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**Economic Commission for Europe****Inland Transport Committee****19 June 2012****Working Party on the Transport of Dangerous Goods****Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) (ADN Safety Committee)****Twenty-first session**

Geneva, 27–31 August 2012

Item 5 (b) of the provisional agenda

**Proposals for amendments to the Regulations annexed to ADN:****Amendments for entry into force on 1 January 2015**

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**Carriage of coal in bulk by inland navigation vessels****Transmitted by the Government of Germany<sup>1</sup>****I. Background**

1. At the end of 2011, some incidents occurred on the Rhine in Germany where coal (hard coal), that was being carried in bulk by open dry cargo vessels (inland navigation vessels), self-ignited. The vessels had to be stopped and completely or partially unloaded.
2. In the last incident, samples of the coal were taken and tested for properties of dangerous goods of Class 4.2 “Substances liable to spontaneous combustion” by the German Federal Institute for Materials Research and Testing (BAM). Applying the testing procedure N.4 according to the UN “Manual of Tests and Criteria”, Part III, it was determined that five of seven samples tested met the classification criteria of Class 4.2, packing group III.
3. As far as carriage can be traced back, all incidents were related to a batch of coal that was imported from Colombia and due to the low water level of the Rhine could only depart with delay from Rotterdam.
4. Based on this fact, it can be concluded that the incidents mentioned are occurrences that could only happen under exceptional circumstances and do not allow a general conclusion concerning the classification of coal. However, the German Government found it necessary to examine a possible classification of hard coal under UN No. 1361 and the associated requirement to subject it to carriage under ADN.

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<sup>1</sup> Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR/ZKR/ADN/WP.15/AC.2/21/INF.6.

## II. Information on a working meeting in Bonn, Germany

5. On Thursday, 3 May and Friday, 4 May 2012 a working meeting was held at the invitation of the German Federal Ministry of Transport, Building and Urban Development in Bonn, in which staff of German authorities and authorities carrying out the checks, representatives of the inland navigation industry, of railway companies and the hard coal industry and a representative of the Belgian Government participated.

The following topics were discussed:

- Incidents with coal transport at the end of 2011, presentation of occurrences and the reaction of the authorities carrying out the checks, and current status of the investigations
- Extent and importance of coal transport in German inland navigation
- Stages of carriage of coal from overseas, from loading to unloading at the consignee
- Provisions for the carriage of coal in maritime carriage
- Classification of coal in dangerous goods law
- Measures for preventing the self-heating of coal during carriage in bulk
- General rules for differentiating coal as non-dangerous bulk / as dangerous goods for carriage by inland navigation vessels
- Necessity and general rules for enabling the carriage of coal in bulk in the ADN.

6. Details of the contributions to the agenda can be presented orally at the session of the Safety Committee.

## III. Conclusions from the event

7. A classification also of coal that has self-igniting properties under UN No. 1361 CARBON, animal or vegetable origin, is applicable. Should coal, according to the different translations of "COAL" in the various language versions, not be included under UN No. 1361, it would be included under UN No. 3088, if properties of Class 4.2 are present. In German inland navigation, the carriage of coal comprises approximately 15% of the total traffic with a yearly volume of 30 to 35 million tons.

8. For both UN Nos. the ADN does not permit carriage in bulk, in contrast to the transport modes railway and roads, as far as the hazard intensity of packing group III is concerned. For materials with higher hazard potential, tank vessel carriage is required. For the carriage of (hard) coal in bulk by inland navigation vessels, amendment of the requirements are therefore necessary, if coal, classified as dangerous goods, is to be carried.

9. According to the view of the German delegation, the arrangement of Test N.4 is based on the properties of coal and starting from there on other potentially self-igniting materials and was transferred into the laboratory scale; its suitability for coal and its worldwide liability based on the UN Model Regulations were discussed in detail. According to the classification provisions in 2.2.42.1.7 of ADN, it is possible to demonstrate that the properties of Class 4.2 are not present using the required procedure, with the result that the carriage is not subject to ADN. The duty of classification lies with the consignor, who must pass on the necessary data to the carrier.

10. In order to prevent self-ignition of coal, the usual measures to compact heaps of coal during temporary storage were highlighted. The conditions during the temporary storage of coal in ports / transshipment points were determined as an important factor. The longer the duration of storage, the earlier hard coal seems to develop the properties of Class 4.2. During carriage on board inland navigation vessels, covering of the compartments might be an option to minimise the oxygen supply that stimulates self-ignition. Limiting the loading temperature of the carried coal could also be an option.

11. There are no recordings concerning incidents involving coal fires from inland navigation. From carriage by rail there are only a few occurrences documented over a period of approximately 20 years.

12. Based on the production facility, coal is already subject to regular sampling and control by specially certified bodies. However, only the relevant properties for later use are determined here. The sampling and examination of coal concerning the classification criteria could be considered in the future.

13. It is expected that only a small part of the carried hard coal will be classified as dangerous goods of Class 4.2 under UN No. 1361 or 3088. In this case, carriage is subject to ADN. Such transports are not permitted, according to the previous law, specifically because in column 6 of table A, in 3.2.3 of ADN the entry "B" for "bulk" is missing. This possibility for carriage, however, should be legally secured by an appropriate amendment of the ADN.

#### **IV. Further proceeding**

14. Within their national competence, the German Government would like to inform all parties concerned. This is based on the presumption that coal usually does not meet the criteria of Class 4.2 but that it could occur under specific circumstances. Concerning this, there would be an official notice by the responsible party.

15. Players in the coal industry, in cooperation with the German technical authority BAM, agreed to facilitate a test series for the classification of coal originating from different sources and different points of the transport chain with Test N.4 according to the UN Manual. In this way, it should be determined, to what extent hard coal really is to be seen as a dangerous good of Class 4.2. Intermediate results should be communicated as soon as possible.

16. The EBU was advised to create and submit a proposal for the August session of the ADN Safety Committee that would make the carriage of coal as UN 1361 or UN 3088 also possible in bulk (entry "B" in column 6) and legally secure it. It was advised to provide special carriage conditions, e.g. a maximum loading temperature. After an appropriate decision, Germany could initiate a multilateral agreement to bridge the time until the entry into force of the amendments on 1 January 2015.

17. **Friday, 26 October 2012 in Bonn, Germany** was agreed as date for a follow-up meeting. All Contracting Parties of the ADN are invited to participate.