

**OTIF**



**ORGANISATION INTERGOUVERNEMENTALE POUR  
LES TRANSPORTS INTERNATIONAUX FERROVIAIRES**

**ZWISCHENSTAATLICHE ORGANISATION FÜR DEN  
INTERNATIONALEN EISENBAHNVERKEHR**

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

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**OTIF/RID/CE/GT/2009-A**

**27 August 2009**

**Original: German**

**TO THE GOVERNMENTS OF THE MEMBER STATES OF OTIF**

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**Report of the 10<sup>th</sup> meeting of the RID Committee of Experts'  
Working Group on Tank and Vehicle Technology**

**(Brussels, 11 and 12 June 2009)**

Note by the Secretariat: The European Railway Agency (ERA) has requested substantial amendments to the draft report. Some of them help to make the report clearer, but others could have a major impact on the balance of the report, as the report is not drafted as verbatim minutes. The Secretariat has therefore included those proposals for amendments from ERA that would reword whole paragraphs in Annex 1.

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1. At the invitation of the Belgian Service Public Fédéral Mobilité et Transports, the 10<sup>th</sup> session of the RID Committee of Experts working group on tank and vehicle technology was held in Brussels on 11 and 12 June 2009.
2. The following States took part in the discussions at this session: Belgium, Czech Republic, France, Germany, Italy, Netherlands, Spain, Switzerland and the United Kingdom. **The European Chemical Industry Council (CEFIC)**, the European Commission and the European Railway Agency (ERA) were also represented. The International Union of Railways (UIC), the International Union of Private Wagons (UIP) and the Association of the European Rail Industry (UNIFE) also took part (see Annex 3 to document OTIF/RID/CE/GT/2009-A/Add.1).

### **Chairmanship of the working group**

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 working group and Mr Arne Bale (United Kingdom) was the deputy chairman.

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

4. The provisional agenda contained in the invitation (document A 81-03/501.2009) was adopted.

### **ITEM 2: Derailment detectors**

Information on the status of negotiations with the European Commission's **Railway Interoperability and Safety** Committee and the European Railway Agency (ERA)

Document: OTIF/RID/CE/GT/2009/3 (Germany)  
Informal document: INF.3 (Knorr-Bremse)

5. In his presentation contained in informal document INF.3, Dr Walter (Knorr-Bremse (Knorr Brakes)) informed the meeting about the tests on the EDT 101 derailment detector that had been carried out at the request of Sweden and Finland between January and April 2009 at low ambient temperatures. In the tests, five tank-wagons had been fitted with derailment detectors and a GPS/GSM unit. During the tests, the average temperature recorded was -15°C; temperatures of ≤ -25°C were only reached on three days during the test period. A written report on the tests, during which no false tripping of the detectors was noted, will be finalised in autumn 2009 and submitted to the RID Committee of Experts.
6. In document OTIF/RID/CE/GT/2009/3, the representative of Germany provided information on the discussions in the European Commission's **Railway Interoperability and Safety** Committee on the subject of derailment detection and on the discussion with members of the RID Committee of Experts of the draft report submitted by ERA. He regretted that the chairman of the RID Committee of Experts had not been invited to the **Railway Interoperability and Safety** Committee's concluding meeting on Friday, 12 June 2009.
7. The representative of ERA pointed out that at the meeting held in Lille on 2 April 2009 with representatives of the European Commission, ERA and the RID Committee of Experts, the general approach of ERA's investigation had not been called into question, while there had been different views on ERA's recommendation. He explained that the comments made at that meeting and those that various States had submitted in writing had been taken into account in the final version of the report.<sup>1</sup> The European Commission's final decision on the report would

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<sup>1</sup> ERA's recommendation on derailment detectors is available under [http://www.era.europa.eu/core/Safety/Documents/our\\_products/nsr/Agency%20recommendation%20on%20Derailment%20Detection%20Devices.pdf](http://www.era.europa.eu/core/Safety/Documents/our_products/nsr/Agency%20recommendation%20on%20Derailment%20Detection%20Devices.pdf) and the accompanying report on the impact assessment is available under [http://www.era.europa.eu/core/Safety/Documents/our\\_products/nsr/ERA-REP-03-2009-SAF%20Public.pdf](http://www.era.europa.eu/core/Safety/Documents/our_products/nsr/ERA-REP-03-2009-SAF%20Public.pdf).

now take place at political level, firstly in the **Railway Interoperability and Safety Committee** (12 June 2009) and secondly in the **Transport of Dangerous Goods Committee** (6 July 2009)<sup>2</sup>.

