

OCCUPATIONAL ACCIDENT

Very Serious Marine Casualty: Death of a crew member after falling from height in a cargo hold companionway

What happened?

A crew member of a larger container ship (built in 2000) fell from a vertical ladder in a cargo hold companionway and lost his life. At the time of the accident, the casualty was alone on his daily round of temperature checks on dangerous goods containers. In accordance with standard procedure, he reported to the navigation officer on watch via hand-held radio when entering and leaving each hold. Due to a failure to report, a search was initiated by the chief officer and the casualty was then quickly found on a tween deck of the hold. However, all subsequent resuscitation attempts were unsuccessful.

Why did it happen?

Due to a lack of witnesses and other evidence, the exact cause of the fall from height could not be determined. However, during the investigation, several aspects were detected as potential contributing or facilitating factors and deviations from the requirements of the ship operator's safety management system as well as national and international guidelines were identified:

- The casualty was not wearing personal protective equipment against falls from height and no other measures were taken to either prevent a fall from the over 5 m long cargo hold ladder or reduce the severity of the impact of such a fall.
- The risk assessment and permit to work (PtW) used did not take into account the risk of a fall from height.
- The issuing of the PtW and the associated instruction had been carried out several weeks before the accident, as the PtW for entering the holds had been issued with a validity of one month.
- The hold's companionway was too small in terms of ship design for daily access by the crew and especially for rescue operations, even though it complied with applicable standards. Therefore, the crew used a smaller, but not approved spineboard to rescue the casualty instead of the approved craneable rescue stretcher with vacuum mattress.
- The vertical ladder in the hold's companionway did not comply with the design specifications in several places due to an insufficient horizontal distance between rungs and fixed structural components.
- The crew did not use any guidance, decision-making aids or checklists for the emergency response management, did not contact an MRCC or a telemedical assistance service and deviated from the role distribution according to the muster list.

- Contradictions, ambiguity and impracticality of the specifications in the safety management system made it difficult to implement them on board.

What can we learn?

- Not only when working on a long vertical ladder, but also when just climbing it, there is always a risk of falling from height, which should be reduced by appropriate means (e.g. technical measures and/or personal protective equipment). Also in many confined/dangerous spaces (e.g. cargo holds or tanks), there is not only a danger of an atmosphere hostile to life, but often also a risk of falling from long ladders or hatches/passages in tween decks.
- Risk assessments must also consider seemingly obvious and everyday hazards for the comprehensive definition of risk control measures.
- PtWs, especially those for enclosed/dangerous spaces, should not be issued for an extended period of time, but only for the anticipated maximum duration of the planned work.
- Cargo hold accesses that have to be used frequently should be equipped with stairs or inclined ladders with handrails instead of long vertical ladders.
- Hatches, companionways, accesses and other passages on board should be dimensioned to ensure the safe and smooth emergency transport of casualties with common stretchers.
- Medical equipment and life-saving appliances that are not approved but which appear to be useful for use on board should be reported to and examined by the competent authorities.
- Failure to use guidance, decision-making aids or checklists in acute emergencies can lead to the omission of necessary measures.
- Procedural instructions must be clear, practical and implementable with on-board resources and shall not contradict each other.

Who may benefit?

Seafarers, ship's commands, vessel operators, vessel owners, shipyards, classification societies