

These flashes summarise key safety matters and incidents, allowing wider dissemination of lessons learned 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)

## I Subsea Lifting and Dropped Loads

A number of incidents have been reported where loads have been dropped during subsea operations, with the following causes being identified:

- ◆ Failure of mechanical latches;
- ◆ Modified 'off-the-shelf' rigging;
- ◆ Lack of understanding of the dynamics of subsea loads.

Below is a brief summary of a number of incidents.

### 1. Dropped umbilical handling basket

An umbilical handling basket was dropped during recovery from the stern A-frame of a monohull construction vessel. Subsequent investigations showed that the lifting bracket had become detached. Another basket was similarly damaged. Previously the baskets had been deployed from a semi-submersible construction vessel where no incidents had occurred. The cause of failure is attributed to an inadequate appreciation of the low terminal velocity of the basket due to its high in-water drag. This resulted in snatch loads whilst lifting in a relatively high sea state from the stern of the monohull vessel. No guidance on operational sea state for types of deployment vessel was documented in the procedures. Remedial measures included strengthening the lifting bracket on the baskets and the specification of limiting sea states from future deployment vessels.

### 2. Dropped clump weight

A 1 tonne displacement buoy connected to a 1.25 tonne clump weight became detached from a lift wire and fell 20 metres to the seabed. Subsequent investigation with an ROV showed that the 6.5 te shackle used to connect the load had become undone, with the bolt, securing nut and locking R clip missing. The load landed 1 metre away from a flowline jumper, which could have been damaged. The cause was attributed to an R clip becoming displaced from the shackle bolt, enabling the nut to back off and release the bolt. It is thought that vessel motions transmitted to the lifting wire plus high drag low weight of the combined load enabled the shackle R clip to contact the load and become displaced. Subsequent movement then rotated the bolt to the point where the load became detached. The contractor involved advised that all lifting operations should be conducted within sea state limits identified in the risk assessment for the specific vessel / load /drag combination. It also recommended that conventional R clips should not be used to secure shackles as they can become dislodged by the load and that split pins bent fully back or some equally secure alternative was preferred.

### 3. Dropped clamp and buoy

A 225 kg clamp plus buoy was being transferred from a crane hook to a subsea winch hook in a moonpool of a semi-submersible construction vessel when the load was lost. The incident was attributed to the use of a single master link in the rigging. Two links should have been used, one for each lifting device. The load transfer procedure was modified for future operations of this kind.

### 4. Modified latch failure

An incident occurred when an ROV was inadvertently released from a TMS that had a modified latch mechanism. The ROV and TMS were on deck and in the process of being latched into the A-frame when the ROV fell approximately 0.5 m onto the A-frame deck. No one was hurt and damage was minimal. A full investigation is underway but initial conclusions are that some of the latch rollers could have been seized in the open position. The contractor involved has instructed a check of latching mechanisms.

## **2 Structural Failure of a Transponder Housing**

Recently it was reported that the end of a transponder stored in an on-shore workshop blew off. The transponder had been in storage for a couple of months after being demobilised from the offshore site.

The cause was identified a result of seawater leaking into the housing during subsea operation – this reacted with the electrolyte in the battery pack and produced gas. Over a period the gas pressure built up causing the plastic retaining ring to fail which enabled the end to blow off. It was noticed that the vent bleed valve on the housing was closed.

The contractor involved has made a number of recommendations including:

- ◆ Where practicable, a proper vent valve should be fitted to the highest point of the housing;
- ◆ Caution should be taken when opening up housings;
- ◆ Housings should be vented prior to shipping them back to storage or other worksites.

## **3 Underwater Rigging Failure**

During the recovery of two 400kg buoyancy blocks from the seabed a swaged eye of a strop failed and one of the blocks rose uncontrolled to the surface. No one was hurt and there was no damage.

The eyes of the strop were made up in the usual way; i.e. with an alloy swaged sleeve. It had been under water for about 11 months, during which time the sleeve corroded causing the eye and wire to fail.

The contractor involved has suggested the following precautions should be taken:

- ◆ Do not plan to use alloy swaged rigging which may be left under water for long periods;
- ◆ Use extra caution when recovering subsea loads which may have alloy swaged eyes fitted. Check to find out how long the rigging has been submerged;
- ◆ Inspect alloy swaged eyes for pitting and other signs of corrosion before use – discard them if there is any doubt about their condition;
- ◆ Visually inspect rigging each time it is used.