

## **Economic Commission for Europe**

### **Inland Transport Committee**

#### **Working Party on the Transport of Dangerous Goods**

**15 March 2011**

#### **Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods**

Bern, 21–25 March 2011

Item 6 of the provisional agenda

#### **Reports of informal working groups**

### **Carriage in bulk**

#### **Note by the UNECE secretariat**

1. Following an invitation by the representative of the United Kingdom to provide explanations in relation to certain questions posed in the report of the informal working group on carriage in bulk (ECE/TRANS/WP.15/AC.1/2011/15), the UNECE secretariat would like to make the following observations:

#### **General**

2. Up to now, the assignment of provisions for carriage in bulk, both in the UN Model Regulations and in RID/ADR, has been made on a case-by-case basis. Should a systematic approach be adopted, the secretariat's view is that it should be discussed at the level of the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods before being introduced in the RID/ADR.

3. The current VV/VW provisions in ADR and RID reflects the provisions which existed before the restructuring of RID/ADR. In RID/ADR versions anterior to the restructuring, transport conditions were normally assigned in a systematic way on the basis of the so-called "item/letter" grouping system defining groups of substances on the basis of their chemical properties. Nevertheless, for carriage in bulk, although in some cases a whole group of substances was referred to as authorized for carriage in bulk, in many cases only one or a few specific substances within the same group were referred to as authorized for carriage in bulk.

4. The current VV/VX provisions come from the previous marginals X1.111 and X1.118 of ADR (and equivalent RID marginals) which were adapted to the new structure. It seems that these provisions had been developed to take account of the industry needs and practices for carriage of certain raw material and waste.

#### **Specific comments**

#### **Paragraph 8-Conclusion**

5. Originally, ADR contained a general provision stating that, for carriage in bulk, "small containers shall be of the closed type and have complete walls" (marginal 10.118(2), second sentence). This explains the differentiation between small and large containers in VV special provisions.

**Class 4.3 substances (paras 8, 9 and 13, 14, 15 and 16).**

6. Originally (before the introduction of UN numbers) only magnesium granules, coated, calcium carbide, and calcium silicide in lumps were allowed for carriage in bulk, in specially-equipped vehicles, with a requirement that “the openings used for loading or unloading shall be capable of being closed hermetically”.

7. After the introduction of UN numbers and UN proper shipping names, this was extended to certain solid substances of packing group III (UN 2844 calcium manganese silicon, UN 1405 calcium silicide in all forms, UN 1398, UN 1435, UN 3170 and UN 3208, UN 1436, UN 3209, UN 2968, UN 2968 and UN 2813).

8. It seems that the only Class 4.3 solid substances excluded were those with a subsidiary risk of classes 6.1 or 8, and UN N°1403 calcium cyanamide. Since calcium carbide (PG II) was previously authorized, it remained authorized, and UN 1394 aluminium carbide (also PG II) was added by assimilation, but these were the only two PG II substances allowed in those conditions.

9. However other substances were also authorized in other transport conditions:

UN3170, PG II: in bulk in well-ventilated sheeted vehicles/large containers, or closed small containers;

UN 3170, PG III;

UN 1408, PG II (ferrosilicon)

UN 1405, PG II (calcium silicide, in pieces only)

UN 1405, PG III (in pieces only)

UN 2844, PG III (in pieces only)

in sheeted or closed vehicles/large containers or closed small containers.

**Paragraph 12 (Conclusion 10)**

10. In ADR 1999, the carriage of Class 4.2 substances in bulk was limited to:

- Item 1°(c) UN 1361 and UN 1362, PG III;
- Item 2°(c) UN 1363, UN 1386 and UN 2217, PG III ;
- Item 3° UN 1364, UN 1365, UN 1379, UN 1373, PG III ;
- Item 12°(c): only borings, shavings, turnings and cuttings of ferrous metal, PG III ;
- Item 16°(c): only UN 1376, PG III;

and

- Solid wastes of the same items in PG III.

As a consequence, for the 8 substances listed in paragraph 12, carriage in bulk is authorized only for waste.

11. The addition of solid wastes was agreed in 1990 during the revision of Class 4.2 for harmonization with the UN Recommendations, but on the condition that such waste be classified under the same items (and PG III) as substances allowed for carriage in bulk, although not all substances listed under those items were allowed for carriage in bulk (TRANS/WP.15/AC.1/44-OCTI/RID/GT-III/934, paragraph 61).

Previously, only substances and wastes listed namely under the items could be carried.

12. In relation to the question posed in paragraph 12, conclusion 10, the Joint Meeting may wish to note that this question had been raised previously for wastes of classes 6.1 and 8. The transport of wastes was discussed by a working group in July 1984, and this working group had proposed to authorize the carriage in bulk of all solid wastes of classes 6.1 and 8,

PG III. This was accepted by the Joint Meeting but several delegations in WP.15 later expressed concern at the idea of allowing wastes to be carried under conditions that were not allowed for the pure substances contained in the waste (TRANS/GE.15/33, para.62 and 63; May 1986).

The compromise for ADR was that waste containing substances allowed for carriage in bulk would be allowed for carriage in bulk in the same conditions as the substances themselves. Wastes containing other substances not allowed for carriage in bulk would be allowed for carriage in bulk but in containers only.

13. In 1994, the Government of Sweden raised the question why carriage in bulk of waste of a certain substance was permitted while carriage of the pure substance in bulk was prohibited, and proposed to allow the carriage in bulk of pure substances when the carriage in bulk of waste containing such substances was allowed (TRANS/WP.15/AC.1/R.792-OCTI/RID/GT-III/1142). This proposal was accepted by the Joint Meeting and this led to the current provisions whereby all substances of classes 6.1 and 8, PG III, are allowed for carriage in bulk.

14. In other words, originally, only a few pure substances or specific wastes were allowed for carriage in bulk. For the sake of facilitating carriage of waste in bulk, the allowance of carriage in bulk was extended to the whole range of toxic and corrosive wastes, PG III and later, for the sake of consistency of the provisions concerning substances and those concerning wastes, the allowance was further extended to pure substances of PG III.

15. From the list of substances of Class 4.2 allowed for carriage in bulk, it appears that VV/VW4 was mainly assigned to powdered carbon, copra and seedcake, cotton, oil treated paper and animal, vegetable or synthetic fibers and metal waste, in PG III. The secretariat considers that it is up to the Joint Meeting to decide whether it is safe and appropriate to allow the carriage in bulk of the eight UN numbers mentioned in paragraph 12.

### **Paragraph 18 (Conclusion 19)**

16. All substances concerned seem to have the capacity to evolve either flammable vapours or harmful to health vapours, which might explain why ventilation is required for road transport. Before restructuring, ventilation was also required for rail transport (marginals 416 (2) and 916 (1) of RID).

### **Paragraph 13 (Conclusion 11)**

17. The secretariat notes that the term “watertight” in 7.3.2.4 is used in the context of a general requirement for the whole bulk container intended for the carriage of Class 4.3 substances.

The term “hermetically closed” in VV5/VW5 applies only to the openings.

### **Full load (paragraphs 17 and 19)**

18. The secretariat did not find the reason why carriage as a full load is required for certain substances in bulk, but notes that this was already required in the first version of ADR applicable in 1968. It is assumed that carriage as a full load is a guarantee against undesired mixing of incompatible goods and for better control, by the consignor, consignee and competent authorities of the transport operation. It is not obvious that the application of 7.3.1.12 and 7.3.1.7 provides for the same guarantee.

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