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Inland Transport Committee

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

Thirtieth session

Geneva, 23-27 January 2017

Item 6 of the provisional agenda

Report of informal working groups

Report of the informal working group on LNG

Transmitted by the governments of the Netherlands and of Switzerland^{*,}**

Introduction

1. On 21 and 22 September 2016 the second meeting of the informal working group on LNG took place at the Ministry of Infrastructure and the Environment in The Hague, the Netherlands. The meeting was attended by delegates from Germany, the Netherlands, Switzerland and representatives of the Central Commission for the Navigation of the Rhine (CCNR) and Lloyds Register.
2. The informal working group was established during the session of the ADN Safety Committee in January 2016. During this session the Safety Committee noted that the representative of the Netherlands wished to organize a meeting to include provisions concerning the use of LNG for the propulsion of inland vessels carrying dangerous goods, into the Regulations annexed to ADN (ECE/TRANS/WP.15/AC.2/58, paragraphs 63-64).
3. In May 2016, the informal working group held its first meeting. The report of this meeting (ECE/TRANS/WP.15/AC.2/2016/46) included a request to the ADN Safety

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Committee to discuss the described options (paragraphs 9-12) for adjusting the Regulation annexed to ADN to the use of LNG and to choose its preferred option. The Safety Committee discussed the report during its meeting in August 2016 and chose option C for the future work of the informal working group, on the understanding that chapter 30 and annex 8 of ES-TRIN should be made available in the working languages (ECE/TRANS/WP.15/AC.2/60 paragraph 51).

Reflection on discussion in ADN Safety Committee

4. The informal working group discussed the outcome of the discussion in the ADN Safety Committee on the report of the first meeting. The group embraced the outcome of the discussion in Geneva since option C fully respects the prerogatives of all the ADN Member States to make well informed decisions in this dossier.

5. Although it was not mentioned in the report of the ADN Safety Committee, the informal working group discussed an accident with an inland vessel which uses LNG as fuel for the propulsion, which took place on the Mosel in April 2016. The representative of Lloyds Register held an extensive presentation on the accident (the cause, the consequences and the lessons learned regarding the design of the vessel and unloading procedures). The informal working group came to the conclusion that the accident was the consequence of a nautical failure and had nothing to do with the LNG which is used on the vessel.

6. The representative of the CCNR informed the group about the adoption and foreseen entry into force of European legislation on the technical requirements for inland vessels (referring to ES-TRIN) on the one hand and on the emission requirements for non-road mobile machinery (NRMM) on the other hand. The informal working group discussed these developments as well as the relation and interaction between the United Nations, the European Union and CCNR legislation.

Relation between LNG as fuel for the propulsion and the dangerous goods carried on board of inland vessels

7. As stated in the report of the first meeting, the informal working group desired a discussion on the possible interaction between LNG (used as fuel) and other dangerous goods carried on board of inland vessels. The representative of Lloyds Register prepared in advance of the meeting a short note which refers to the Chemical Data Guide for Bulk Shipment over Water, a study performed and published by the US Coast Guard. The informal working group took note of the conclusions of the study that there is no possible interaction between LNG and other dangerous substances.

8. In addition, the informal working group examined the question how a LNG-fuel tank on board of inland vessels would react to fire on board. The representatives of the CCNR and Lloyds Register informed the group about the specific technical requirements for LNG-fuel tanks on board of inland vessels. These construction and safety requirements can be found in chapter 2.1 of annex 8 of ES-TRIN. Article 2.1.4 sets specific standards which the fuel tanks have to meet. The representative of the CCNR informed the group about the equivalent level of safety between LNG fuel tanks and regular fuel tanks on board of inland vessels. The representative adds that within the framework of the LNG Masterplan several guidelines and best practices have been published on how to prevent and deal with a fire on board of an inland vessel which uses LNG as fuel for its propulsion.

9. A close look was also taken at some specific articles of annex 8 of ES-TRIN, especially the articles 1.3.1, 1.3.2 and 2.1.1. It was concluded that the cargo zone should not

be identified as a high fire risk area as mentioned in 2.1.1 of annex 8 of ES-TRIN. The group noted as well with satisfaction that the articles 1.3.1 and 1.3.2 prescribe that every new LNG-concept on inland vessels should be accompanied by an extensive risk assessment, which takes as at least into account, loss of function, component damage, fire, explosion, tank room flooding, vessel sinking and electrical overvoltage.

