

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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TO THE GOVERNMENTS OF THE MEMBER STATES OF OTIF

**Report of the 13th session of the RID Committee of Experts' working group on tank
and vehicle technology**

(Rome, 11 and 12 April 2012)

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1. The 13th session of the RID Committee of Experts working group on tank and vehicle technology was held in Rome on 11 and 12 April 2012 at the invitation of the Italian Ministry of Transport.
2. The following countries took part in the discussions at this meeting: Belgium, France, Germany, Italy, Netherlands, Sweden, Switzerland and the United Kingdom. The European Railway Agency (ERA) was 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 I in document OTIF/RID/CE/GT/2012-A/Add.1).

Chairmanship of the working group

3. As decided at the 44th 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 81-03/501.2012) was adopted.

Item 2: Detection of derailments

Informal documents: INF.5 (ERA)
INF.6 (ERA)

5. With the help of his presentation in informal document INF.6, the representative of the European Railway Agency (ERA) explained the report in informal document INF.5 on the short and medium term prevention and reduction of freight train derailments. Among other things, the report took into account the findings of the study carried out by Det Norske Veritas (DNV) and of the task force set up after the accident in Viareggio to look at the maintenance of freight wagons.
6. He explained that in total, 47 preventive measures, 13 measures to reduce the consequences of a derailment and 9 measures which are not yet feasible had been examined in detail.
7. The report was underpinned by investigations into a total of 555 derailments, **data on which had partly been collected by ERA in 2009 and supplemented by the DNV's survey**. The accident in Viareggio had also been **taken into account**, although **in ERA's view**, that had not been a typical derailment.
8. ERA's conclusions were arranged into short, medium and long term measures. The most effective short term measure was considered to be the correct implementation of the safety management and maintenance system already prescribed in EU Directives, which in itself would prevent **up to 26%** of derailments.
9. Among the medium term measures, four technical measures would have the potential to prevent or reduce derailments more effectively than derailment detectors. These were detectors to establish uneven weight distribution and defective wheel profiles, bearing acoustic monitoring detectors, detectors to establish the atypical dynamic behaviour of wheelsets and the introduction of roller cages made of polyamide.
10. **In accordance with the principles established in EU legislation**, none of these measures should be made mandatory at European level; instead, it should be up to the sector which measures are introduced voluntarily on the basis of the safety management system.

11. The ERA report reiterated its recommendation to the European Commission not to require the use of derailment detectors in EU legislation, and in turn not to require them in RID, because it was clearly demonstrated that other measures are far more effective in reducing the risks inherent in the carriage of dangerous goods, including catastrophic consequences. There was therefore no reason to promote the derailment detection measure above other more effective measures.
12. Nevertheless, as for the other technical measures that had been assessed, the ERA representative reminded the meeting that it was still possible to use the derailment detectors currently available on the market on a voluntary basis, if authorised by the authority in charge of granting the “placing into service” of wagons equipped with these systems. However, it should be clear that wagons without derailment detectors should not be prevented from operating. In addition, it was not excluded that in the longer term, ERA might carry out a new investigation on using electronic derailment detectors.
13. Irrespective of this, longer term measures should also be considered, e.g. the introduction of central coupling, combined with the possibility of data transmission and energy supply and the collection and exchange of specific, real-time data on the quality of wagons and tracks. Since October 2011, a research project on this commissioned by the European Commission’s Directorate-General Research, Technological Development and Innovation had been underway.
14. In the discussion that followed, the following criticisms on the ERA report were voiced:
 - ERA’s argument that the mandatory introduction of technical measures might result in the modal shift of traffic to the roads because of the economic burden would only apply to other measures, particularly the long term measure of introducing central coupling.
 - As a result of the fact that combinations of different causes of derailments had not yet been sufficiently investigated in theory, and from practical experience, specifically with reference to the durability of individual parts, it would have to be concluded that derailments could also continue to occur at a considerable frequency and perhaps with catastrophic consequences if dangerous goods were being carried. Therefore, it was at least necessary to minimise the consequences of derailments, which was currently only possible with mechanical derailment detectors.
 - Even if the accident in Viareggio were considered as an atypical derailment, the accident had had the effect in Italy of moving dangerous goods transport operations, to a great extent, onto the roads. Between the moment the derailment occurred and the overturning of the wagon after 370 m, a derailment detector would at least have been able to reduce drastically the kinetic energy. As the available kinetic energy had been the determining factor for the damage to the tank wall, there would have been a better chance of deformation, rather than puncturing.
 - The claim that the false activation of a derailment detector might lead to a derailment did not reflect the reality of what happened in an accident and was purely speculative. Moreover, since the activation thresholds had been adjusted in 2006, no more false activations had been experienced.
 - As the four measures proposed could not rule out all derailments and the highly rated detectors for establishing uneven load distribution were particularly useless in this respect, derailment detectors should be prescribed for dangerous goods wagons in order to minimise the remaining risks. Various delegates referred to car construction as an example in this context, where, despite numerous objections when they were introduced, safety systems such as airbags and safety belts are used very effectively.

