

## IMCA Safety Flash 18/16

July 2016

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](mailto: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](http://www.imca-int.com/links). Additional links should be submitted to [webmaster@imca-int.com](mailto:webmaster@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.

### Summary

All the incidents in this safety flash relate to the inappropriate or unplanned release of substances or objects. The first three incidents are all stored energy/stored pressure incidents in which objects have been ejected or expelled by stored pressure. The final two incidents relate to spills; one of fuel oil, the other, of bilge water.

#### 1 Stored Pressure Near Miss: Buckle Detector Expelled from Pipe During Recovery

A member has reported a near miss incident in which a buckle detector tool was expelled from a pipeline under pressure and landed approximately 2m away. The incident occurred during retrieval of the buckle detector (BD), which weighed approximately 25 kg. The buckle detector came close to two crew members. Had either of them been struck by the tool as it ejected, it could have caused significant injuries.



Our member's investigation revealed the following:

- ◆ Back pressure on the buckle detector had not been identified as a risk during the job risk assessment (JRA);
- ◆ The task plan did not identify appropriate barriers required for the job;
- ◆ The procedure for use of the buckle detector was not risk assessed at the hazard identification & risk assessment (HIRA) stage of the project.

The actions were:

- ◆ An 'all stop' on buckle detector launch and recovery activities followed by 'time out for safety' with all personnel involved to illustrate dangers involved;

- ◆ An updated task plan to:
  - ensure “no go” areas are fully documented
  - show means of preventing future recurrence by using a double wrapped sling on the pipe attached to a shackle on the buckle detector cable;
- ◆ Ensure plans available of where barriers should be installed to keep people out of the “line of fire” when conducting launch and recovery of buckle detector;
- ◆ Consider revision of hazard identification & risk assessment (HIRA) and job risk analysis (JRA) for pipe buckle detection work;
- ◆ Consider pipe back pressure as a risk;
- ◆ Ensure future buckle detection task plans include clear instructions on where to install barriers;
- ◆ Identify other means of launching buckle detector, such as crawler systems which do not require pressurised air.

Members may wish to refer to the following incident (search words: *pipe, plug*):

- ◆ [IMCA SF 08/03](#) – Incident 2 – *Fatality – pressure build-up leading to sudden release of mechanical plug.*

## 2 Stored Pressure Release Near Miss: Small Part Expelled from Hydraulic Winch

A member has reported an incident in which a part was expelled from a hydraulic system under pressure, causing a leak of hydraulic oil. The incident occurred when the hydraulics were activated to turn the winch drum to install a new wire rope. There was a loud bang from the hydraulic pack as a sensor was forced out of the unit. The sensor hit the bulkhead to the right. Approximately 2 litres of hydraulic oil was also expelled from the winch onto the deck and bulkhead.



Our member’s findings were:

- ◆ Company safe system of work had not been followed – there had been no permission or sanction to test this equipment;
- ◆ The hydraulic system had not been commissioned properly. The hydraulic hoses had been fitted the wrong way around;
- ◆ The handover between technicians following crew change had not identified these issues.

Our member's recommendations were:

- ◆ Improve communication between crews at handover especially at crew change;
- ◆ Formal "sanction to test" should be completed before it is handed over to the responsible person in charge;
- ◆ Suitable and sufficient risk assessment and pre-use check list to be created and used for this work and equipment;
- ◆ Status and condition of equipment should be clearly defined before planned maintenance is carried out.

Members may wish to refer to the following incidents (search words: 'safe system', hydraulic):

- ◆ [IMCA SF 22/15](#) – Incident 4 – *Hydraulic company sentenced after employee loses sight in one eye;*
- ◆ [IMCA SF 22/15](#) – Incident 5 – *Near miss: contained hydraulic oil spillages from cranes.*

Both incidents relate to inappropriate release of stored hydraulic pressure in which a causal factor was failure to follow a safe system of work.

### 3 Stored Pressure: Corrosion Coupon Plug Ejected from Pressurised Pipeline

The International Association of Oil and Gas Producers (IOGP) has published a safety alert regarding an incident in which a corrosion coupon plug was ejected from a pressurised pipeline. The incident occurred during a routine plug retrieval operation on a 28" crude oil pipeline. The plug was ejected at high velocity from a 2" access fitting on the pipeline. The pipeline was pressurized to 103 bar. There was a spillage of crude oil from the pipeline via the access fitting. There were no injuries.

Investigation revealed that the most likely cause was that the threads of the access fitting were worn down and unable to restrain the plug against 103 bar of pressure. The access fitting was nearly thirty years old and had been subject to over 140 coupon retrieval and installation cycles.

Further information is available [here](#).

The following two incidents, relating not to stored pressure release or to pipelines, but to worn-out threads, may be of interest to members:

- ◆ [IMCA SF 01/06](#) – Incident 3 – *Falling object – load dropped by crane* (immediate cause: worn-out threads);
- ◆ [IMCA SF 07/11](#) – Incident 5 – *Injury: failure of subsea HP water jetting gun* (investigation revealed worn-out threads).

### 4 Minor Fuel Spill During Offshore Transfer

The Marine Safety Forum has published a safety alert regarding a minor fuel spill during offshore fuel transfer. A platform supply vessel (PSV) was on location ready to deliver fuel, and the hose was connected. Crew were posted nearby on watch. The pump was started on a low rate in order to prove the line with the installation. Very shortly after starting the pump a spray of fuel was noticed from another fuel connection – not the one in use on this occasion. Bunkering operations were stopped immediately. Less than 1 litre of fuel was estimated to have escaped to sea.



This incident serves as a good reminder that all connections (not just the ones in use) should be checked before starting bulk transfer operations. All valves should be correctly closed with appropriate caps correctly fitted in place. Regular maintenance and inspection of manifold valves and connections are an important factor in preventing spills of this type.

Further information is available [here](#).

Members may wish to review the following incident (search words: spill, bunker, hose):

- ♦ [IMCA SF 04/14](#) – Incident 3 – *Oil spill incident*.

The following incident may be of interest in the context of careful checking of lines, hoses and valves before operations:

- ♦ [IMCA SF 16/15](#) – Incident 2 – *Cargo contamination causing LTIS during clean-up*.

## 5 Accidental Discharge of Bilge Water in Dry Dock

A member has reported an incident in which there was an accidental discharge of bilge water during a dry dock. The incident occurred when dry dock personnel mistakenly opened the bottom plug of the 'Engine Room Bilge Water' tank which caused bilge water to be drained into the graving dock.



The dry dock personnel responded quickly and immediately stopped the drain pump, which then allowed the water in the dock drain into the basin outside the dock.

The dry dock personnel took immediate action by using absorbent sheets to clean and remove traces of oil.

There was no pollution of the water in and around the basin.

Our member's findings were:

- ♦ Dry dock personnel wrongly opened the bottom plug of the ship's tank without checking with Chief Officer;
- ♦ There was inadequate communication and coordination between ship and dry dock personnel;
- ♦ There was inadequate supervision on dry dock personnel.

The following preventative actions were taken:

- ♦ All bottom plugs were checked and marked in the docking plans, highlighted the critical bottom plugs and discussed with dry dock personnel during pre-docking meeting;
- ♦ Particular care should be taken to ensure that the bottom plugs of tanks are opened after confirmed identification and under the direct supervision of the Chief Officer;
- ♦ Effective pre-operation risk assessment and tool box talk should be conducted before carrying out the task – and this should be recorded.

Members may wish to review [IMCA SEL 032](#) – *Guidance on safety in shipyards*.