

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

I ROV Personnel Injury

One of our members has reported a serious injury which one of its personnel received while completing maintenance on an ROV manipulator.

ROV personnel were in the process of repairing a hydraulic leak on one of the two seven function manipulator arms installed on their ROV. The injured person inadvertently placed his index finger in the actuator pivot pin hole while attempting to release the actuator from its original position. When the actuator came free it dropped approximately two inches amputating his finger at the first joint below the nail.

Personnel had previously removed a pin from the ram end of the actuator in order to establish a better position to continue with the maintenance operation. During the re-positioning of the actuator the supervisor took the weight of the manipulator arm while the injured person released the actuator from its original position.

Prior to the actuator coming free the injured person had unconsciously placed his left index finger in the pin hole misinterpreting the hole as one of the grooves of the ribbed section of the arm. When the actuator dropped his finger was between the fixed edge of the arm and the moving edge of the actuator.

The company has identified the following contributing factors:

- ◆ Personnel had not completed a detailed Risk Assessment of the operation. A generic assessment of the overall maintenance procedure had been completed but this potential hazard had not been highlighted or recorded during the assessment;
- ◆ The maintenance work was completed at 04:30hrs. The ROV was located on an open deck and therefore exposed to the prevailing environmental conditions at the time of the work. These are often at their least hospitable at this time in the morning and at this time of year in the North Sea;
- ◆ A lapse of concentration and awareness of the positioning and location of his hand;
- ◆ A failure to follow the manual procedures and support the weight of the arm by a means other than human intervention.

The company has made the following recommendations to its personnel:

- ◆ Personnel must complete detailed risk assessments and follow the warning and caution notices as detailed in the maintenance manuals prior to the commencement of repairs to all parts of the ROV systems even when they do not appear to present a serious risk to their safety, health and welfare;
- ◆ Personnel should ensure that all parts of the equipment are adequately supported during maintenance operations to minimise the requirement for human intervention to lift and hold the equipment in awkward positions while completing maintenance;
- ◆ Supervisors must ensure that all personnel are aware that the hinged sections of any equipment and especially the manipulators can be dangerous and can present a pinching and guillotine hazard when moved at the joints;
- ◆ Consideration must be given to placing covers over the retaining pinholes when pins have been removed to minimise the risk of personnel placing their fingers inside the holes when working on the arms.

The company concerned has identified the following further action to be taken:

- ◆ An internal review of the maintenance procedure will be completed by the technical departments so that, where necessary, an addendum can be added to the relevant sections to highlight the potential hazards present especially when the retaining pins are removed;

- ◆ Details of the incident are to be passed to the manufacturers for their information and to determine whether they can make any further recommendations to prevent recurrence.

2 Crane Incident

We have received information concerning part of the manufacturer's name plate, weighing 250g, falling off of an offshore crane on an offshore installation, landing 21m below on an over-side scaffold at deck level. There was no-one on the scaffold at the time and no work was ongoing in the immediate vicinity.

The following initial findings were identified:

- ◆ The sign had been installed onto handrails on the crane's 'A' frame since the unit's construction;
- ◆ Failure of the sign had occurred through the fixing bolt hole, due to metal fatigue which, in turn, was caused by the operational vibration of the handrail;
- ◆ The sign was in poor condition and had a number of cracks throughout its length. A similar sign on the opposite side of the crane appeared to be in good condition.

The company involved has removed similarly installed signs from other cranes.

3 Emergency Release of Anchor Winches by means of Stored Energy

We have received the attached safety announcement from the Norwegian Maritime Directorate.

4 Leg Injuries

The following three incidents involving leg injuries have been reported by one of our members:

4.1 Knee Injury

A rigger was working on the aft deck of the member's vessel when rolling action of the ship caused him to lose his balance and trip over the support bracket for an umbilical roller guide. He fell heavily to the steel deck and landed on a raised steel pad (doubler pad) striking and subsequently severely injuring his left knee.

The conclusion of the onboard investigation was:

- ◆ Timber deckboards associated with the area had been removed from the deck to facilitate mobilisation requirements, i.e. the additional roller guide and umbilical reel on the aft deck. Because of this removal, all strong points (doubler plates) stood some 10cm 'proud' of the deck;
- ◆ Whilst lighting around the aft deck area was not particularly good it is unlikely that it directly contributed to the injury as the rigger stumbled into the obstruction due to ship motion.

