

**Economic Commission for Europe****Inland Transport Committee****22 January 2016****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-eighth session**

Geneva, 25 - 29 January 2016

Item 5 (b) of the provisional agenda

**Proposals for amendments to the Regulations annexed to ADN****Other proposals****Comments about the document  
ECE/TRANS/WP.15/AC.2/2016/4****Transmitted by EBU, ESO and ERSTU**

1. The effect of flame arresters and other equipment according to the current findings decisively depend on the gap widths for the passage of flames and sparks (standard gap widths). It is therefore correct in principle to define the standard gap widths as a function of the charging goods. This is done in ADN in Table C, Column 16.
2. The standard gap width for flame arresters are subdivided as follows:

Highest safety level	II C	< 0.5
	II B	0.5 – 0.9 mm
	II B3	0.65 – 0.9 mm
	II B2	0.75 – 0.9 mm
	II B1	0.85 – 0.9 mm
Lowest safety level	II A	0.9 – 1.1 mm

The respectively smaller value is decisive for higher level of safety.

3. To date, in the ADN, the subgroups II B3, II B 2 and II B 1 are not shown. This shall be accomplished with the amendment ECE/TRANS/WP 15/AC.2/2016/4.
4. Ships that have been allocated the explosion group II B, but are equipped only according to IIB 3, do not cover the gap range from 0.5 to 0.65.
5. The informal working group - list of materials - with its Protocol on the 7th and 8th working group meeting (WP.15/AC.2/27/INF.12) has found that the majority of ships equipped for explosion group II B3 feature the explosions group II B according to a list of materials.
6. The reasons why this situation has occurred are unclear at the moment. It is questionable at the moment whether type II B flame arresters are available at all on the market, for use on inland waterways.
7. According to the industry, when the classification societies created the list of materials for ships, the subdivision of group II B into the three sub-groups has not been observed to date. The list of materials of numerous ships with II B 3 equipment contain materials for which actually a II B equipment would be required.

8. For the first time in the last weeks and months, a classification society considered this issue when preparing the list of materials for 2 ships. Consequently, this means that with today's conventional equipment, for group II B3 for existing ships, significantly less products may be added to the list of materials, as it would be the case under previous interpretation.
9. The industry is not aware about the approach of other classification societies in this regard.
10. Nevertheless, now knowing that this is a previously unrecognized safety gap, the impact of immediate remedy of the problem would be synonymous with the following:
- Reduction of the products previously approved for freight in the list of materials for ships.
  - When retrofitting flame arresters with smaller standard gap widths, there can be significant impact on the charging and discharging rate and this can in turn affect the installation systems.
  - Test and if necessary adjustment of predetermined charging / discharging rates
  - Extension of the time needed for handling.
11. According to one of the leading manufacturers of safety valves, flame arrester screens etc. (Protego Co.) such fittings are currently neither in the explosion group II B, nor in the explosion group II C in the delivery program.
12. With respect to flame screens, this company could provide information that during the change from explosion group II B 3 to the explosion group II B, the dimensions of these screens would significantly increase, which is structurally very difficult to implement on existing ships.
13. Attention must also be drawn to the fact that for approx. 156 products that would be eliminated between the explosion group II B and II B 3 equipment, 90% - 95% bear the footnote 4, and 7 (estimated classification), which in turn means that they are solely classified in the explosion group II B because they have not been examined specifically, and the explosion group II B is considered to be a safe group.
14. Alternatively, these materials would have to be examined to make reliable classification, or the explosion group II B 3 would also have to be considered safe.
15. These relationships are likely to be unknown at present, in the entire shipping and transportation trade, and even the authorities were until now aware of the above-cited cases. It is therefore necessary to carefully examine the stated problems and to afford the parties enough time to adapt to the changed situation.
16. Such problems do not exist in road and rail transport sectors since such a list of materials does not exist as in the inland waterways. To the trade, it is not clear whether considerations exist today, that the system of dividing the group B II into the three sub-groups shall be abolished again - as it has already been discussed once.
17. Business has requested for the safety committee to let the facts to be investigated thoroughly and to give the parties sufficient opportunity to familiarise with the situation and to ensure uniform application of the rules.
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