

Title: Release of FM 200 during a safety test during dry-dock – Contractors with minor injury

What happened

Vessel in dry-dock undergoing an extensive cabins refurbishment and engine room maintenance (ME, auxiliary, tanks welding etc.) Onboard among the various contractors, there was the service company inspection to test fixed firefighting equipment and lifesaving appliances .



Engine room maintenance



Engine room maintenance



cabins refurbishment

It was agreed to test the fixed firefighting equipment FM 200 release system in the afternoon at the presence of Class surveyor. In order to carry out the test, the service company disconnected the FM200 bottles from engine spaces lines, according to the manufacturer's documentation on their hands from the previous year.



Before to start the test, an announcement, in english and italian language, was made via PA system in the engine room areas, advising the imminent test and related alarm.

During the test, one bottle was inadvertently not disconnected and the FM 200 gas was accidentally released.

Some of the contractors working in the vicinity on a turbocharger got injured while leaving the area as alerted by the alarm sounding. (ankle sprain – bruises knees)



The internal investigation revealed that the injured contractors did not realize there was a test in progress in the same area (the visibility was also reduced by the gas release). Furthermore there was no work planning and risk assessment to avoid possible hazards (several works in progress in the same areas, existing trip hazards, escape routes obstructed).

- Lack of proper information flow
- Language barriers and coordination between ship personnel, shipyard, different contractors working on board
- Test performed during a busy time with all working personnel on board



Root causes/contributory factors

- Failure to plan and coordinate the various works in the same areas conducted by different contractors in the same area.
- No toolbox talk in place
- Failure to assess potential safety risks (trip hazards, crowded areas, escape routes obstructed , impacts on other jobs planned in the areas)
- Contractors' s lack of control and supervision (one bottles from the plant not disconnected)
- Lack of leaderships and coordination by the ship command as **Contributor factors**
 - Trip hazards
 - Crowded areas
 - Announcement made in English and Italian languages, but not in Spanish that was the most widely spoken language by the contractors working in engine room.
 - Noise, alarms and language barriers may have contributed to generate panic after announcement

- The FM 200 bottles were hidden by a cabinet due the several works in progress in the room.



Room with hidden FM 200 bottle

Proposed Corrective/Preventive Actions

Vessel:

- Vessel to revisit the procedures Routine Dry- Docking/Major Repairs
[Operations](#) > [Shore Operations](#) > [Shore Management Services](#) > Routine Dry Docking / Major Repairs

Quote

Regardless, the vessel will maintain its safety activities as far as practicable including but not limited to daily work meetings with the yard/contractors to determine intended works for the day, toolbox talks, risk assessments, permits to work, hazardous occurrences reporting, investigation, analysis and corrective actions, emergency organization, fire patrols and will implement additional control measures for any safety equipment being overhauled/out of order

Unquote

Reference

Office:

- Case study circulated to all managed ships
- To review the procedures of Routine Dry-docking/Major Repairs

Completed