15. The representative of Italy referred to the recommendations made by the Italian Accident Investigation Authority in informal document INF.3, which also included fitting derailment detectors to older wagons. In his view, derailment detectors should not be limited to new builds for purely economic reasons.
16. The chairman drew the working group's attention to the fact that to his knowledge, in the last four years, operators of tank-wagons for the chemical industry had fitted derailment detectors to all new build tank-wagons for the carriage of the very dangerous substances identified by the RID Committee of Experts on a voluntary basis. Even if no mandatory requirement were introduced into RID, it should be assumed that this practice would continue.
17. The representative of Germany reminded the meeting that as in the past, the RID Committee of Experts was obliged to learn lessons from serious accidents such as the one that had occurred in Viareggio. He recalled that a road traffic accident in Los Alfaques (Spain) on 11 July 1978 had led to permanent changes in the provisions of ADR. This had also entailed costs for road transport, but had not caused any negative changes in the modal split. Serious accidents that continued to occur in all transport modes showed that any remaining residual risk in the dangerous goods area had to be considered more intensively than for other goods. In his capacity as chairman of the RID Committee of Experts, in the event that the mandatory use of derailment detectors in RID was rejected, in order to avoid a negative effect on competition against the background of the so far voluntary fitting of derailment detectors to tank-wagons, he asked the Member States and ERA at least to think about a provision on fitting derailment detectors in RID to make matters clear, so that initially at least, legal certainty could be achieved for voluntary fitting.
18. In an indicative vote, four Member States supported implementing the decision endorsed by the 47th session of the RID Committee of Experts (Sofia, 16 – 20 November 2009) to introduce derailment detectors. Two Member States preferred implementation on a voluntary basis. **Two Member States abstained.**

Item 3: Accident reports

Informal document: INF.3 (Italy)

19. Based on his presentation in informal document INF.3, the representative of Italy introduced the final report of the railway accident that occurred in Viareggio on 29 June 2009. While it had been possible to determine what had caused the accident, investigations into the question of the object that had perforated the tank were still pending. The Italian accident investigation authority had drafted 11 recommendations in all, ten of which concerned international legislation.
20. The recommendations in detail:

Recommendation 1:

Supranational laws for the safety-related maintenance of dangerous goods wagons, which also cover used components utilised for new build wagons.

Recommendation 2:

A single international register of dangerous goods wagons, which, among other things, should include all the maintenance work, particularly on safety-related components.

Recommendation 3:

General rules for sanctions to be imposed by the Member States if rules are infringed.

Recommendation 4:

Maintenance of wagons as a function of the distance travelled and increasing age.

Recommendation 5:

Certification of personnel who carry out wagon maintenance, with no possibility of self-certification.

Recommendation 6:

Rules on limiting the service life of safety-related components that are subject to fatigue (e.g. axles, wheels, bearings, suspension).

Recommendation 7:

Full traceability of safety-related components (still to be defined) with the help of databases.

Recommendation 8:

Destruction of safety-related components whose history can no longer be reconstructed, under the supervision of the national safety authority.

Recommendation 9:

Railway undertakings to inspect the bodies responsible for maintenance as part of the safety management system.

Recommendation 10:

Derailment detectors on all dangerous goods wagons, but false activation of derailment detectors should be eliminated. Wagons moved in a train with dangerous goods wagons should also be fitted with derailment detectors. Older wagons should be fitted first, while for new builds, more developed detectors could be used.

Recommendation 11 (National railway infrastructure):

Countrywide installation of hot axle box detectors on the Italian network, depending on the topography, the line sections between two detectors being no longer than 60 km. This would mean that the visual inspections carried out at present could be dispensed with.

21. In the discussion on the recommendations, the working group established that only a small part of them **might have an influence on** the legal framework of RID, while the majority were aimed at improving general rail safety, which **has** to be coordinated in the European Commission's RISC Committee. For the latter recommendations, it would also first have to be checked which of them were covered by **already** existing or forthcoming EU provisions and the extent to which these provisions had also been taken over into the uniform technical prescriptions of the technical Appendices to COTIF.
22. Even though the investigations into which object had perforated the tank had not yet been completed, there was apparently some indication that the tank had been punctured by an upright piece of track. The working group was of the view that ERA should examine recommendations aimed at railway infrastructure managers to avoid dangerously shaped parts in the vicinity of the infrastructure.