8. Among others, the following points were emphasised in the subsequent discussion:
  - As there were only a few derailments where dangerous goods were involved, the data-base used was insufficient to provide reliable statistics.
  - It was acknowledged that there was a certain contradiction in that ERA was not making a recommendation for the detection of derailments in the transport of dangerous goods, while at the same time, the TSI High Speed Rail System required the rapid detection of derailments.
  - The causes of derailments should be investigated in parallel (e.g. condition of the infrastructure, condition of the rolling stock, human error). However, this went beyond the sphere of competence of the RID Committee of Experts and its working group.
  - It was incomprehensible why fully developed technology could not be employed throughout Europe, even though it could already be demonstrated that this technology can reduce the extent of accidents (Cornaux/Switzerland).
  - In addition to the Knorr-Bremse company, there were now two other suppliers of derailment detectors, **but these have not yet been UIC approved**. In addition, a fourth supplier was intending to develop a derailment detector which, instead of measuring vertical oscillation, would measure the geometry of the tracks and wheels. This emerging competitive situation could lead to lower prices and earlier amortisation than assumed in the study.
9. The representative of ERA explained that in its report, ERA was not calling the derailment detector into question, but had emphasised that before derailment detectors were made mandatory, derailment prevention would have to be better investigated. As railway undertakings would have to carry out a risk assessment, this could lead to the voluntary fitting of derailment detectors at national level. This was possible under conditions to be laid down by the national safety authority. He pointed out that underpinning ERA's investigation was an amortisation period of seven years, while the costs of overhauling and false alarms had not been taken into account.<sup>2</sup>
10. The working group agreed that there must be no further technical discussion in the working group so that the political decision to be taken by the RID Committee of Experts could be prepared.

### **ITEM 3: Drip leaks**

Informal document: INF.1 (Germany)

11. In his informal document, the representative of Germany summarised the status of the German Petroleum Industry Association's (MWV) research project. A second stage of the project would assess the feasibility of the possible solutions proposed in the first part. He said he would be submitting specific proposals to the working group as soon as the second part of the research project had been analysed at national level.

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<sup>2</sup> See also the new wording of this paragraph proposed by the representative of ERA (Annex 1).

#### ITEM 4: Monitoring the main brake pipe/air brake check

Document: OTIF/RID/CE/GT/2009/4 (Germany)

Informal document: INF.2 (Knorr-Bremse)

12. In a presentation (informal document INF.2), Dr Walter (Knorr-Bremse) described various accidents caused by a defective or nonexistent brake check.
13. He explained that at present, there were several technical possibilities for ruling out human error in this respect.
  - a) An end of train device on the last wagon could be connected to the main brake pipe. In particular, this would measure the pressure in the main brake pipe and in an emergency, it could also be activated by the locomotive driver to vent the main brake pipe. Problems with this were the weight of the device (approx. 15 kg), reassignment (return) and the risk of theft;
  - b) Sensors in the locomotive braking system that measure the volume flow rate in the main brake pipe when applying and releasing the brakes, and a software algorithm that estimates the length of the main brake pipe or the number of wagons from this measurement;
  - c) Electronically **controlled wagon** brakes, which have already been introduced in North and South America, South Africa and Australia, but for which the prerequisite is an electricity supply on **the wagons**.
14. Owing to the problems referred to above, his view was that at present, measurement of the volume flow rate in the main brake pipe was preferable.
15. In order to comply with the mandate from the RID Committee of Experts (see also paragraphs 44 and 45 of report OTIF/RID/CE/2008-B of the 46<sup>th</sup> session of the RID Committee of Experts), in his document OTIF/RID/CE/GT/2009/4, the representative of Germany had summarised the findings so far of the working group on monitoring the main brake pipe. Annex 2 of this document also contained a summary of accidents that had occurred in Germany between 1997 and 2008, the causes of which were defective brake checks.
16. He particularly emphasised that at the time the final report of the national working group on tank and vehicle technology was produced in 2002, there were not yet any technical possibilities for resolving these problems. After the 5<sup>th</sup> session of the international working group (Duisburg-Wedau, 24 and 25 June 2004), the chronometric measurement of the drop in pressure for checking that the main brake pipe was uninterrupted was not followed up, as UIC was of the view that owing to the different construction methods of wagons, this procedure was too imprecise.
17. He asked the other States also to supply their accident data and asked ERA to take this matter on. Against the background that technical solutions existed and had been implemented in other parts of the world, it would not be possible to pass it off politically if equivalent technologies were not employed in Europe.
18. The representative of the European Railway Agency (ERA) explained that for further developments in the technical safety of the European railway system, the requirements of the Safety Directive would have to be observed. According to the Directive, rail transport undertakings and infrastructure managers would have to operate a safety management system to monitor safety themselves. At national level, the safety authority and the accident investigation body would have to consider how safety can be improved on the basis of the reports on safety that have to be produced each year.

