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Economic Commission for Europe**Inland Transport Committee****Working Party on the Transport of Dangerous Goods****Joint Meeting of the RID Committee of Experts and the
Working Party on the Transport of Dangerous Goods**

Geneva, 17–27 September 2013

Item 7 of the provisional agenda

Reports of informal working groups**Report of the informal working group on flexible bulk
containers (FBCs)****Transmitted by the Government of United Kingdom^{*†}**

1. The informal working group on flexible bulk containers (FBCs) session was held in Saint Petersburg, Russian Federation, on 28 May 2013 at the invitation of the International Dangerous Goods and Containers Association (IDGCA). The meeting was chaired by Mr. Jeff Hart (United Kingdom).
2. The following states participated in the meeting: Germany, France, Russian Federation, Slovakia and United Kingdom. The International Dangerous Goods and Containers Association (IDGCA), International Union of Railways (UIC) and a representative of the UNECE Transport Division also took part.
3. A member of the UNECE secretariat recalled the development of provisions concerning FBCs by the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods, which took four years during which all delegations had had ample time to comment on the proposed construction and testing requirements which were finally adopted by the United Nations Sub-Committee in December 2010 and introduced in the 17th revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations. The texts that had been proposed by the Ad Hoc Working Group on the Harmonization of RID/ADR/ADN with the United Nations Recommendations on the Transport of Dangerous Goods (ECE/TRANS/WP.15/AC.1/2011/30/Add.1) had been

* In accordance with the programme of work of the Inland Transport Committee for 2010–2014 (ECE/TRANS/208, para 106, ECE/TRANS/2010/8, programme activity 02.7 (c)).

† Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2013/59.

adopted by the Joint Meeting (ECE/TRANS/WP.15/AC.1/124, para 22) despite a proposal by the Government of Germany not to allow those FBCs for inland transport (ECE/TRANS/WP.15/AC.1/124, paras 25-27). However, WP.15 decided not to adopt these texts for the 2013 amendments to ADR and to postpone the discussion to the next biennium since the provisions had to be supplemented by mode specific requirement that had not been proposed (ECE/TRANS/WP.15/212, paras 26-29), and the same approach was later agreed for RID and ADN. For maritime transport, IMO had agreed to allow the use of FBCs as from 1 January 2013 and to introduce the provisions developed by the United Nations Sub-Committee in the IMDG Code Amendment 36-12 provided that the FBCs be loaded directly into the holds of ships, stacked no more than 3 high, and be not contained in cargo transport units such as freight containers, vehicles or wagons.

4. At its autumn 2012 session, the Joint Meeting discussed the issue again on the basis of documents submitted by IDGCA (ECE/TRANS/WP.15/AC.1/2012/29 and informal document INF.7) and decided to set up an informal working group that would be hosted by IDGCA with the following mandate:

(a) To identify the constraints to the adoption of relevant provisions for inland transport [*of flexible bulk containers*];

(b) To carry out a coordinated study for the three forms of land transport of possible operating conditions for the actual transport of these containers in road vehicles, railway wagons and inland navigation vessels, and draw up relevant proposals for the consideration of the competent bodies (see also ECE/TRANS/WP.15/AC.1/128, paras 48-50).

5. The papers available to the informal working group were those submitted to the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods when developing proposals for flexible bulk containers (FBCs) and those submitted to the Joint Meeting (ECE/TRANS/WP.15/AC.1/2012/29 from IDGCA, ECE/TRANS/WP.15/AC.1/2011/30 and Add.1 from the secretariat, and informal document INF.7 submitted at the autumn 2012 session). New papers were submitted for consideration by Germany with comments from IDGCA (see informal document INF.4). The meeting based its discussion on consideration of ECE/TRANS/WP.15/AC.1/2012/29 and of these new papers.

6. Germany raised a number of points in its paper for discussion to which the IDGCA paper sought to respond. The Working Group discussed each point in turn as follows:

(a) Could the apparently linear approach for testing derived from the flexible intermediate bulk container test procedure be justified?

7. It was argued that the United Nations Sub-Committee had properly considered this aspect and that any suggestion to amend the test requirements would need to be remitted back to that body. IDGCA had further developed the design of its FBCs since that which was described in test reports submitted to the UN Sub-Committee. It was agreed that if this new design could successfully pass the current United Nations test criteria at a test facility with adequate capability to conduct the tests, Germany's concerns would be satisfied. IDGCA indicated that they expected to be able to complete such testing at its Astrakhan facility. If difficulties arose in this process, Germany offered the facilities of BAM to help conduct such testing.

(b) The current United Nations definition of a flexible bulk container stated in terms only of volumetric capacity is insufficient.

