

IMCA Safety Flash 14/19

June 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 High Potential Near Miss: Person Found Unconscious in Confined Space

What happened?

During commissioning activities, a commissioning engineer was found unconscious inside a gas valve unit (GVU). He received CPR and regained consciousness before being transported to the hospital for further diagnosis. Luckily, he has made full recovery.

Pressure holding tests were being conducted, controlled from an interface cabinet. Nitrogen gas was used as the test medium. The pressure build-up was taking longer than usual so the vendor performing the test suspected that there was a leak somewhere. He heard a hissing sound coming from inside one of the GVUs (where the piping runs through) and suspected that the leak was coming from the piping inside the GVU. The vendor informed the commissioning engineer about the leakage and returned to the interface cabinet. Shortly afterwards the vendor noticed the commissioning engineer entering the GVU through the manhole opening. The vendor rushed to the GVU, but the commissioning engineer was already overcome by the nitrogen and had collapsed inside the unit.



The commissioning engineer was rescued, CPR was administered, and he regained consciousness before being transported to the hospital supported by additional oxygen. The engineer has since made a full recovery and is back on duty.

What went wrong?

- ◆ The gas valve unit (GVU) is clearly a confined space; however, the experienced engineer decided to enter alone via the manhole opening;
- ◆ There were no confined space entry controls in place at that particular GVU i.e.:
 - no confined space entry permit in place
 - no atmospheric test results at the location
 - no safety watch in place.

What lessons were learned?

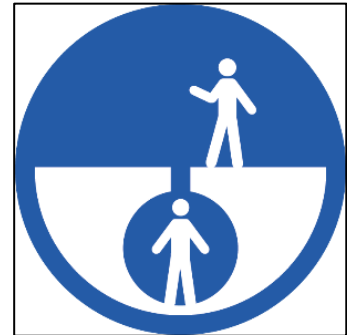
Never enter a confined space unless a permit is active, and all controls are in place to ensure your safety, such as; the atmosphere has been successfully tested; a safety watch is at the entrance; you know what the rescue plan is; and you have discussed your entry with your supervisor.

Members may wish to refer to:

- ◆ [Person felt unwell while working in confined space](#)
- ◆ [Confined Space Entry Incidents – a reminder](#)
- ◆ [Confined Space Fatality In Shipyard](#)
- ◆ [Confined space – the dangers](#) (IMCA short video)
- ◆ [Working in confined spaces](#) (IMCA longer video)

2 Confined Spaces: Silent and Invisible Killers

The [United States Coast Guard \(USCG\)](#) has issued [Marine Safety Alert 04-19](#) entitled *Confined spaces: silent and invisible killers*. It serves as a reminder that despite decades of work to improve confined space entry by maritime safety organizations, training institutions, and vessel owners/operators, the risks have not been eliminated. This is illustrated by a recent casualty where three persons lost their lives while working on-board a laid-up mobile offshore drilling unit (MODU). Although the investigation is not yet complete, the following information is being conveyed with the continued hope that it will highlight this hazard with the aim to prevent recurrence.



Ten crewmembers were on-board the MODU preparing it for a heavy lift transport to an overseas ship breaking facility. Seven of the crew on-board were involved in dewatering the legs of the MODU. They were experienced mariners but lacked MODU experience.

The superintendent, captain, rigging master, fitter, and an AB (AB2) were on a dinner break while another AB (AB1) and the electrician were assigned to oversee the dewatering operation.

Without notifying anyone, a crewman (AB1) descended into a confined space (one of the legs of the MODU) to check something. An electrician became concerned when he failed to see the AB on deck and he descended into the leg himself, only to find the AB collapsed and unconscious. Although nearly overcome by the exhaust fumes himself, he was able to safely escape and notify others. A second AB (AB2) then descended to assist the first; a fitter went to notify the captain. The captain, superintendent and fitter then, notably **without safety equipment**, descended into the leg to assist AB1.

