



GOOD CATCH from **The American Club**

Engine Room Egress During a Fire

Description

A fire started on a vessel when fuel overflowed from a settling tank, spilling onto an auxiliary boiler. The motorman on watch saw smoke from the fire shortly before the automated fire alarm sounded. The motorman acknowledged the alarm in the engine control room (ECR) and notified the 2nd Engineer who hurried back to the ECR and silenced the fire alarm which had sounded again.

Meanwhile on the bridge, the Mate on watch acknowledged the fire alarms in multiple engine room zones. He informed the Master and called the ECR to determine what was happening. The Master informed the Chief Officer and the Chief Engineer. The Chief Engineer proceeded to the engine room via the vessel's elevator which opened into the ECR. The Chief Officer found smoke in an upper trunk of the engine room and requested the Master sound the general alarm.

Despite the general alarm sounding and confirmed reports of smoke in the engine room, the Chief Engineer mustered in the ECR with 5 other engineers and not at the fire station as assigned. Soon, the engine room quickly filled with smoke. The engineers attempted to egress using the elevator, but found it not operable. Recognizing that the only other egress from the ECR was through the engine room, the engineers tried to leave but were forced back into the ECR by heavy smoke. The engineers urgently requested that emergency escape breathing devices (EEBDs) be sent down to them to augment the one EEBD in the ECR. The Chief Officer ordered an AB down to the ECR with 2 EEBDs from the fire station, but the AB was unable to enter the engine room due to the smoke. Donning a self-contained breathing apparatus (SCBA) and a lifeline, the Chief Officer bravely entered the engine room and successfully made it to the ECR. Three of the engineers donned the EEBDs and followed the Chief Officer out of the engine room via Door 51 (see photos), but not before receiving several burns to their hands and arms from hot railings on the ladders leading out of the engine room. None of the crew would volunteer to bring additional EEBDs to the remaining three engineers trapped in the ECR where smoke was starting to enter. Eventually, the crew were able to get the elevator working again and the three remaining engineers were saved.

The installed CO₂ system was eventually used to bring the fire under control in concert with extensive boundary cooling of the cargo hold bulkheads adjacent to the engine room and the superstructure and decking directly above the engine room. It took almost 18 hours to extinguish the fire.

Actual Injury

Five of the crew were seriously injured from burns and smoke inhalation. Damage to the engine room and surrounding parts of the vessel was extensive and was substantially worse than it should have been due to the time spent rescuing the engineers who should not have been in the ECR. The rescue, while important, significantly delayed the activation of the fixed CO₂ system.

Potential Risks

This incident could easily have resulted in multiple fatalities.





Ladder and door through which the Chief Officer and 3 engineers escaped.



Indication of the complex route to egress in the engine room.

Prevention

- ★ Don't become complacent regarding fire alarms, even if recent fire alarm activations were caused by heat or malfunction.
- ★ Treat each alarm as if it is a real fire. Trust the alarm system.
- ★ Follow the SMS fire safety procedures each time. Follow them during every fire drill

and follow them when the alarms sound. Do not deviate from them or disregard them in a real emergency. The delays in getting everyone to their designated muster and fire stations could allow the fire to grow significantly.

- ★ When the general alarm is sounded, muster at the designated stations as required. Those pre-determined muster stations are where the emergency equipment is located and are the best places from where to respond to the emergency.
- ★ Know how to egress from every location on each level in the engine room and practice egress.

When you identify a hazard before someone gets hurt...

it's a Good Catch.

When you fix a problem before something bad happens...

it's a Good Catch.

When you take responsibility for your own safety...

that's a Good Catch, too!



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