

IMCA Safety Flash 01/19

January 2019

These flashes summarise key safety matters and incidents, allowing wider dissemination of lessons learnt from them. The information below has been provided in good faith by members and should be reviewed individually by recipients, who will determine its relevance to their own operations.

The effectiveness of the IMCA safety flash system depends on receiving reports from members in order to pass on information and avoid repeat incidents. Please consider adding the IMCA secretariat (imca@imca-int.com) to your internal distribution list for safety alerts and/or manually submitting information on specific incidents you consider may be relevant. All information will be anonymised or sanitised, as appropriate.

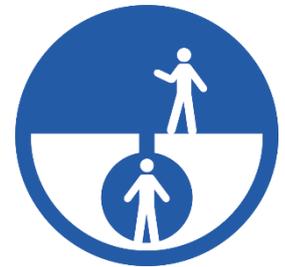
A number of other organisations issue safety flashes and similar documents which may be of interest to IMCA members. Where these are particularly relevant, these may be summarised or highlighted here. Links to known relevant websites are provided at www.imca-int.com/links. Additional links should be submitted to info@imca-int.com

Any actions, lessons learnt, recommendations and suggestions in IMCA safety flashes are generated by the submitting organisation. IMCA safety flashes provide, in good faith, safety information for the benefit of members and do not necessarily constitute IMCA guidance, nor represent the official view of the Association or its members.

1 Confined Space Entry: Person Overcome by Fumes and Rendered Unconscious

What happened?

Three crew members on a vessel were tasked with opening a sewage tank inspection hatch to check the condition of a faulty sensor. The hatch was subsequently removed to facilitate cleaning of the sensor, with one individual standing on a fixed rack to gain access. During the task, that individual was overcome by a concentrated plume of Hydrogen Sulphide (H₂S) from the tank, causing him to become unconscious and fall to the deck. He was unconscious for around 90 seconds and suffered minor cuts and bruises to his right hand.



Re-enactment of the incident

What went wrong?

- ◆ Safe systems of work were not followed:
 - there was a failure to identify potential hazardous gases as part of the risk assessment
 - there was non-adherence to the permit to work (PTW) procedure
 - there were inadequate working at height controls
 - there was an inadequate tool box talk;
- ◆ The manufacturer’s instructions for opening the inspection tank were not followed. In particular, there was no check for potentially hazardous gases;
- ◆ The sewage treatment plant had not been operated and maintained in line with manufacturer’s instructions, which led to the build-up of Hydrogen Sulphide.

What actions were taken? What lessons were learned?

- ◆ Ensure safe systems of work are followed for all maintenance activities including adherence to the PTW, task risk assessment, toolbox talk (TBT), working at height and associated procedures where applicable;
- ◆ Before using or maintaining equipment, ensure that all relevant personnel are familiar with the operation, required maintenance activities, associated risks and required safety controls as defined by the manufacturer's instructions;
- ◆ Ensure that workers tasked with the operation and maintenance of sewage treatment plant are made aware of the potential for H₂S, the risks associated, the required control measures including the requirement for breathing apparatus if there is potential for H₂S release;
- ◆ Re-iterate to all workers that they have a responsibility to **stop the job** if during the work:
 - circumstances change and present new additional risks
 - they feel uncomfortable or unsafe or are unsure of the planned task.

Members may wish to refer to:

- ◆ [Loss of consciousness due to exposure to H₂S](#);
- ◆ [H₂S Leak Umbilical Laying](#);
- ◆ [Confined space entry incidents – a reminder](#).

2 Confined Space Fatality On-Board the Fishing Vessel *Sunbeam*

What happened?

The UK Marine Accident Investigation Branch (MAIB) has published a report into a confined space fatality on-board the fishing vessel at Fraserburgh in the UK, in August 2018.

The second engineer entered a refrigerated saltwater tank (RSW) (which was being prepared for cleaning) and collapsed. He was seen lying unconscious at the aft end of the tank by a crewmate, who immediately raised the alarm. Three of the vessels' crew entered the tank and tried to resuscitate the second engineer, but they soon became dizzy, confused and short of breath. One of the crew managed to climb out of the tank unaided, the other two crewmen and the second engineer were recovered onto the open deck by two crewmen wearing breathing apparatus. The two crewmen made a full recovery, but the second engineer could not be resuscitated and died.



RSW tank



Fishing vessel Sunbeam

What went wrong?

It was unclear when and why the second engineer entered the tank. However, evidence indicated that his intention was to sweep the residual seawater that had settled at the aft end of the tank forward in to the tank's bilge well.

No safety procedures for entering or working in RSW tanks had been completed before he entered the tank.

What lessons were learned?

The MAIB notes the following:

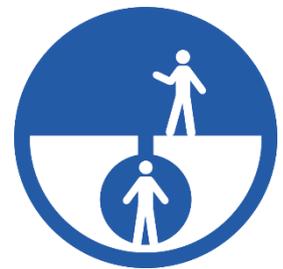
- ♦ Working in enclosed or confined spaces is potentially hazardous; procedures for entering and working in them should be robust, understood and utilised;
- ♦ Enclosed space rescue plans need to be in place on all vessels, risks must be understood, and rescue plans practised;
- ♦ All crew members have a responsibility for their own safety; this is particularly important in respect of lone working.

The full report can be found [here](#).

3 Confined Space Entry: Worker Died Inside Pump Room

What happened?

The Singapore Tripartite Alliance for Workplace Safety and Health (WSH) have published an alert notification relating to the death of a worker inside a pump room. The incident occurred when six workers were dismantling valves in the pump room of a marine vessel. The workers smelt fumes. All the workers managed to evacuate from the pump room except for one who had lost consciousness. He was brought out from the pump room later and pronounced dead at the scene by attending paramedics.



Contractors performing similar work activities are advised by WSH to:

- ♦ Take the necessary precautions to protect their employees when working inside an enclosed environment (the pump room in this case);
- ♦ Put in place adequate atmospheric ventilation to maintain oxygen levels and keep airborne concentrations of toxic vapours below their respective permissible exposure limit;
- ♦ Where the provision of adequate ventilation is not possible, suitable respirators or other breathing apparatus must be used so that the work can be carried out safely;
- ♦ Pipelines containing hazardous material should also be suitably isolated, depressurised and purged prior to being dismantled;
- ♦ Should there be a possibility of the pipeline containing residual hazardous materials, personal protective equipment including safety helmets, face shields, safety boots and chemical-resistant clothing, aprons and gloves must be worn.

The Singapore authorities have begun investigations. The alert can be found [here](#).

4 Person Felt Unwell While Working in Confined Space

What happened?

A worker felt dizzy and weak while cleaning a mud tank. The tank watchman noticed this and initiated the emergency rescue procedures to recover the person from confined space. Following First Aid on-board and further diagnosis of increased blood pressure, the worker had some rest and returned to his duties a few hours later.



What went wrong?

- ◆ There was a failure to safely control the work process: permits and certificates incorrectly issued, incorrect gas-freeing checks, personal gas detector not worn, wrong isolation process (no 'lock-out');
- ◆ The rescue equipment was not suitable – there were no certificates to evidence inspection of safety harness, tripod and inertia reel;
- ◆ There was no confined space rescue plan in place;
- ◆ Hazards not identified – the mud loaded previously had no safety datasheet hence the hazards were unknown.

Remember: Uncontrolled work in confined space can lead to fatalities!

What lessons were learned?

- ◆ Thorough check of lock-out/tag-out kits, gas detectors and rescue equipment to ensure properly available and suitable for use.

Members may wish to refer to:

- ◆ [Exposure To CO₂ release from dry ice storage](#)