19. Those States that wished to introduce a new measure to improve the level of safety in Europe would have to observe a certain procedure. ERA's task was to give its views on the appropriateness of new safety measures. In order to carry out this task, ERA had a very detailed data base of all railway accidents. New measures to improve the level of safety in Europe would have to be economically acceptable and should not put rail transport at a disadvantage.
20. It emerged from further discussions that for ERA, a majority vote by the RID Committee of Experts, which is responsible for safety in the carriage of dangerous goods by rail, and the EU Member States represented in it, was apparently not sufficient for a mandate for further investigations. **In accordance with its regulation, ERA would need a mandate from the European Commission or, as it is a Railway System issue, from the Railway Interoperability and Safety Committee.** The Member States were therefore called upon **by the Chairman** to demand that technical measures to prevent human error in brake checks be pursued via their representatives in the **Transport of Dangerous Goods Committee.**

**ITEM 5: Tank-wagon Handbook**

21. The working group was of the view that the best way to provide information on tank-wagon equipment and operations was via an internet platform. The States and organisations were called upon to look at setting up such a platform.

**ITEM 6: Reference to standard prEN 15551 (Railway applications – Freight wagons – Buffers) in RID**

Document: OTIF/RID/CE/GT/2009/2 (Germany)

Informal document: INF.4 (Belgium)

22. As various provisions had been transferred from UIC leaflets 526-1 and 573 into European standards, in his document the representative of Germany proposed to adapt the reference in special provision TE 22 in 6.8.4 (b). With regard to crashworthy buffers, reference should be made to standard EN 15551 (Railway applications – Freight wagons – Buffers), while for the suitability of vehicles, a reference to Annex F of UIC leaflet 573 should be maintained until an equivalent rule was contained in standard EN 12663-2.
23. The representative of Belgium supported Germany's proposal in principle, but in her informal document INF.4, also wanted a reference to requirements for the marking on the headstock, which indicates to the shunter that the Berne rectangle can be limited. However, as this was a general railway marking that has to be shown for health and safety reasons, and as crash buffers are not just used for dangerous goods vehicles, the working group's view was that it was not necessary to include such a reference in RID.
24. The working group thought firstly, that the second sentence of paragraph (a) proposed by Germany ("In this case, the crashworthy buffers shall be fitted with category A or C spring systems;") ruled out buffers of category B and secondly, that it might be too restrictive when buffers whose specifications went beyond those of a category C buffer were used. As 6.8.3.1.6 already contained a statement concerning the minimum dynamic energy absorption capacity of buffers, it was agreed to delete this second sentence (see Annex 2).
25. The text in paragraph (b) was maintained for the time being. If the final version of standard EN 12663-2 became available by May 2010, the RID Committee of Experts could then include a reference to this standard.

