

Bulletin 354 - 03/04 - Entry into Enclosed Spaces - A Reminder of the Dangers - USA

We have been advised of an incident where a ship's second engineer lost his life when he entered and became trapped in the main engine's scavenging air receiver.

In this case, the ship reported that the second engineer was missing prior to sailing. Despite an extensive search by ship's personnel of all areas including many searches of the machinery spaces and the main engine, the engineer could not be found therefore it was presumed he had gone ashore and missed sailing. Upon arrival at the next port the individual was found deceased behind an access door to the main engine scavenging air receiver.



It was determined that the engineer entered the scavenging air receiver alone. The reason for entering the receiver is not known although engine maintenance was performed in that space whilst at the first port and therefore he may have returned to inspect the area for tools left behind or to retrieve something. It appears that after his entry, the easily moved inward opening hinged door accidentally closed (see photographs above). Investigators believe that at that time, the upper left dog - due to its weight and perhaps the vibration of the door as it closed - moved, allowing its edge to catch the circumferential lip at the opening. Once caught, even with the loosened fastener the door could no longer be opened from inside the receiver. The engineer would have initially had sufficient quantities of oxygen to breath, but when the engine was started the conditions inside the receiver would have dramatically changed and caused the fatality

It is important to note that the second engineer was an experienced mariner who, it was reported, was trained and familiar with the ship's confined space entry procedure. In all previous instances, he had followed the procedures and safely performed maintenance inside the space. Unfortunately, on this occasion he entered without informing anyone or having an assistant stationed outside.

Main engine crankcases, scavenging air spaces, exhaust ducting, boiler drums, furnaces, stack casings, condensers, sewage plant tanks and other systems, equipment, and components may present potential "confined space" type hazards that mariners may on occasion not associate as confined spaces and therefore not take the precautionary steps needed.

A confined space may be defined as any location that, by design, has limited openings for entry or egress and is not intended for continuous human occupancy. This definition applies regardless of whether or not the atmosphere is explosive or toxic. See related US Department of Labor, Occupational Safety & Health Administration information by clicking [here](#).

It is strongly recommended that:

- All vessels complying with the International Safety Management Code (ISM) have a specific plan for entering confined spaces outlined within their Safety Management System.
- The confined space entry procedures include and identify various types of shipboard spaces such as those previously mentioned that could be encountered and which should be treated as confined spaces.
- Crew safety meetings address the identification of confined spaces and provide instruction on confined space entry procedures.

- Individual crewmembers that work in confined spaces review existing entry procedures and requirements regularly.
- All other vessels and maritime operations falling outside of ISM requirements develop and include in their marine safety programs similar confined space identification and entry procedures.

We advise all Members to be fully aware of the above and to inform their ships' masters and operations departments accordingly.

Source of information: Office of Investigations and Analysis
[United States Coast Guard](#)