8. Given the flexible nature of the bulk container, the load that could be filled in the 15m³ capacity could lead to a gross mass that would be excessive for transport by land, particularly in road transport. On the basis of calculation derived from the maximum permissible gross mass for flexible IBCs, it was proposed that this should be restricted to

14 tonnes for road and rail transport. This corresponded also to current practice in the Russian Federation where five 14t FBCs can be loaded per wagon to fit the length of a wagon and the maximum permissible mass of 70t per wagon. In order to retain multi-modal harmonisation, it was agreed that the definition in 6.11.1 should be amended to read “Flexible bulk container means a flexible container with a capacity not exceeding 15m³ and a maximum permissible gross mass of not more than 14 tonnes and includes liners and attached handling devices and service equipment.” If adopted by the Joint Meeting a proposal should be made to amend the same definition in the Model Regulations (6.8.1).

(c) The stability of FBCs in road and rail transport was questioned.

9. Whilst this had been partially addressed by the United Nations requirement that transport units shall have rigid sides and ends extending at least two-thirds of the height of the FBC, there was still a concern that the load above the two-third height constraint could still move sufficiently to affect the balance of the transport unit given possible speed and driver behaviour. Whilst this concern affected primarily road transport, it was suggested that such concern could be demonstrated to be unfounded if a fully loaded road vehicle could successfully pass the tilt tests specified in UN Regulation No. 111* (i.e. no wheel lift at a tilt angle of 21.5°). IDGCA agreed to undertake such a test on its new FBC design within the next two months, making the test results available to the next meeting of WP.15. It was also noted that the provisions in the United Nations Model Regulations in 7.1.1.11.1 concerning restraint and prevention of movement of the load also addressed this issue.

(d) Concerns still remained about necessary load securing.

10. No provisions for the strength of the rigid sides and ends had been specified by the United Nations Sub-Committee. Germany felt that this should be addressed, possibly by reference to the provisions of section 9.7.3 of ADR. It might also be necessary to limit the diameter (2.4m?) and height (2.5m?) of FBCs given the constraints of vehicle and bridge height dimensions in western Europe. However, this was felt by some to be unnecessarily restrictive. It may be possible to make some reference in the regulations to the need for any national speed, vehicle weight, bridge height or other restrictions to be taken into account before commencing carriage, but the majority felt that this was already adequately addressed by the Articles of the relevant Agreements. IDGCA indicated that FBCs currently manufactured have a diameter of 2.4m to take account of the width of wagons and a height of 2.8m.

(e) Lifetime restrictions and inspection prior to commencement of carriage were considered necessary.

11. It was recalled that the United Nations provisions restricted to operational life of FBCs to not more than 2 years (4.3.1.16.1) and that a visual inspection is required before filling to confirm continuing compliance with the regulatory requirements (4.3.1.16). It was confirmed that this should be carried forward to the Joint Meeting. IDGCA indicated that after each use, a FBC was always visually inspected for any damage prior to being folded for storage prior to the next use.

(f) Concern was expressed about the possible affect of moisture on certain loads.

12. It was confirmed that all FBCs were fully closed in compliance with the United Nations requirement and that any venting devices necessary for particular substances were

* 1958 Agreement concerning the adoption of uniform technical prescriptions for wheeled vehicles equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions: Regulation No. 111: Handling and stability of vehicles

no-return vents that would prevent the possible ingress of moisture. It was confirmed that of the substances currently assigned BK3, this issue was only pertinent to UN3378. Nevertheless, it was agreed that the second sentence of the paragraph 4.3.1.16.2 in the United Nations Model Regulations should be amended to read ‘The vent shall be so designed that the penetration of foreign substances **or the ingress of water** is prevented under normal conditions of transport. If adopted by the Joint Meeting, the same proposal should be submitted to the United Nations Sub-Committee.

13. The representative of Germany indicated that he might still wish to raise the issue of the need for competent authority approval for FBCs (see 6.11.5.3.4 of 2012/29) at the Joint Meeting and would wish to better understand the basis for the Model Regulations not adopting the provisions of 6.5.5.2.4, 6.5.5.2.6 and 6.5.5.2.10 applicable to FIBC which seemed to him to be just as appropriate for the testing of FBCs.

14. Nevertheless, the informal working group concluded that on the basis of the discussion and recommendations recorded above, and receipt of satisfactory test results, it could now recommend that the provisions based on those submitted by IDGCA in ECE/TRANS/WP.15/AC.1/2012/29 should be adopted by the Joint Meeting. For carriage by inland waterway, these provisions could be supplemented by those applicable to maritime transport (see also informal document INF.35 submitted at the twentieth session of the ADN Safety Committee). The representative of the United Kingdom agreed to submit a suitably amended version of the text suitable for adoption to the Joint Meeting (see ECE/TRANS/WP.15/AC.1/2013/37).

15. The representative of Germany suggested that the provisions could be adopted by WP.15 and the RID Committee of experts at their May 2014 sessions after checking of test results. The representative of the UNECE secretariat said that in principle all amendments for entry into force on 1 January 2015 should be adopted by the end of 2013 for RID and ADR and January 2014 for ADN. Only minor amendments or corrections could be adopted in May 2014, otherwise it would not be possible to prepare legal texts in due time, and any last minute reshuffling of texts would inevitably entail considerable delays in the issuance of the consolidated edition of ADR 2015. He said that the secretariat should know with certitude at the latest at the spring 2014 session of the Joint Meeting whether or not there is agreement for the inclusion of these provisions.