23. The working group thought that before holding a fundamental discussion on recommendations concerning RID, each of the current provisions should be analysed and, where necessary, specific proposals for amendments prepared.
24. The representative of Italy was asked to prepare a corresponding document for one of the next sessions of the working group.

Item 4: Handbrakes on new build tank-wagons and other dangerous goods wagons

Informal document: INF.7 (UIC)

25. Following the preliminary discussion on this issue at the 12th session of the working group (see report OTIF/RID/CE/GT/2011-A, paragraphs 31 to 34), the representative of UIC introduced the provisions of UIC leaflet 535-3 in his informal document INF.7. This leaflet prescribed devices for passing from one side of the wagon to the other and screw brakes (handbrakes) that can be operated from the platform. In contrast, the **new draft TSI Freight Wagons no longer required the mandatory fitting of parking brakes to dangerous goods wagons, as was prescribed in paragraph 4.2.4.1.2.8 of the currently applicable TSI Freight Wagons (Commission decision 2006/861/EC).**
26. It was agreed that the representatives of UIC and UIP would submit the results of a joint survey on the need for such a requirement carried out among the undertakings concerned to the 52nd session of the RID Committee of Experts in November 2012.

Item 5: Transitional provisions for old gas tank-wagons

Document: OTIF/RID/CE/GT/2012/3 (Germany)

27. In his document the representative of Germany proposed to delete the transitional provisions which allow tank-wagons for compressed gases that are more than 35 years old to continue to be used without a time limit. His main justification for this was the lower wall thicknesses and the differences in the quality of the materials and workmanship. As there were still around 7000 gas tank-wagons (about 30 to 35% of the total fleet) operating in Europe on the basis of these transitional provisions, as a modification to his proposal he suggested the successive replacement of these tank-wagons in order to avoid a supply bottleneck and to enable a programme of new builds in line with manufacturing capacity.
28. In the discussion, a time limit on the use of such tank-wagons was not called into question. However, more precise criteria for their withdrawal from service should be established, as before 1978, these tank-wagons were built in accordance with national rules which did not necessarily correspond to the requirements referred to in Germany's document. In the process, the time limit envisaged could be made dependent upon the last periodic inspection carried out.
29. **The representative of France pointed out that the problem of different tank wall thicknesses was not evident in the other Member States and that there would have to be an exchange of experiences to obtain a more general overview of the situation. In addition, the age of these tanks was not important in itself, especially as they were now maintained in accordance with the rules in force, which were very strict.**
30. **The representative of UIC wondered whether the concept of "tank-wagon" should not be replaced by that of "fixed tank" as defined in 1.2.1, given that the tank need not necessarily be the same age as the other components of a tank-wagon. However, this clarification, which was also supported by the representative of France, would concern all the transitional measures for tank-wagons in 1.6.3. Whether wagons were kept in service was also a matter for the criteria defined in OTIF's and the European Union's general railway legislation.**

31. The representative of Germany would submit a revised document, taking account of the working group's comments, to the 52nd session of the RID Committee of Experts. UIP was asked to submit a supplementary document from the sector, the consequence of which would be to set a time limit, but which would take into account transitional periods that were still needed and any design types that were not affected.

Item 6: Carriage in bulk

Informal document: INF.2 (United Kingdom)

32. Informal document INF.2 proposed a text for the provisions on carriage in bulk which had first been drafted by a Joint Meeting informal working group for ADR (see informal document INF.17 from the Joint Meeting in March 2012) and which the Joint Meeting had agreed in principle, subject to any comments from the industry sector concerned. In the text proposed for RID, there was no specific reference to moveable roof wagons, as these were included in the definition of "closed wagons" in 1.2.1. The representative of the United Kingdom asked whether the additional requirement in AP 7 of carriage as a wagon load or a full load should apply to rail transport.
33. It was mentioned in the discussion that it was not necessary to specify the AP code in the explanatory remarks on column 17, as these only appeared in conjunction with one of the codes "VW 1", "VW 2" or "VW 13". In the last sub-paragraph of 7.3.1.1, the reference to the special provisions of 7.3.3 should be aligned with the amended heading of this section, insofar as this sub-paragraph was needed at all in view of the fact that in future, there would be no differentiation between large and small containers.
34. The representative of the United Kingdom would take these comments into account in a revised document for the next Joint Meeting. Within his association, the representative of UIC would clarify whether the additional provision AP 7 had any logistical relevance.

Item 7: Entity in Charge of Maintenance (ECM)

Documents: OTIF/RID/CE/GT/2012/1 (Belgium)
OTIF/RID/CE/GT/2012/2 (Belgium)

35. The working group did not have time to deal with Belgium's documents. They would be submitted to the next session of the RID Committee of Experts as official documents.