
Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

English

22 August 2017

Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN)

Thirty-first session

Geneva, 28-31 August 2017

Item 4 (b) of the provisional agenda

Proposal for amendments to the Regulations annexed to ADN

Other proposals

Membrane tanks

Transmitted by the Governments of Belgium, France and the Netherlands

Summary

Executive summary:	Based on the derogation of the Argos GL and recent developments in Belgium, three ADN member states propose to start an informal working group on the use of membrane tanks.
Action to be taken:	See paragraph 8.
Related documents:	WP.15/AC.2/27/INF.6 ECE/TRANS/WP.15/AC.2/56 (Paragraphs 9 – 12) ECE/ADN/33 (Paragraph 12 and Annex II)

Introduction

1. At the 15th session of the ADN Administrative Committee, the Committee authorized the competent authority of the Netherlands to issue a temporary derogation for the Argos GL to use membrane tanks (for the carriage of LNG). Due to economic circumstances, the vessel has never been constructed. Nevertheless, recently there have been discussions in Belgium to construct a similar vessel with membrane tanks. This raised the interest of the French authorities as well, because it is in their country that there is a lot of technical experience in constructing membrane tanks: for decades, sea going vessels have been constructed there successfully with membrane tanks for the carriage of LNG.

2. The Governments of Belgium, France and the Netherlands would like to study in an informal working group under which conditions and for which substances membrane tanks can be useful on inland vessels. Furthermore, they would like to examine which adjustments of the Regulations annexed to ADN are necessary to allow membrane tanks on board of inland vessels on the European inland waterways.

Short analysis

3. From the point of view of the construction requirements in the Regulations annexed to ADN, subsection 9.3.X.0 on materials of construction seems to be the part that needs to be examined in detail to check whether membrane tanks can be used on inland vessels carrying dangerous goods. Especially 9.3.X.0.1 lists in sub (a) relevant requirements on the quality of the used metal and on the mechanical properties and resistance against the effects of temperature and fire of the used other materials.
4. 9.3.X.0.1 sub (b) is relevant for the question which substances are suitable for carriage in membrane tanks. The construction materials shall neither be dangerously affected by the cargo nor cause decomposition of the cargo or react with it so as to form harmful or hazardous products.
5. Furthermore, the informal working group could have a close look at the definitions and sketches of tank vessels (especially Type G) in Section 1.2.1 and related construction requirements of cargo tanks in Section 9.3.1 of the Regulations annexed to ADN.
6. Moreover, taking into account the difficulties to conduct full scale experiments on vessels, the Committee should be able to define other (or alternative) procedures than those included in 1.5.3.2 for the safety assessment of the innovative technology constituted by membrane tanks (for instance by calculation and smaller scale sample testing).
7. Finally, it is worthwhile to keep in mind that in theory membrane tanks might be used for the carriage of other goods, which do not necessarily fall under the scope of ADN. Therefore, other legislative bodies could also be invited to discuss the question whether membrane tanks can be used for the carriage of substances in inland vessels.

Proposal

8. The Governments of Belgium, France and the Netherlands ask the ADN Safety Committee to support their intention to form an informal working group, which will meet in November in Paris and invite all other interested participants to attend this possible meeting. The terms of reference of this informal working group would be:
 - To examine whether membrane tanks can be used to carry dangerous goods on inland vessels;
 - If yes, under which conditions and for which type of substances;
 - To define or propose suitable procedures for the safety assessment of the technology of membrane tanks;
 - To examine the relation with other inland navigation legislation.
 9. In case the informal working group convenes, it shall table its report for discussion in the 32nd session of the ADN Safety Committee.
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