
Economic Commission for Europe

English ONLY

Inland Transport Committee**6 January 2015****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)****Twenty-sixth session**

Geneva, 27-30 January 2015

Agenda item 4 (c)

Implementation of the ADN:**Interpretation of the Regulations annexed to ADN**

Discussion document on Safe Havens**Transmitted by the ADN Recommended Classification Societies**Documents and background:

This document is mainly based on the final proposal in document ECE/ADN/2014/1 which is used as a reference document for further discussion and questions.

Further on, in document ECE/TRANS/WP.15/AC.2/52 the following is stated: "Recommended ADN classification societies were requested to specify at their next meeting precisely what issues they wished to have clarified."

The above was further discussed during the 8th meeting of the ADN recommended classification societies which was held on Wednesday October 22 in Rotterdam. It was concluded that there were a number of issues requiring clarification and that further queries raised by the classification societies should be put forward in a separate document. This document is a first step in this regard.

The questions in this document have been formulated as "openly" as possible: Although some answers may be obvious we have refrained from "filling them in". It should be left to the discretion of the ADN Committee to provide the final conclusions and interpretations.

Actual questions:Safe Area:

"*Safe area* means a designated, recognisable area outside the cargo area which can be readily accessed by all persons on board. The safe area provides protection against the identified hazards of the cargo by a water screen for at least 60 minutes. The safe area can be evacuated during an incident. A safe area is not acceptable when the identified danger is explosion." (Document ECE/ADN 27 dated 17/4/2014).

Comments / questions regarding the definition "safe area":

The safe area provides protection against the identified hazards of the cargo by a water screen for at least 60 minutes. *What if there are toxic gases; would a water screen provide adequate protection in such a case? The answer will probably be no. It might be worthwhile to consider extending the definition in terms of requiring additional means of protection such as gas masks etc.*

A safe area is not acceptable when the identified danger is explosion."

Only Class 1 cargoes are classed as explosives but these are not allowed to be carried on tankers. Therefore it is concluded that the term "explosion" involves explosion risks occurring from Class 2 (Gases) or Class 3 (Flammable liquids) cargoes or other classes having these properties. This would imply that a safe area is not acceptable on board almost any tanker as they carry either Class 2 or Class 3 cargoes most of the time.

Safe Haven:

"Safe haven means a designated, recognisable, readily accessible module (fixed or floating) capable of protecting all persons on board against the identified hazards of the cargo for at least sixty minutes during which communication to the emergency and rescue services is possible. A safe haven can be integrated into the wheelhouse or into the accommodation. A safe haven can be evacuated during an incident. A safe haven on board is not acceptable when the identified danger is fire or explosion. A safe haven on board and a floating safe haven outside the ship are certified by a recognized classification society. A safe haven on land is constructed according to local law." (Document ECE/ADN 27 dated 17/4/2014).

Comments / questions regarding the definition "safe haven":

"Safe haven means a designated, recognisable, readily accessible module (fixed or floating) capable of protecting all persons on board against the identified hazards of the cargo for at least sixty minutes during which communication to the emergency and rescue services is possible.

Does the designation "module" imply that this is a separate entity from the ship's hull or that particular spaces on board (for example in the deckhouse or in the engine room) could also serve as a safe haven? If the latter is correct it would be better to complement the wording "module (fixed or floating)" by "or space".

A safe haven can be integrated into the wheelhouse or into the accommodation.

Does "can be integrated" mean that the module (a separate entity) can be integrated or that the wheelhouse or the accommodation could serve as a safe haven by itself? If the latter is the case then it is recommended that the wording should be amended (as proposed in the previous paragraph) in order to provide more clarity.

In addition, if a safe haven should be integrated in, (for example) the wheelhouse as a separate unit, this practically is impossible from structural and other regulatory points of view (unobstructed views etc.).

A safe haven can be evacuated during an incident.

Does this mean that the people located in the safe haven can be evacuated or that the safe haven itself (a module) should be evacuated?

The first case really includes some wishful thinking: It is simply unlikely that in all circumstances of calamities on board (fires, explosions, toxic gases) people can always be safely evacuated after having stayed in an isolated space on board for almost an hour.

If, on the other hand, the safe haven should be evacuated as an entity on its own (a module) then we are probably talking about an escape boat and the question if an escape boat can be used as a safe haven is plausible.

A safe haven on board is not acceptable when the identified danger is explosion.

Only Class 1 cargoes are classed as explosives but these are not allowed to be carried on tankers. Therefore it is concluded that the term "explosion" involves explosion risks occurring from Class 2 (Gases) or Class 3 (Flammable liquids) cargoes or other classes having these properties. This would imply that a safe haven is not acceptable on board of almost any tanker as they carry either Class 2 or Class 3 cargoes most of the time.