## **Any other business**

Document: OTIF/RID/CE/GT/2009/1 (Belgium)

26. The representative of Belgium presented the accident report in document OTIF/RID/CE/GT/2009/1, which was the result of a derailment that occurred on 9 July 2008. Among other things, the cause of the accident was the wrong position of the braking method lever on one wagon (“EMPTY” instead of “LOADED”). She recalled the accident report from Sweden on a derailment that had occurred in Ledsgård on 28 February 2005, which had also been caused by the braking method lever being in the wrong position (see informal document INF.2 from the 9<sup>th</sup> session of the working group and report OTIF/RID/CE/GT/2008-A, paragraphs 20 to 24).
  27. She added that the **damage caused by the** derailment of two wagons **had** been **mitigated** by a derailment detector.
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**Proposals for amendments submitted by the representative of ERA**

7. should read as follows:

"7. The Representative of ERA pointed out that the Document OTIF/RID/CE/GT/2009/3, and in particular the points 2, 4, 5 and 6, did not report correctly the discussions and/or the conclusions of the informal meeting held in Lille on the 2<sup>nd</sup> of April with representatives of the European Commission, ERA and some interested RID experts (DE, FR, SP, UK), CEFIC, UIC, UIP and UNIFE. On contrary to what is reported in the above mentioned document, ERA emphasized the following:

- The impact assessment methodology was not called into question but clarifications on the impact assessment lead all the parties to conclude on the good quality of this assessment, including explanation on the way statistics have been established and used, taking well into account uncertainties. In particular it was recognized that the potential DDD benefits were overestimated by the study.
- The cost-benefit analysis of the proposed RID provision leads to negative conclusions as it is necessary to interpret the raw quantitative results in order to take into account extra-costs not directly counted in the raw results.
- All the comments received by the Agency were reported to the European Commission in the consultation report. Taking due consideration of all the comments received by ERA only clarifications were reported in the impact assessment report which is now finalized. On this basis the Agency recommendation on the RID provision is confirmed.

The European Commission's discussions on the ERA recommendation would now take place at political level, firstly in the Railway Interoperability and Safety Committee (12 June 2009) and secondly in the Dangerous Goods Regulation Committee (6 July 2009)."

9. should read as follows:

"9. The representative of ERA re-affirmed that the impact assessment demonstrated, when applying EU principles and requirements, that it is not necessary and it would cause legal problems to adopt the RID provision on DDD. As a result of the assessment, the ERA proposed to firstly study the possible ways to better prevent the freight train derailments to occur, in particular potential interest for the sector has also been demonstrated. However the question of general reduction of freight train derailment with the DDD is out of the scope of the RID Committee responsibility and not considered as a possible option by ERA due to unsolved problems with the DDD."

19. The second and third sentence should read as follows:

"It is part of ERA's mission to give recommendation to the Commission or to relevant EU Committees on potential new EU harmonized safety measures. To this end ERA can use specific consultations of EU-MS or information collected from EU-MS on serious accidents, and compiled in the ERA public data base."

19. At the end, the following text should be added:

"For the moment, ERA view is that potential improvements should be first find in relation with Safety Management Systems of Railway Undertakings as it was reported by Germany that, in some cases, there were no brake tests at all before train departure. However this information is not sufficient for the Agency to issue a recommendation, at EU level, as this problem was

only reported by Germany. In order to examine this issue at EU level the Agency should have been first advised of similar problems by several national (railway) safety authorities or national investigation bodies, which is not the case for the moment. In case of such reporting, and if a mandate from the Railway Interoperability and Safety Committee was given to the Agency then a detailed assessment would be launched. For the moment, the document OTIF/RID/CE/GT/2009/4 do not contain sufficient justifications and objectives for the transport of dangerous goods sector which would advocate for a new regulation at EU level, for example which risks level should be obtained in the future?."



Texts adopted by the working group

6.8.4 (b)  
TE 22

Amend the last sub-paragraph to read:

"The requirements of this special provision are deemed to have been complied with if:

(a) crashworthy buffers in accordance with section 7 of standard EN 15551 (Railway applications – Freight wagons – Buffers) are used; and

(b) in order to demonstrate that the wagon is suitable, the requirements of Appendix F of UIC leaflet 573<sup>19</sup> (Technical conditions for the construction of tank-wagons) have been observed."

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