The company involved has initiated the following actions:

- ◆ Most timber deckboards have been reinstated, no strong points protrude above the top of the timber deck;
- ◆ Lighting has been improved around the aft deck areas;
- ◆ Additional slip, trip and falls talk has been given to personnel onboard and the issue will be re-iterated at subsequent vessel safety meetings.

4.2 Ankle Injury

A diver working on deck was unloading the bell trunk of diving equipment on one of our members' vessels. He stepped from the bell trolley to an H-beam but slipped off causing him to go over on his ankle severely spraining it. The H beam was wet and slippery, possibly due to the wet gear which he was carrying, but the non-slip pads on the beam were, in any case, clogged with grime and were worn.

The pads were immediately replaced by a coarser grade of non-slip pad more suitable to the environment.

4.3 Ankle Injury

A sub-contracted inspection engineer was joining one of the member's vessels. He had come on board to report in and was returning to his car, when he tripped on a padeye close to the gangplank causing him to go over on his ankle. He was treated for a bad sprain at the local hospital (after checks were made by X-ray) and subsequently given light duties. Two days later his ankle was getting increasingly painful and there was also some swelling. He returned to hospital and a second X-ray showed that a bone was broken below the ankle. His ankle was put in plaster.

The investigation concluded that:

- ◆ The deck had been painted dark green recently and the pad eyes close to the gangplank area had not yet been highlighted in yellow, as was common practice onboard.
- ◆ The ropes to attach the gangplank had not been attached to the gangplank and therefore again the padeyes had not been noticed.
- ◆ The injured person had only arrived on board and was unfamiliar with the ship and had not had his safety induction highlighting such issues

The member company has initiated the following actions:

- ◆ The two padeyes were immediately painted yellow to highlight their position.
- ◆ Later the padeyes were relocated to a position closer to the handrail where they would not be a trip hazard
- ◆ The injury served to remind personnel onboard of the need to be vigilant during housekeeping walks to notice hazards and take corrective actions immediately. The master has been actioned to ensure these area inspections take place on a fixed frequency.

The member involved has noted that all three of these trip injuries could be attributed to poor housekeeping and lack of vigilance in reporting unsafe conditions. The company has identified the following steps that can be taken to avoid such accidents:

- ◆ Use of handrails when descending stairs;
- ◆ Ensuring lighting is adequate;
- ◆ Ensuring that oily patches or other spills are cleaned up immediately;
- ◆ Ensuring there are no obstructions in walkways;
- ◆ Ensuring vision is not obstructed or your balance is upset because of carrying items;
- ◆ Ensuring wearing of correct safety footwear;
- ◆ Remaining vigilant to everyday unsafe conditions.

5 Workshop Finger Injury

A member has reported the following incident. A senior mechanical technician was involved in bleeding a hydraulic hose connected between an A-frame and a pump unit. The coupling was loosened such as to allow the air to be vented from it. When the hydraulic fluid started to be ejected from the coupling which he was holding, and although he knew that the fluid could also emerge under pressure from a bleed hole on the side of the fitting, he somehow allowed his finger to come into contact with the fluid under pressure. His finger was subsequently injured which required hospital treatment.

The investigation conducted by the company's workshop HSE advisor identified the following causes:

- ◆ The procedure and risk assessment for this task was generic and did not address the specific issue;
- ◆ There were no controls in place in the workshop for this type of activity.

As a result the following actions have been taken by the company involved:

- ◆ An instruction has been issued to workshop personnel to ensure that hoses being bled are not handled but are mechanically restrained;
- ◆ Awareness sessions have been instigated to highlight the incident with the hydraulics personnel;
- ◆ Review of workshop risk assessments has been started to identify suitability and adequacy for the range of work being undertaken;

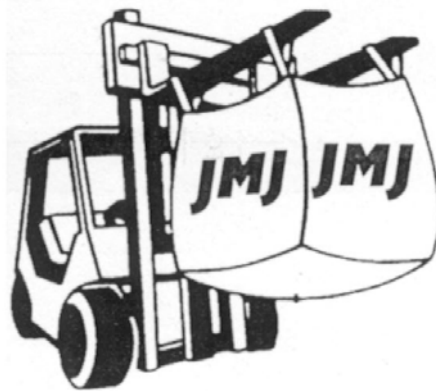
- ◆ Senior Mech. Technician, Workshop Manager and Electrical Supervisor are tasked to identify and develop procedures to control this type of activity in the future.

