

## IMCA Safety Flash 03/10

2010

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)

### 1 Incident During Entry to Diving Bell

A member has reported an incident during a routine operation on a diving support vessel (DSV) where a diving bell had been surfaced from 140msw for maintenance. The bell had been returned to atmospheric pressure and the surface stand-by diver had been tasked with opening the door of the surfaced bell and inserting an air hose to be used to flush out the residual diving gas (4% O<sub>2</sub> in He) to ensure a breathable atmosphere in the bell prior to personnel entering it.

Having opened the bell door the stand-by diver stood up and started to climb into the bell. He immediately started to suffer the effects of oxygen starvation, became confused and fell out of the bell. Due to the hypoxic effect of the bell atmosphere the stand-by diver lost consciousness for a short period of time on deck in the bell hanger area.

He recovered quickly with no apparent ill effects and had regained consciousness without the need for resuscitation before the medic arrived on the scene.

The member noted that entry into recently surfaced diving bells and chambers was a potentially hazardous activity despite the fact it is considered to be a routine task.

The member issued instructions that personnel on all diving worksites should be made aware of this potentially serious incident and should take steps to ensure that low oxygen hazards are identified and suitably addressed (by access control, flushing and atmospheric monitoring) before any person was permitted to enter either a bell or a chamber that has recently been surfaced.

Members are reminded of the importance of robust confined space entry procedures.

### 2 Uncontrolled Ascent – Loss of Lift Bag to Surface

A member has reported the loss of a lift bag to surface.

During a surface-supplied diving operation from a dynamically positioned diving support vessel (DP DSV) in approximately 24 metres of seawater, a 10 tonne parachute lift bag had been attached to a pipeline as an installation aid in accordance with the member's procedures as part of a sleeper rectification program. At the previous site a successful/uneventful installation had been accomplished only a few hours earlier using 2 x 5 tonne and 2 x 10 tonne lift bags.

The bag had been partially inflated in order to obtain a vertical position and volume sufficient to allow an inspection prior to any additional inflation. At this point the diver observed and reported a shift of the bag upwards relative to the rigging strops secured to the pipe. Shortly thereafter, the bag slipped away from its rigging and ascended to surface.

- ◆ The diver reported the loss of control immediately and the bridge was notified;
- ◆ The main rigging and inverter line remained attached to the pipeline;
- ◆ It was determined that the shackle joining the top end "cradle ring strap" had mistakenly been removed 4 hours earlier when the bag had been retrieved to deck from the previous deployment.

The member reported that no injuries had been sustained and the lift bag had been damaged, but the diver could have potentially experienced an embolism or have been fatally injured if he had been dragged to the surface.

The member noted the following root causes:

1. A lack of awareness on the part of the rigger who had de-rigged the bag;
2. A detailed pre-deployment inspection regime had not been in place;
3. The cradle-ring-strap and single pin shackle arrangement at the top of the bag had routinely been used as a common securing point for both the main rigging and the inverter line which represented a single point failure;
4. The single pin shackle had been easily removed by hand as it did not require a tool, nor did it have any distinguishing markings (e.g. paint) to indicate that it formed an integral component part of the cradle-ring-strap configuration.

All the rigging attached to the lift bag was recovered with no damage or distortion found.



The shackle on the top rigging arrangement of the bag was removed.



Rectification taken and recommendations made by the member company:

1. Activities were ceased and an investigation carried out which included two onshore managers;
2. The model of bag used was quarantined until further notice;
3. A pre-deployment model specific check list was produced for a similar model lift bag which utilised a continuous loop cradle sling;
4. A 'stand down' was held and personnel involved in all phases of lift bag usage, including the handling and deployment, were familiarised with the safety critical elements and specifics of the equipment;
5. Black Box footage of the event was to be developed into a training aid and lessons learnt material;
6. Communicate to vendors the issue of an inherent single point failure;
7. Communicate to the vendors the need for manufacturer and model specific check lists and this was to be included as a future requirement in the member's purchase procedures. The member noted that the manufacturer supplied checklist with the bag was a generic check list found in industry guidance documents;
8. Review and update the company work instruction for the use of lift bags and include lessons from this incident and any relevant improvements forthcoming by the vendors.