AB2 collapsed and became unconscious one level above where AB1 had collapsed. The fitter was also overcome and collapsed next to AB2. The captain and the superintendent then managed to escape the leg with assistance from the rigging master who had entered the leg with a self-contained breathing apparatus (SCBA) brought on-board from another vessel. In the end, both ABs and the fitter died whilst the captain and ship superintendent were airlifted to a hospital and survived.

The USCG **strongly encourages** all who work or may be employed on-board vessels in any role, whether they be senior shipboard officers or crew, riding crew, shore side managers, owners/operators, and other personnel to:

- ◆ Obtain the requisite level of knowledge and training of confined space entry procedures including emergency and rescue procedures;
- ◆ Ensure crews undergo periodic confined space training and participate in routine and practical on-board emergency drills;
- ◆ Verify all required confined space entry and rescue safety equipment is on-board, maintained, tested and fully functional;
- ◆ Continually appreciate the dangers involved in confined space entry and educate yourself by further study – the web page [here](#) is recommended.

Members may wish to refer to

- ◆ [Confined space – the dangers](#) (IMCA short video)
- ◆ [Working in confined spaces](#) (IMCA longer video)

Recent Prosecutions by UK HSE

This part of the safety flash comprises a summary of recent prosecutions by the UK's Health and Safety Executive (UK HSE). These will be of interest to members in all areas, not just those whose work is conducted under UK regulatory oversight. See <https://press.hse.gov.uk/> for further information.

3 Three Hand Injuries

Incident 1: Fingers and Hands in Rotating Machinery – Employee's Hand Severed by Machinery

A company supplying aluminium parts was fined after an employee suffered serious injuries when using a chop saw. The rotating blade of the chop saw came into contact with the employee's hand, which was severed.

Investigation revealed a number of failures. The company involved:

- ◆ Failed to suitably and sufficiently assess the risks from working on the chop saw;
- ◆ Failed to provide a safe system of work;
- ◆ Failed to adequately maintain and guard the saw;
- ◆ Failed to provide suitable information, instruction and training in the use of the saw;
- ◆ Failed to provide adequate supervision and monitoring.

The HSE inspector noted:

"This injury was easily prevented, and the risk of injury should have been identified. Employers should make sure they properly assess and apply effective control measures to minimise the risk from dangerous parts of machinery."

Incident 2: Inadequate Guarding on Cutting Tools: Two Separate Cases of Workers Losing their Fingers

A company has been fined after two separate incidents led to workers' fingers being amputated. Employees were injured in two separate incidents involving cutting tools. One employee was injured while cutting timber on the blade of an unstable sliding table saw in August 2017 and suffered amputations to the middle and index fingers on his right hand. A second incident occurred in September 2018, when an apprentice joiner was feeding timber through a planer thicknesser and an insufficient guard caused the planer's blade to come into contact with the employee's finger, amputating it down to the first knuckle.



Investigation revealed that the company **had failed to ensure effective measures were taken to prevent access to dangerous parts of their machinery** (IMCA's emphasis). The UK HSE had issued the company with three improvement notices [*issued where an HSE inspector believes there is a serious breach of health and safety law, particularly one that poses a risk to people*] and a prohibition notice [*issued where an inspector believes that work activities give rise to a serious risk of personal injury. It normally requires you to stop unsafe work activity immediately*]. The company complied with the prohibition notice by making the sliding table saw stable but failed to comply with the improvement notices within the given deadline. A further extension to comply was granted, but again the company failed to do so.

Incident 3: Failure of Lock-Out/Tag-Out: Worker's Hand Injured by Faulty Hydraulic Cutters

A company was prosecuted after a worker's hand was injured by defective hydraulic cutters. An employee at a waste management company was working on a fridge dismantling line. When the hydraulic cutters he was using stopped working properly he reported the defect, but the procedure to make the equipment safe was not then followed. The cutters were left close to where he was working, and when he moved them out of his way, the defective cutters amputated the top of the index finger of his right hand and partially severed another finger.

Investigation found that although defects with the cutters were common, problems were not always reported and the procedure for lock-off and isolation was being inconsistently applied.