10. Because of the chosen level of safety in ES-TRIN, the research performed by the US Coast Guard and the working group desire to harmonize international legislation for inland shipping, the group again embraced the choice of the ADN Safety Committee to add to the Regulations annexed to ADN a dynamic reference to ES-TRIN regarding the use of LNG as fuel for the propulsion. The working group will continue to follow the developments in ES-TRIN with great interest and calls upon CESNI to continue to set clear and unambiguous standards.

Proposed amendments to the Regulations annexed to ADN

11. The informal working group continued its work by drafting amendments on Chapter 7 and Chapter 9 of the Regulations annexed to ADN. It was decided to use this opportunity as well to align the legislation in the Chapters 7 and 9 (regarding fuels of lower, higher or exactly 55 °C). The informal working group invites the ADN Safety Committee to consider the following amendments (~~the cancelled text is struck out~~, **the additional text is in bold underlined**):

7.1.3.31

The use of engines running on fuels having a flashpoint ~~below~~ **equal to or lower than** 55 °C (e.g. petrol engines) is prohibited. This ~~requirement~~ **provision** does not apply to:

- the petrol-operated outboard motors of lifeboats;
- **the propulsion and auxiliary systems which meet the requirements of Chapter 30 and Annex 8 of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN) as amended.**

7.2.3.31.1

The use of engines running on fuels having a flashpoint ~~below~~ **equal to or lower than** 55 °C (e.g. petrol engines) is prohibited. This ~~requirement~~ **provision** does not apply to:

- the **petrol-operated** outboard motors of lifeboats;
- **the propulsion and auxiliary systems which meet the requirements of Chapter 30 and Annex 8 of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN) as amended.**

9.1.0.31.1

Only internal combustion engines running on fuel having a flashpoint above 55 °C are allowed. **This provision does not apply to internal combustion engines which are part of propulsion and auxiliary systems which meet the requirements of Chapter 30 and Annex 8 of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN) as amended.**

9.3.1.31.1

Only internal combustion engines running on fuel ~~with~~ **having** a flashpoint above 55 °C are allowed. **This provision does not apply to internal combustion engines which are part of propulsion and auxiliary systems which meet the requirements of Chapter 30 and**

Annex 8 of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN) as amended.

9.3.2.31.1

Only internal combustion engines running on fuel ~~with~~ **having** a flashpoint above 55 °C are allowed. **This provision does not apply to internal combustion engines which are part of propulsion and auxiliary systems which meet the requirements of Chapter 30 and Annex 8 of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN) as amended.**

9.3.3.31.1

Only internal combustion engines running on fuel ~~with~~ **having** a flashpoint above 55 °C are allowed. **This provision does not apply to internal combustion engines which are part of propulsion and auxiliary systems which meet the requirements of Chapter 30 and Annex 8 of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN) as amended.**

Translation of chapter 30 and annex 8 of ES-TRIN into the working languages

12. The informal working group wholeheartedly supported the request of the ADN Safety Committee to make chapter 30 and annex 8 of ES-TRIN available in the working languages of the ADN Safety Committee. After an exchange of views with the Secretariat of the ADN Safety Committee, the group was informed that the translation of the relevant parts of ES-TRIN will take place within the framework of the UNECE Working Party on Inland Water Transport (SC.3), as part of their ongoing work on Resolution 61 regarding the technical requirements for inland vessels.

Conclusions

13. The ADN Safety Committee is invited to consider the amendments proposed in paragraph 11 and to take action as it deems appropriate. According to the participants, the working group fulfilled its tasks and concluded its business according to the initial aim and the scope. The working group strongly recommends the ADN Member States to adopt the proposed amendments and subsequently to draft and sign a Multilateral Agreement on the matter. This would ensure quick implementation of new ADN legislation. It would ensure as well the lawfulness of inland vessels carrying dangerous goods which currently use LNG as fuel for their propulsion, given the fact that in most cases their granted derogation expires on 30 June 2017.