Members are reminded of IMCA guidance IMCA D 016 Rev.3 - Underwater air lift bags – and of recent IMCA safety flashes 02/08 and 15/08.

### 3 Gangway Failure

The Australian National Offshore Petroleum Safety Authority (NOPSA) has published the attached safety flash regarding a recent gangway failure.



NATIONAL OFFSHORE PETROLEUM SAFETY AUTHORITY

SAFETY ALERT 36

#### Gangway Failure

##### What happened?

A purpose built project modular gangway for jacket access from a construction barge parted at the jacket end and fell into the water. To allow for movement of the construction barge the gangway had a roller support at the barge end and was supported by a gimbaled joint at the platform end. The failure occurred in the vertical pin of the gimbaled joint.

Investigation determined that a weld around the centre of the pin was omitted during the fabrication process, which would have increased the stress levels in the pin. It was further determined that the incorrect grade of for the pin was ordered, although the yield stress of the steel was as specified in the design.

Although slings and chains were placed on the gangway and connected to the landing platform they were too long to prevent the gangway from dislodging from the landing platform and of insufficient strength to withstand the impact loads and prevent the gangway from falling into the sea.

Purely by chance no personnel were transiting across the gangway at the time of the incident and there were no injuries to personnel working in the vicinity.

Had personnel been on the walkway when the jacket end fell some ten metres into the sea there could have been multiple fatalities and or serious injuries.



The gangway collapsed into the sea



The failed gimbal pin

##### Key Lessons

1. Fabrication yard quality assurance must include a thorough inspection to ensure that the design and specification have been met. These need to include checks that all specified welds have been made, not just Non-Destructive Testing (NDT) of the welds that have been made, and that mill certificates for the steel used matches the grade that was specified, not just the yield stress.

**Gangway Failure**

2. Secondary fall protection arrangements must be properly engineered and specified in the installation, operation and maintenance procedures for gangways.
3. These procedures need to also provide for close visual inspection at least once per shift when the gangway is in use.

**Who is responsible?**

- (i) The operator of an offshore facility has the general duties of care under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* to ensure all work and activities are safe and the risk to people is as low as reasonably practicable. Specifically, the operator must implement and maintain a safe system of work for any plant and equipment.
- (ii) Any titleholder and service contractor who is in control of any particular work carried out at a facility has similar duties as the operator for that particular activity.

**Contact**

For further information email [alerts@nopsa.gov.au](mailto:alerts@nopsa.gov.au) and quote Alert 36.

## 4 Missing Dangerous Goods Declaration

The UK Marine Safety Forum (MSF) has published the enclosed safety flash concerning vessels which have received dangerous goods without appropriate notification and paperwork.



## Marine Safety Forum – Safety Flash 10/06

Issued: 16<sup>th</sup> February 2010

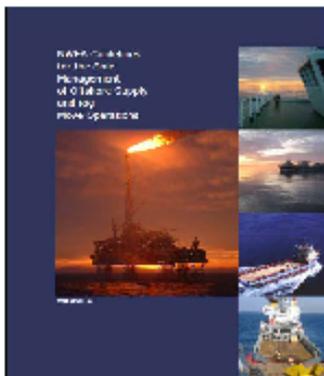
Subject: Missing Dangerous Goods Declaration

### Narrative

The vessel arrived in port to discharge cargo. The cargo paperwork was handed into the inbound cargo department for processing. It was found that the dangerous goods declarations were missing however the dangerous goods had been backloaded onto the vessel.

This practice of vessels' receiving dangerous goods without notification and paperwork is becoming common.

It is important that vessel Masters' make sure at all times before any unit is loaded that the declaration of Dangerous Goods is provided as per the *North West European Area Guidelines* and the *IMDG code*.



Failure to receive the correct notification / paperwork may have serious consequences for the vessel if an onboard emergency develops or there is a visit by port state control.

If the vessel **does not** receive a dangerous goods declaration or notification then the lift **should not** be loaded whether in port or at an offshore location.

Please refer to the relevant sections of the *North West European Area Guidelines* for further information.