The inspector noted:

"The life changing injuries caused by this accident could have been avoided if the procedure for the safe lock-off and isolation of equipment had been followed. Employers should ensure that their safety procedures remain effective by monitoring their use and checking that they are being fully implemented."

Members may wish to refer to:

- ♦ [Watch your hands](#) (short video)

4 Three Fatalities: Stored Energy; Falling Objects; Traffic Management

Incident 1: Stored Energy Release – Worker Killed During Concrete Pumping Operations

A company was fined following the death of a worker at a dockside upgrade project at a port in the UK.

The company had been contracted to replace a dockside roadway at a port. The company sub-contracted a specialist concrete pumping contractor to pump the concrete and a concrete laying contractor to lay the concrete. A flexible delivery hose through which concrete was being pumped became momentarily blocked, then cleared under pressure, causing it to violently whip round. An employee of the concrete laying sub-contractor was hit by the hose and killed, and another worker suffered cuts and bruising.

Investigation revealed that the company had failed to effectively plan and manage the safe pumping of concrete, in that *an exclusion zone* (IMCA's italics) around the flexible delivery hose was not enforced. The investigation also found the company did not adequately supervise or instruct, nor did it provide suitable information to sub-contractors, and it failed to monitor the pumping operations to ensure the ongoing safety of workers.

The HSE inspector noted:

"This tragic incident could easily have been prevented had the company involved acted to identify and manage the well-documented risks involved in concrete pumping by the implementation of suitable safe systems of work."

Incident 2: Collapsing Stack of Stored Items: Worker Crushed to Death

A recycling company was sentenced after one of their employees was fatally crushed by falling plastic bales. Waste plastic bales had been delivered and stacked as free-standing columns in a yard. During the morning, a fork lift truck driver noticed that one of the columns consisting of bales, stacked three high, had partially collapsed obstructing his path. He subsequently used the fork lift truck to straighten and stabilise the stack before continuing on his way.

Some hours later another worker was working in the immediate vicinity of the stack when it toppled, with the middle and top bales, weighing over 500 kg, falling and crushing him. The scene of the collapse was not discovered until nearly an hour later when efforts to revive him failed.

Investigation revealed that the company had failed to store waste plastic bales **securely in such a way as to prevent the risk of collapse**. (IMCA emphasis). The company had also failed to carry out a suitable assessment which would have identified risks to the safety of employees located within the danger zone of unstable stacks.

Members may wish to refer to IMCA safety promotional materials on working at height and on dropped objects:

- ◆ [Working at height](#) (short video)
- ◆ Dropped object videos shared with industry through IMCA by our members:
 - [Technip DROPS](#) (IMCA SEL 039)
 - [Saipem DROPS – choice not chance](#) (IMCA HSSE 042)
 - [DROPS](#) (IMCA HSSE 043) [shared by Subsea 7]

Incident 3: Traffic Management – Worker Killed by Reversing Vehicle

A company was fined after an employee was fatally injured when he was struck by a reversing heavy plant. A wheeled front-loading shovel was being operated in a large shed. Material was being loaded from it onto another vehicle and onto other equipment in the shed. During the course of this operation, the vehicle struck a site operative who was fatally injured and died at the scene from his injuries.

Investigation found evidence of a lack of pedestrian and vehicle segregation in the shed, meaning that pedestrians and vehicles could not circulate in a safe manner. The company had carried out a risk assessment prior to the incident that identified some control measures to reduce the risks from operating the loading shovel and a fork lift truck on site. However, these control measures had not been fully implemented, nor were they sufficient to manage the risk of collision between vehicles and pedestrians. There was also no risk assessment or traffic management plan considering the safe movement of vehicles across the site.

The inspector noted:

“The HSE investigation found an inadequate assessment of the risks of vehicle movements in the shed and a lack of segregation of vehicles and pedestrians.”

Members may wish to review:

- ◆ [HSSE 032 Guidance on safety in shipyards](#)