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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)

Twenty-seventh session

Geneva, 24–28 August 2015

Item 3 (c) of the provisional agenda

Implementation of ADN:

Interpretation of the Regulations annexed to ADN

Technical requirements for gas detectors and toximeters, 1.2.1

Transmitted by the Government of Germany¹

Introduction

1. Section 1.2.1 contains definitions for “gas detector” and “toximeter”. These instruments are used at different times in order to determine whether dangerous concentrations of flammable or toxic gases still remain in a given area of a vessel, or to measure oxygen concentration. See for example sections 7.1.3.1.4, 7.1.3.1.5, 7.1.4.12.2, 7.1.6.12, 7.1.6.16, 7.2.3.1.5, 7.2.3.7.2–7.2.3.7.2.5, 7.2.4.22.2, 7.2.5.0.1.
2. The definition contains no requirements as to the design or performance of gas detectors and toximeters. Yet the reliability of measurements and the safety of any action taken on the basis of those measurements depend crucially on the sensitivity of those instruments, their range and their performance.
3. According to subsection 7.2.2.6, gas detectors should be approved by the competent authority or by a recognized classification society.

¹ Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR-ZKR/ADN/WP.15/AC.2/2015/13.



Questions regarding interpretation

4. At the second meeting of the informal working group on degassing of cargo tanks the question was raised whether it was necessary to require approval or refer to a technical standard in respect of gas detectors and toximeters, so as to guarantee the precision and reliability of measurements and comparability across the whole area where ADN applies. The German delegation took the initiative of transmitting the question to the ADN Safety Committee.

5. Do Contracting Parties or companies involved in transport currently require gas detectors and toximeters to be approved by the administration or to conform to a given standard? If so, what are the criteria and standards set for approval?

Proposal for possible action

6. The Safety Committee could initiate an exchange of views to determine whether it is necessary to include a technical standard for gas detectors and toximeters in ADN.

7. There are already references in ADN to technical standards for instruments and equipment, even for items designed to protect from far lesser risks than explosion or gas intoxication: section 1.2.1 Breathing apparatus, Container, Flame arrester, Escape device (suitable), High velocity vent valve, Protective goggles, protective masks, Protective gloves, Protective shoes (or protective boots), sections 3.2.4.2 (point 3.2), 8.1.6.2, 9.1.0.40.2.5, 9.1.0.56.3, 9.3.1.21.5, 9.3.1.40.2.5, etc.

8. For equipment on seagoing vessels Council Directive 96/98/EC of 20 December 1996 on marine equipment (O.J. L 46, 17 February 1997, p. 26), as amended by Commission Directive 2008/67/EC of 30 June 2008 (O.J. L 171 of 1 July 2008, p. 16), applies in the European Union.

9. This directive includes an annex, A.1, "Equipment for which detailed testing standards already exist in international instruments". Section 3 of the annex (A.1/3.30) contains the requirements for portable oxygen analysis and gas detection equipment and criteria for testing compliance.

10. A search on Internet revealed other standards that could also be used:

For toxic gases and vapours

EN 45 544 Workplace atmospheres. Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours. Part 1: General requirements and test methods.

For flammable gases and vapours

EN 60 079-29-1 Explosive atmospheres – Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases (IEC 60079-29-1: 2007, as amended).