

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) 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 webmaster@imca-int.com

1 Failure of ROV Lift Umbilical Winch Brake – Update

In the Safety Flash 08/01 we reported an incident concerning an uncontrolled ROV umbilical winch run off involving a MacArtney CORMAX unit manufactured by Norlau. The member company has updated us on this issue noting that the manufacturer has now acknowledged that there is a design problem and that until they can provide a technical solution the manufacturer recommends that that winches should be operated at LOW SPEED only. This is a short term measure; the long term solution may involve modifications to the winch system.

2 Hazard Potential from Equipment using Enclosed Rechargeable Batteries

A member has reported that a damage event occurred recently at one of their workshop facilities, where a sealed housing containing a rechargeable battery pack exploded. In this incident a 'Divescan' system was in the process of being assembled and tested, and the system was being powered by its uninterruptable power supply (UPS) component.

At the end of the test, when the technician switched off the power from the UPS, the UPS housing lid blew off, bounced off a shelf at eye level, and landed some distance away in the workshop area. Fortunately, it missed the technician and he was not injured.

Further to this particular incident, a CTD (conductivity, temperature and depth) probe battery casing on ROV operating one of the members vessel's on also exploded; again without injury.

As a result of these two common undesired events, the following procedures, have been issued by the company concerned:

- ◆ Always closely inspect the equipment containing rechargeable batteries, prior to, and after use, for any signs of external damage, water ingress, broken connectors etc. In cases where there is damage or damage is suspected, competent personnel only should examine such equipment further – before it is then used;
- ◆ Equipment containing rechargeable batteries should be subject to an annual inspection by competent technical personnel who have received the appropriate product training;
- ◆ When carrying out maintenance on such equipment, especially if enclosed in a pressure housing, always consider that the equipment could potentially be pressurised and take all necessary precautions when handling and dismantling the unit. (i.e. wear a full face mask, dismantle the end cap assembly of the subsea housing pointing it away from yourself and other personnel.);
- ◆ When the equipment requires an external unit to charge the batteries, always use the charger specified by the manufacturer of the equipment, thus minimising risk of damage to the equipment or harm to the operator;
- ◆ Operators of such equipment must use the correct charging procedure outlined in the manufacturer's operating instructions;
- ◆ Battery condition and replacement history should be recorded by a notice attached to the equipment and in the planned maintenance records.

3 ROV Winch Failure

One of our members has reported an ROV winch failure during drill support on a semi submersible drill rig working in 80-100 meters water depth.

During a ROV launch the vehicle was raised approximately 1.8 meters to allow the moonpool doors to open. With the doors secured open the ROV was lowered through the moonpool. When the top of the TMS became level with the cellar deck the winch went into free fall. Since all attempts by the winch operator to gain control of the winch had no effect, the winch operator and ROV crew secured the area, put safety barriers in place and a person posted to prevent any one entering the launch area. The 1500 meters of steel armoured umbilical had spooled off the winch drum and the end was retained by the clamp mechanism on the drum.

No one was injured and there was no damage to subsea structures resulting from the incident.

The initial investigation conducted by the winch/gearbox manufacturers has shown a bearing in the gearbox had failed allowing the output shaft with the drive pinion to be ejected from the gearbox. The winch manufacturer is Lawson Engineers, and the gearbox manufacturer is Brevini.

Both the hydraulic lock and the failsafe brake are on the input side of the gearbox and had operated correctly, but when the output shaft was ejected the drive pinion lost contact with the drum gear ring and all control of the drum was lost. The winch then went into freefall.

The following actions have been initiated by the member concerned:

- ◆ Gearbox oil samples to be taken from all similar winches in service to establish any signs of early bearing failure;
- ◆ Oil replaced in all gearboxes to allow an even starting point for future analysis;
- ◆ Gearbox oil samples to be taken every three months and analysed to help early detection of any future bearing failure;
- ◆ A mechanical retaining plate to be retrofitted to all similar winches to prevent the gearbox output shaft being ejected and causing the drive pinion to loose contact with the drum ring gear.

4 Failure of Plastic Floatation Buoy

We have received the following information concerning a failure of a plastic floatation buoy. During deepwater operations on one of our member's vessels, a sling had been recovered to surface and riggers were in the process of removing a cluster of plastic floatation buoys. These buoys were rated for 150 bar external pressure and were hollow air filled types.

Without warning or any obvious signs of damage, one of the buoys exploded, resulting in two halves of the float flying apart with some force (see picture below). Fortunately no-one was injured, however this serious near miss serves to remind us, that such events are not unknown and for this reason, IMCA produced IMCA Guidance Note IMCA R 001 – *Plastic spherical air-filled fishing buoys* – concerning failures of this type of buoy giving recommendations on their use.

Whilst the floats being used were suitably pressure rated, the company concerned cannot be sure that either through manufacturing defects or due to rough handling that fissures in the seam of the floats allowed the internal void to be pressurised.

A number of IMCA member companies have a policy of not using plastic buoys.

