About Classification of zones – Zone 1

Transmitted by the informal group of Recommended ADN Classification Societies

1. Introduction

The wording for the definition of the zone 1 is partly a little bit unclear for the different languages.

2. ADN 1.2.1 – Classification of Zones – Zone 1

Zone 1 comprises:

English text:

“Every opening in zone 0 except the high velocity vent valves/safety valves of pressurized cargo tanks shall be surrounded by a cylindrical zone 1 having at least a width of 2.50 m. With openings of which the diameter is less than 0.026 m (1”), the distance to the outer cofferdam bulkhead may be reduced to 0.50 m, provided it is ensured that such an opening is not opened to the atmosphere within this distance.”

German text:

“Dabei muss jede Öffnung aus Zone 0, außer um Hochgeschwindigkeitsventile/ Sicherheitsventile der Drucktanks, von einem Kreisring Zone 1 umgeben sein, dessen Kreisringbreite mindestens 2,50 m beträgt. Bei Öffnungen, deren Durchmesser weniger 0,026 m (1”) beträgt, kann der Abstand zum äußeren Kofferdammschott auf 0,50 m verringert werden, sofern sichergestellt ist, dass solche Öffnungen innerhalb dieses Abstandes nicht zur Atmosphäre geöffnet werden.”

French text:

« Chaque ouverture dans la zone 0, à l’exception des soupapes de dégagement à grande vitesse/soupapes de sécurité de la citerne à cargaison à pression, doit être entourée d’un périmètre circulaire de zone 1, d’un diamètre de 2,50 m au moins. Pour les ouvertures d’un diamètre inférieur à 0,026 m (1”), la distance par rapport à la cloison extérieure de cofferdam peut être réduite à 0,50 m, à condition que de telles ouvertures ne soient pas ouvertes à l’air libre dans ce périmètre; »

3. A width of 2.50 m“:

In English we read “at least a width of 2.50 m”; in French it is “diameter de 2.50 m au moins”. The word “diameter” is better than “width” in the case of a cylinder. What about the German word “Kreisringbreite”.

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4. “Cylindrical zone”:
   How is this cylinder oriented? Vertical? horizontal? perpendicular to the opening plane?
5. The height of the cylinder would be defined.
6. The English version seems the clearest definition. With respect to the cylinder around the openings the group concluded that the prescribed cylindrical zone around the openings from Zone 0 should be a semi-sphere at the top of the cylinder with a radius of 2.5 m.
7. The Group asks the Safety Committee to review and confirm this interpretation.
8. The link between this text and the schema would be clarified.
9. A second question is about the definition of zone 1 for tank vessels with a hold space.
   “… If the ship is built with hold spaces or a cofferdam/part of a cofferdam is arranged as a service space, the adjacent height (fore and aft) to the “boundary plane of the cargo area” is 1.00 m above above deck (see diagram).”
10. This question could be solved on the basis of the actual definitions and the connected sketches. Nevertheless, the group believes the relationship between written definitions and illustrative sketches could be made clearer.
11. The words “Every opening…” would be explained: what kind of openings? is a bolted blind flange an opening?