Another point is that most explosions, except when there already is a fire, cannot be foreseen: They usually occur unexpectedly. In these cases a safe haven would not help because there will be no time to go there in case of an unforeseen explosion.

In addition the following case is depicted:

Ship A: Does not have a safe haven because it always is loading and discharging at places where there is a 2nd means of escape.

Ship B: Is equipped with a safe haven because it is sometimes loading and discharging at places where there is no 2nd means of escape.

A fire occurs during a voyage > Now ship A does not have a safe haven and ship B has. This seems odd.

A safe haven on board and a floating safe haven outside the ship are certified by a recognized classification society. As stated in document ECE/TRANS/WP.15/AC.2/2014/32 the classification societies currently have no rules for certification of "safe havens" on board tankers and an informal working group to define criteria for the design of a safe haven should be established. Design criteria should address the following issues:

- *The minimum number of persons for which the safe haven should be designed.*
- *Design criteria for over-pressure systems.*
- *Design criteria for water spray systems.*
- *Criteria for power supplies.*
- *Criteria for communication equipment.*
- *Maintenance of survival conditions (oxygen, temperature,...).*
- *Criteria to be applied for partial or full submersion caused by inadvertent submersion or sinking of the vessel.*

A safe haven on land is constructed according to local law.

Are there any local laws? If so, what requirements do they contain? Can these be used for guidance for defining requirements on board?

Apart from the above, if a safe haven is located on land, how does one get there when there is no second means of escape?

"Escape boat means a specially equipped onsite boat designed to withstand all identified hazards of the cargo and to evacuate the people in danger."

Can a safe haven fall under the same definition; i.e. could an escape boat serve as a safe haven?

"Evacuation boat" means a specially equipped and manned boat called in for rescuing people in danger or evacuating them within the minimum safe period of time provided by a safe haven or a safe area.

Can a safe haven fall under the same definition; i.e. could an evacuation boat serve as a safe haven located on shore?

7.1.4.77 Possible means of evacuation in case of an emergency

7.2.4.77 Possible means of evacuation in case of an emergency

These tables seem contradictory and incomprehensible. Further queries will be posed upon receipt of answers to the above questions.

In addition to the above the Russian River Register has prepared a separate document which, in order to maintain its context, is integrally taken over in this document. This document is included here at the special request of the Russian River Register.

Quote

Position of Russian River Register on Safe Havens

Russian River Register (RRR) is skeptical about the concept of a fixed "Safe Haven" as one of a vessel's spaces within the hull or superstructure.

The values of vessel trim and stability during an emergency situation may change due to loss of sealing, outbreak of fire, explosion, collision or hull breach. The vessel may be flooded (partially or completely) or capsized due to the loss of stability.

Moreover, due to the fact that the evacuation of the crew from a vessel in distress is difficult and complicated (when the damage control actions have no positive effect) a fixed Safe Haven may become a "common grave" for the crew.

RRR believes that the existing standards and requirements for the provision with personal and collective survival aids (specified in the Rules of RRR, LR, BV, RINA, DNV GL etc.) are sufficient for rescue and evacuation of the crew from vessels carrying dangerous goods.

Currently self-propelled enclosed fireproof lifeboats (including free fall lifeboats) are the most sustainable and balanced technical solution which provides quick evacuation of the crew from the vessel.

Observations on the requirements for the floating rescue module:

- seat capacity of the module (quantity of seats to crew members ratio). For example, the vessel is to be equipped with the rescue modules providing 100% of crew members with seats from both sides of the vessel i.e. a starboard module for 100% of crew members and portside module for 100% of crew members or the vessel is to have only one module for all crew members;
- the operating principle of release gear for module dropping (hydrostatic release device or forced dropping);
- availability (or non-availability) of an engine for self-propelling, cruising capacity of the module with the reference to fuel capacity (distance);
- standards for provisioning the module with emergency food rations, radio-navigation equipment, pyrotechnics, appropriate tools and oxygen storage (breathing air);
- mechanical stress (static and dynamic) to be sustained by the module (including free fall into the water from the height of the superstructure, explosion resistance);
- fire resistance level of the module (body, doors, windows etc.);
- shall the materials of the module's body be tested for resistance to aggressive chemical (acids, alkalies etc.)?
- location point of the module on board the vessel and locations of control panels for setting afloat the module in an emergency;
- floatability, stability and floodability characteristics of the module (difference between the characteristics of existing free fall lifeboats and the module's characteristics);
- do the linear dimensions of the module allow the crew members to be inside the module with the personal survival aids put on (drysuits, life-jackets, air masks)?
- shall additional personal survival aids be provided inside the module?
- what amenities and space (m²) shall be provided for a crew member inside the module?
- module test and inspection intervals. *Unquote*