

## Economic Commission for Europe

### Inland Transport Committee

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

Ninety-eighth session

Geneva, 4 –7 May 2015

Item 6 (a) of the provisional agenda

**Proposals for amendments to annexes A and B of ADR:  
construction and approval of vehicles**

13 March 2015

### **Comments on 2015/6 - Use of Liquefied Petroleum Gas (LPG) and Compressed Natural Gas (CNG) as fuel for vehicles carrying dangerous goods**

#### **Transmitted by the Government of Sweden**

Sweden shares the concerns expressed by Germany in document 2015/4. We would particularly like to underline the importance of Germany's question whether any studies have been carried out concerning compatibility between LNG, CNG and LPG and the goods permitted on FL- and OX-vehicles. Sweden welcomes new technology, but the experiences regarding risks with gaseous fuels in the event of an accident are still very limited. Therefore, Sweden believes that further studies on this area are necessary in order to avoid any hasty and premature decisions at this point.

In document 2015/4, Germany has also made an important note concerning emergency response. In case of an incident or accident, it should be of uttermost importance for the rescue services to identify what kind of fuels that are involved, especially when the load contains dangerous goods. Traditionally, the fuel used for heavy vehicles has been flammable liquids. But with today's technical development heavy vehicles may also be propelled by new mixtures of flammable liquids, gases, batteries or a combination of these. It would be interesting to know if the International Association of Fire and Rescue Services (CTIF) has been consulted in this matter, particularly in relation to the possible need for additional hazard communication.

#### **Differences between adopted and proposed text**

Concerning document 2015/6 from AEGPL and NGV Global, Sweden would like to put forward some questions. According to the document, the proposed text is based on the new text adopted for ADR 2017. However, when comparing the proposal with the adopted texts in Annex II to the report of the 96<sup>th</sup> session (ECE/TRANS/WP.15/2015/224), some texts seem to have been overlooked. For example, the part of the adopted text in sub-section 9.2.4.3 (b) requiring that "*fuel tanks containing petrol shall be equipped with an effective flame trap at the filler opening or with a closure enabling the opening to be kept hermetically sealed*". Sweden would like to know whether AEGPL and NGV Global propose to delete this adopted requirement. There are also further differences between the adopted texts compared to what is highlighted as stricken through or underlined in document 2015/6. This makes it difficult to follow what is actually proposed.

### Definition of fuel container

The proposal in document 2015/6 contains a new term “fuel container” in sub-section 9.2.4.3. Sweden would like to know if a fuel container is a pressure receptacle, or if the term covers other types of containments. We also wonder if it would be appropriate to consider whether the fuel container as well as the fuel tank for gaseous fuels should be covered by the provisions for the exhaust system in sub-section 9.2.4.5, or is this regulated in ECE Regulation No. 110 and No. 67-01?

### Flashpoint

At the WP.15 meeting in May 2014, text concerning the use of LNG in fuel tanks of FL- and OX-vehicles was adopted. During the WP.15 meeting in November, Sweden put forward a question concerning EX-vehicles and the text adopted for sub-section 9.2.4.4. After the meeting we also e-mailed our concerns to AEGPL. However, our difficulties regarding this text, which is included in the current proposal in document 2015/6 still remain. For this reason, we would like to further explain our concerns with the adopted text in sub-section 9.2.4.4.

The last sentence adopted for sub-section 9.2.4.4 reads:

*“In the case of EX/II and EX/III vehicles the engine shall be of compression-ignition construction using only fuels with a flashpoint above 55 °C.”*

As far as we are concerned, the reason for introducing a flashpoint limit in 9.2.4.4 was to exclude the use of LNG fuel systems for EX-vehicles. However, according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), a gas does not have a flashpoint (see extract below). The same principle should also apply for transport, and we believe it would be unfortunate to insert contradictory text into ADR. The new wording in sub-section 9.2.4.4 is ambiguous and should be reconsidered.

Vehicles using natural gas as primary fuel and a small amount of diesel as an ignition source are equipped with an engine of compression-ignition type, where the only fuel used that actually has a flashpoint is diesel. Consequently, such EX/II- and EX/III-vehicles would fulfil the requirement stated in the last sentence in 9.2.4.4 and would, thus, be allowed.

At the last meeting of the Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), a document from Germany was adopted listing the basic physical and chemical properties for substances and mixtures, see <http://www.unece.org/fileadmin/DAM/trans/doc/2014/dgac10c4/ST-SG-AC10-C4-2014-21e.pdf>

(Annex 1, pages 6-9, Table A4.3.9.1) and extract below.

(Page 7)

<i>Flashpoint</i>	<ul style="list-style-type: none"> <li>– not applicable to gases, aerosols and solids</li> <li>– for information on test methods etc., see Chapter 2.6, paragraph 2.6.4.2 for mixtures:</li> <li>– indicate a value for the mixture itself if available, otherwise indicate the flash point(s) of those substances with the lowest flash point(s) as these are generally the main contributing ones</li> </ul>
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For the report from this GHS-meeting, see <http://www.unece.org/fileadmin/DAM/trans/doc/2014/dgac10c4/ST-SG-AC10-C4-56e.pdf> (para. IV. A, revision of section 9 of Annex 4).

**Discussion**

The text for sub-section 9.2.4.4 concerning the use of fuels for EX/II- and EX/III-vehicles has been adopted for introduction in ADR 2017. However, Sweden believes that there are too many uncertainties concerning the introduction of gaseous fuels for FL- and OX-vehicles in ADR. Furthermore, we find the proposed text laid down in document 2015/6 inconsistent with the already adopted text. These uncertainties together with the aforementioned safety issues should be considered before a decision is taken.

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