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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)

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Item 5 (b) of the provisional agenda

**Proposals for amendments to the regulations annexed to the ADN:
other proposals**

Fixed fire-extinguishing systems for physical protection – 9.1.0.40.2.16, 9.3.1.40.2.16, 9.3.2.40.2.16 and 9.3.3.40.2.16 of ADN

Transmitted by the Government of Germany* ** ***

Introduction

1. In accordance with 9.1.0.40.2.16, 9.3.1.40.2.16, 9.3.2.40.2.16 and 9.3.3.40.2.16 of ADN, fixed fire-extinguishing systems for physical protection are permitted on board inland navigation vessels carrying dangerous goods only in engine rooms, boiler rooms and pump rooms, and only on the basis of recommendations from the Administrative Committee.
2. The European Standard laying down Technical Requirements for Inland Navigation Vessels (ES-TRIN) 2021, published by the European Committee for Drawing Up Standards in the Field of Inland Navigation (CESNI), in its article 13.06, contains a general prohibition on permanently installed fire-extinguishing systems for protecting objects. In accordance with article 10.11, on batteries, accumulators and their charging devices, paragraph 17, a fire protection concept is not required if the lithium-ion accumulators are stored in a fireproof enclosure which is equipped, by derogation from article 13.06, with one suitable fixed fire-extinguishing installation for protecting objects.
3. The two regulations are already contradictory, as the Administrative Committee cannot authorize a fire-extinguishing system for the protection of objects at a place where

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lithium-ion batteries are located on board vessels carrying dangerous goods, if they are located outside the engine and boiler rooms and pump rooms.

4. For ES-TRIN 2023, a request¹ was submitted to the CESNI working group on technical regulations concerning the conditional approval of permanently installed fire-extinguishing systems for the protection of objects.

5. The ADN Safety Committee invited the working group of classification societies to check whether safety requirements other than those of ES-TRIN are necessary for vessels carrying dangerous goods when lithium batteries are placed in the vicinity of the dangerous goods.

I. Request

6. Amend 9.1.0.40.2.16, 9.3.1.40.2.16, 9.3.2.40.2.16 and 9.3.3.40.2.16 of the ADN to read as follows:

“Permanently installed fire-extinguishing systems for protecting objects

Permanently installed fire-extinguishing systems for protecting objects may only be used for the protection of installations and equipment if they comply with article 13.06 of the European Standard laying down Technical Requirements for Inland Navigation Vessels (ES-TRIN), in its current version.*”

“*Available on the website of the European Committee for Drawing Up Standards in the Field of Inland Navigation (CESNI), <https://www.cesni.eu/fr/documents/es-trin/>.”

or

“Permanently installed fire-extinguishing systems for protecting objects

(a) Permanently installed fire-extinguishing systems for protecting objects are permitted for the protection of installations and equipment.

The action of the fire-extinguishing systems must be aimed directly at the objects to be protected. The range of action of fire-extinguishing systems may be limited in space by means of structural measures.

Permanently installed fire-extinguishing systems for protecting objects may already be structurally integrated into the objects concerned.

Permanently installed fire-extinguishing systems for protecting objects must be independent of the systems referred to in 9.x.x.40.2.2 to 9.x.x.40.2.16 in respect of their supply of extinguishing agent.

(b) The following requirements apply to permanently installed fire-extinguishing systems for protecting objects:

(i) 9.x.x.40.2.2, if the extinguishing agent used requires the range of action to be limited by structural measures;

(ii) 9.x.x.40.2.3 and 9.x.x.40.2.4;

(iii) 9.x.x.40.2.5 (b) and (c), in addition to the provisions of (c) of the present section;

(iv) 9.x.x.40.2.6, (a)–(e), and at each entrance to a room or in the immediate vicinity of an encapsulated object, a suitable sign for the fire-extinguishing system for physical protection must be prominently displayed;

(v) 9.x.x.40.2.7 to 9.x.x.40.2.13;

(vi) 9.x.x.40.2.14 (b)–(g), where one energy source is sufficient, and (i)–(j);

¹ Document CESNI/PT (20) 84 rev. 3

(vii) 9.x.x.40.2.15, (b)–(e).

Only extinguishing agents suitable for extinguishing a fire on or in the object to be protected and which are mentioned in 9.x.x.40.2.1 may be used in permanently installed fire-extinguishing systems for protecting objects.

The competent authority may authorize exemptions concerning the extinguishing agent for permanently installed fire-extinguishing systems for protecting objects which are based on a fire protection concept.

- (c) Permanently installed fire-extinguishing systems for protecting objects must be capable of being triggered manually. Manual triggering must be possible in the immediate vicinity of the protected object. They may be triggered automatically if the triggering signal is emitted by two fire detectors with different means of detection. The triggering must occur without delay. If the fire-extinguishing system is intended to protect several spaces, it shall comprise a separate and clearly-marked triggering device for each space.

The activation of the fire-extinguishing system shall be displayed in the wheelhouse and at the entrance to the room in which the object to be protected is located. In the case of encapsulated objects, the display at the room entrance can be omitted if another display is attached to the object itself.

For manual activation, operating instructions in accordance with 9.x.x.40.2.5 (e) shall be displayed next to each triggering device, taking into account the location and nature of the object.

- (d) The type and place of installation of permanently installed fire-extinguishing systems for protecting objects shall be entered in the ship's certificate.
- (e) The provisions of this section do not apply to water spray systems in accordance with subsections 9.3.1.28, 9.3.2.28 and 9.3.3.28 of ADN."

7. Depending on the results of the check carried out by the working group of recommended ADN classification societies for the case of lithium-ion batteries, further modifications may be necessary.

II. Justification

8. Germany considers that either suggestion would be appropriate: it is possible to refer only to the applicable article of ES-TRIN, as is already the case in 7.1.3.31 and 7.2.3.31.1 of ADN, or to include the exact text of the ES-TRIN requirements in ADN, as is the case in Part 9 for the other requirements concerning fire-extinguishing systems.

9. The limitation to machine rooms, boiler rooms and pump rooms can be removed. In particular, "boiler rooms" are addressed in ADN 2021 only in the provisions relating to fire-extinguishing systems. These appear to be old requirements taken from previous versions of ADN. Vessels currently in service do not have boiler rooms (for steam production). Furthermore, there is no apparent reason why objects located outside engine rooms and pump rooms should not be protected by a fire-extinguishing system.

10. The titles are adapted from the ES-TRIN titles. In the German version of ADN, we also propose to replace the term "*Feuerlöscheinrichtung*" by the term "*Feuerlöschanlage*", as used in ES-TRIN.

11. In general, the protection of objects in order to prevent fires on board vessels is not directly related to the dangerous goods carried, and thus no additional requirement is needed here in ADN for permanently installed fire-extinguishing systems for protecting objects, compared with the general construction requirements of ES-TRIN.

12. As a result, the requirement for an additional recommendation from the Administrative Committee represents an additional and unnecessary bureaucratic burden for the owner or builder of a vessel.

III. Safety

13. The amendment has no impact on safety during the transport of dangerous goods. It is unlikely that a specific recommendation from the Administrative Board would contain more stringent requirements than those of ES-TRIN.

IV. Implementation

14. No mandatory construction measures are required on board vessels. Owners may decide for themselves whether they wish to equip the vessel with permanently installed fire-extinguishing systems for protecting objects. If they decide to fit such systems, this will not imply that there are any constraints resulting from ADN additional to the construction requirements of ES-TRIN.
