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**Economic Commission for Europe****Inland Transport Committee**

11 January 2019

**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)****Thirty-fourth session**

Geneva, 21-25 January 2019

Item 4 (c) of the provisional agenda

**Implementation of the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN): interpretation of the Regulations annexed to ADN**

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**Loading and unloading rates****Transmitted by the Government of the Netherlands****I. Introduction**

1. The Regulations annexed to ADN contain multiple specific requirements regarding loading and unloading rates. According to Chapter 1.4, the filler and unloader have to ascertain that the (un)loading flows conform to the loading and unloading instructions. Chapter 7 contains a specific requirement for the initial cargo throughput which is linked to the loading instructions. The Certificate of Approval of a tank vessel refers under point 10 to the loading/unloading rate and the instructions on loading and unloading of the vessel (8.6.1.3 and 8.6.1.4). On top of page 2 of the ADN Checklist (8.6.3) the loading/unloading rates have to be filled in. And last but not least, 9.3.2.25.9 and 9.3.3.25.9 prescribe the calculation of the permissible loading and unloading flows which shall be given in an on-board instruction, which must be carried on board of tank vessels according to 8.1.2.3.

2. The Dutch delegation fully understands that so many, and so many important sections in the Regulations annexed to ADN are dedicated to this subject. Detailed requirements concerning the maximum permissible loading and unloading flows could for example prevent electrostatic charging of the cargo tank, spills and the implosion or explosion of the cargo tank.

3. Surprisingly however, the prescriptions in the Regulations annexed to ADN regarding the loading and unloading rates lack a significant amount of detail. Especially the important on-board instruction of 9.3.2.25.9 and 9.3.3.25.9 is introduced without any detail regarding the minimum content of this instruction or who is responsible to draft the document, let alone that a specific format for the on-board instruction is given.

**II. Situation in the Netherlands**

4. Because the current prescriptions are drafted in such a general way, over the last decades a wide variety of formats has been developed by the filling and carrying industry to fulfil the requirements in the Regulations annexed to ADN. A safe loading and unloading process requires essential information from both the carrying vessel and the (vapour density

of the) carried substance. Unfortunately, however, this information is not always shared or used in the right way, thus creating potential dangerous situations during loading and unloading.

5. Regularly, a Pressure Drop Calculation (which is carried out during the construction of the vessel) is considered and “used” as a loading and unloading instruction. This document however, only indicates safe loading and unloading rates in relation to the maximum air/gas-mixture flow release, which is limited by the ship’s lay out of the venting piping, including the safety valves on board. The Pressure Drop Calculation is validated by the classification society in their Design Appraisal Document which too is often confused with the loading and unloading instruction. The Design Appraisal Document cannot be used as instruction since it does not contain values for the characteristics and limitations of the cargo loading and unloading piping, of all available cargo tanks and/or different vapour densities of the substances on the vessels’ substance list. Neither is the Design Appraisal Document drafted as a real instruction with a clear guide for the carrier how to read and use the document. Additionally, the Pressure Drop Calculation nor the Design Appraisal Document contain specific information regarding the initial cargo throughput in order to prevent electrostatic charging.

6. In order to contribute to the safety of filling operations and to ensure fair competition between fillers and carriers, the Dutch inspection bodies, filling industry and carrying industry in 2018 developed a uniform format which ensures efficient filling operations and at the same time prevents electrostatic charging, spills and implosion or explosion of the cargo tank. This developed format is supported by all involved actors.

### **III. Questions to the ADN Safety Committee**

7. The Dutch delegation is interested to hear from the other delegations whether they agree that the current prescriptions on loading and unloading rates are drafted quite general, and what should in their view be the (minimum) content of the on-board instruction. The Netherlands is willing to initiate/prepare a presentation on this matter for the thirty-fifth session of the ADN Safety Committee, explaining and sharing the developed best practice in the Netherlands.

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