This issue again shows how a momentary lapse in concentration can lead to injury but also highlighted the need for more rigorous controls on such activities.

6 Failure of Bulk Loading Bag

Single trip tote bags are commonly used in the onshore construction industry for delivering quantities of building materials such as sand. Because of the convenience, they have been adopted in subsea construction operations for delivering a quantity of sand bags, for example, to the seabed. While one of our members' vessels was mobilising, such a bulk loading bag failed causing the sand-bags which it was carrying, to drop onto the quayside. Nobody was hurt but the near miss incident highlighted that the practice of slinging these bags and the quantity of material which they are carrying, needed to be better controlled.

The bags are designed to be carried by a fork lift truck using the forks themselves to hold two sides of the bag as in the sketch below. Whilst this is not feasible for the member vessel's operations, the preferred solution is that the bag should be supported from a rigid cross frame or similar such that each corner is slung vertically. Alternatively, some bag suppliers may allow the bag to be slung by a four leg sling but the length of the sling must be sufficiently long to minimise the effect of the corners moving towards each other. (Sling leg lengths in excess of 3 metres, have been stated by one supplier).



The member involved issued the following instructions to its vessels, in particular where such bags are being supplied by projects, customers or third parties:

- ◆ A suitable designed and certified lifting arrangement should also be supplied, so that the load can be applied equally at each corner of the bulk handling bag;
- ◆ The Safe Working Load (SWL) of the bag should be clearly identified and personnel instructed as to how much material this equates to (for example number of sandbags) as very often a 1te load will not even register on the larger cranes' indicators;
- ◆ The quantity of material loaded should take into account the dynamic loading caused by high accelerations of cranes working at sea and it should be noted that wet sand is very much heavier than dry material.

7 Battery Failure on Lifejacket Light

One of our members has reported that on one of their vessels they found that the battery to the lifejacket had swelled out, resulting in a ruptured battery. The maker of the battery is McMurdo and the expiry date was January 2002. Below is a picture of the ruptured battery.



When the member alerted its other vessels to this failure, another vessel reported that on checking its lifejackets, two lifejacket lights were found in a similar condition to that above. The expiry dates for their batteries were August 2001 and May 2003.

The member is now in discussions with the manufacturer on this issue.



Receivers of Announcement:

- NMD: Norwegian Maritime Directorate
- O: Owners / platform managers / operators
- Other: DNV | LR Norway | Norwegian Petroleum Directorate
| Norwegian Shipowners' Association |

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Emergency release of anchor winches by means of stored energy

Background

The Norwegian Maritime Directorate's Regulations of 4 September 1987 No. 857 concerning anchoring/positioning systems on mobile offshore units, § 6.2.5 states that anchor winch brakes shall be able to be released by means of stored energy within 15 seconds.

When tested on board a mobile offshore unit, the emergency release of anchor winch brakes by means of stored energy did not function.

In this actual case stored energy is supplied from a hydraulic accumulator, which is pressurised by an internal nitrogen balloon and by an external hydraulic pump. The hydraulic pump keeps the pressure inside the accumulator automatically on a 'set-point'.

Cause

The reason causing malfunctioning was a leaking nitrogen balloon. If the nitrogen balloon is empty, the accumulator will not function appropriate and it will not be possible to release the anchor winch brakes by means of stored energy.

It appeared that only the pressure inside the hydraulic accumulator had been monitored, but not the nitrogen pressure inside the balloon. Because the hydraulic pump kept the pressure inside the accumulator unchanged, it seemed that the system was in order.

Action

The NMD recommends that Owners who have this type of emergency release system should control the content of nitrogen balloons. Additionally, it is recommended that routines for regular control and maintenance of emergency release systems according to supplier's instructions are included in the unit's maintenance system. We would also like to remind that requirements for annual testing and control of anchor winches are given in § 7.3.

Yours faithfully

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On behalf of the Director General
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