Committee of Experts on the Transport of Dangerous Goods.

*Risk-based **routeing** of trains*

22. The working group noted that it had already dealt with the risk-based **routeing** of trains in the past and decided not to pursue this matter further owing to its political context.

*Speed reduction*

23. The representative of the Netherlands said that in his country, **a speed limit of 60 km/h applied to the carriage of chlorine in tanks**, and asked whether there were similar provisions in other Member States.
24. The subsequent discussion revealed that in various countries, provisions on speed reduction were based on the state of the railway infrastructure rather than on the dangerous goods being carried, and in other countries, such a provision was not even possible because of the resulting reduction in the capacity of the railway infrastructure. The representative of Switzerland said that in her country, a speed reduction to 40 km/h had been introduced on a trial basis for the carriage of chlorine in hubs with the highest risk. Most delegations agreed that a general speed reduction for dangerous goods trains would lead to major operational difficulties.
25. It was pointed out that the situation in North America and Europe was not comparable, because in North America, there were separate networks for passenger and freight transport, and overall, fewer passenger trains were operated there.
26. The representative of Germany pointed out that a speed reduction for full train loads of dangerous goods had already been discussed at the 7<sup>th</sup> session of the working group (London, 6 and 7 April 2006). At that time, it had been pointed out that Chapter 1.9 already gave States the possibility of imposing speed limits in particular areas. Owing to its considerable negative effects on passenger and freight transport, a general speed limit for dangerous goods trains had not been recommended (see also report A 81-03/504.2006, paragraphs 14 and 15).
27. The working group decided not to pursue this topic further.

*Improved brake efficiency*

28. The working group agreed that the subject of improved brake efficiency was not part of the working group's competence and for this reason, it was not pursued further.

**ITEM 4: Interim report of the work of the RID/ADR/ADN Joint Meeting's informal working group on the approval of tanks**

*Documents:* OTIF/RID/RC/2016/13 (ECE/TRANS/WP.15/AC.1/2016/13) (United Kingdom)  
INF.17 from the RID/ADR/ADN Joint Meeting in March 2016 (United Kingdom)

29. The representative of the United Kingdom informed the working group of the results so far and the future work of the RID/ADR/ADN Joint Meeting's informal working group on the testing and certification of tanks. The working group noted this information.

**ITEM 5: Any other business**

30. As no topics were proposed for this agenda item, the chairman closed the meeting and asked the deputy chairman to present the results of the discussions to the 6<sup>th</sup> session of the RID Committee of Experts' standing working group (Berne, 23 to 25 May 2016).
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**Liste des participants  
Teilnehmerliste  
List of participants**

**I. États parties au RID/RID-Vertragsstaaten/RID Contracting States**

**Allemagne/Deutschland/Germany**

Mr Alfons **Hoffmann**  
Mr Frank **Jochems**  
Mr Benjamin **Körner**

**Belgique/Belgien/Belgium**

Mr Julien **Depuydt**

**France/Frankreich/France**

Mr Claude **Pfauvadel**  
Mr Michel **Korhel**

**Pays-Bas/Niederlande/Netherlands**

Mr Klaas **Tiemersma**

**Pologne/Polen/Poland**

Mr Henryk **Ognik**  
Mr Szczepan **Budzyński**

**Roumanie/Rumänien/Romania**

Mr Lucian **Blaga**  
Ms Valerica **Stan**  
Ms Ana-Maria **Dascălu**

**Royaume-Uni/Vereinigtes Königreich/United Kingdom**

Mr Arne **Bale**

**Suisse/Schweiz/Switzerland**

Ms Annina **Gaschen**

**II. Organisations internationales non gouvernementales  
Internationale Nichtregierungsorganisationen  
International non-governmental organisations**

**UIC**

Mr Jean-Georges **Heintz**

**UIP**

Mr Rainer **Kogelheide**

Mr Ernst **Winkler**

Mr Philippe **Laluc**

**III. Secrétariat/Sekretariat/Secretariat**

Mr Jochen **Conrad**

Ms Katarina **Guricová**

**IV. Interprètes/Dolmetscher/Interpreters**

Mr Werner **Küpper**

Mr David **Ashman**

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