# IMCA Safety Flash 02/08

February 2008

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 Finger Injury Whilst Casting Off Towing Line

A member has reported an incident in which a crew member sustained a finger injury whilst trying to cast off a towing line. The crew member was asked to cast the line off from a bollard on the forecastle deck of the vessel. The towing line was slackened sufficiently to allow the line to be removed from the bollard. When the crew person tried to lift the eye of the towing line, a sudden high swell pushed the vessel astern and the tow line came under tension. The fingers of the crew person's left hand were trapped between the towing line and the bollard. The master responded immediately and caused the vessel to move ahead, causing the towing line tension to be released and releasing the trapped hand. The crew person suffered the loss of the middle finger nail and slight swelling on two fingers and was given first aid.

The following lessons were drawn from the incident:

- Weather and sea conditions should be taken into account when undertaking a risk assessment;
- Good seamanship techniques should be followed: in this case the warping drum could have been used to take off the tension from the towing line. If a warping drum is not available for use then rope/chain stoppers should always be used while casting off mooring lines and towing lines.

*Mooring rope and bollard* *Injured finger*

## 2 Serious Hand Injury

A member has reported an incident in which a rigging foreman sustained a serious hand injury during operations to recover two redundant 4" diameter rigid steel pipelines of around 16km in length, together with a power and communications umbilical. The two 4" pipes and umbilical were being recovered over the stern of the vessel and pulled up the deck with a tugger winch in order to cut them into 10m sections for transfer ashore and disposal. The process involved securing the pipes/umbilical bundle in a clamp at the stern of the vessel and cutting the bundle with a hydraulic cutter further up the deck. A chain stopper was then secured around the bundle just aft of the cutter in order to pull the bundle a further 10m up the deck for the next cut. This was a repetitive, continuous operation scheduled to take three to four weeks with two rigging crews working 12-hour shifts.

The injuries were sustained less than two days before the completion of this recovery operation. The injured person was preparing to fit the chain stopper immediately after a cut and was rearranging the two 4" pipes and umbilical into a triangular configuration to ensure the chain stopper would not slip. During this process, residual tension in the pipes caused one to spring against the other. The injured person's hand was crushed between the two pipes resulting in partial amputation of two fingers.

Investigation revealed a number of failures, particularly with reference to routine or repetitive tasks, and identified a number of *questions* that project and vessel management teams could ask themselves.

- There was a lack of defined process:

  A procedure and risk assessment for the recovery operation was prepared onshore. However, during the course of the work (five weeks) various changes were allowed to creep in without recognition or challenge – something that is not uncommon with routine and repetitive work. The actual work processes were no longer being defined by the procedure, nor, as a consequence, by the risk assessment.

  - How does your team ensure that work is always conducted to an up-to-date and risk assessed procedure?
  - Are all supervisory staff conscious of the tendency for routine and repetitive tasks to creep away from original procedures and risk assessments? How do you check?
  - Do toolbox talks routinely involve using the procedure and the risk assessment to ensure personnel are familiar with the planned process, its hazards and consequent safety controls?

- There was a failure to apply the management of change process:

  The management of change process was not applied to changes in equipment, process or operational conditions. As a result, procedures were not updated and the changes were not subjected to risk assessment.

  - Is your team applying the management of change process correctly?
  - Are all key personnel familiar with the circumstances in which management of change must be applied?
  - Have any changes crept into routine processes that haven't been subjected to management of change, and therefore risk assessment?

- There was a lack of adequate supervisory control:

  The management team on the vessel did not ensure that the work was completed to an approved and risk assessed process. Differing approaches developed within each shift.

Much of the work conducted by IMCA members is routine and repetitive work and potentially hazardous. A key lesson to be learnt is the need for constant vigilance for actual practice creeping away from intended practice. When procedures are no longer followed accurately, control of work can be lost, resulting in a loss of assurance that work is being conducted safely.

## 3 Use of Spelter Sockets

A member has reported an incident onboard one of its vessels that has highlighted a potential safety issue for other IMCA members regarding the use of a particular type of open spelter sockets as wire rope terminations (plain load pin with split cotter pin type).

The incident occurred onboard a dive support vessel when the diving bell guide weight became detached from one of the wire rope guides at the termination end. As a result the vessel was unable to recover the guide weight without ROV subsea intervention.

The termination employed to connect the wire rope to the guide weight was an open jaw spelter socket fitted with plain load pin c/w split cotter pin which interfaced with the master link and a combination of shackles to a pad eye on the guide weight.

Following investigation, these points were noted:

- The disconnection occurred between the spelter socket and the master link and the spelter socket load pin was secured in position by the use of a split cotter pin only;
- It is not known how the spelter socket load pin became detached from the body of the socket. However, galvanic corrosion of the split cotter pin, incorrect fitting of the split cotter pin or side impact to the spelter socket load pin could have contributed to the failure. British Standard BS 463 states that the use of a "plain pin with split cotter pin" is an "acceptable wire rope termination", although this type of termination may not have been suitable for the purpose for which it was being employed;
- Open spelter sockets with 'plain load pins' are more suited to static connections. However, where it is necessary to make/break connections more frequently then closed spelter sockets should be used with an interfacing shackle, as these lifting accessories are commonplace and easy to change out or replace.

*Actual rigging setup in use at time of incident*

The following actions were recommended:

- Companies are encouraged to assess their use of spelter sockets and where possible use the closed type and suitable interface shackle;
- Where open spelter sockets must be used their suitability for the task should be assessed. If the spelter socket is to be used in a subsea lifting arrangement or experience any side impact (however minor) then the 'screwed load pin with nut and split cotter pin' securing type should be used.

## 4 Lift Bags Broke Free

A member has reported an incident in which lift bags broke free. Two ten-ton airbags had been deflated at the seabed in preparation for being lifted onboard the vessel. During recovery, the airbags broke free while taken through the splashzone. The vessel crew tried to keep visual contact with the air bags when on surface and move the vessel away from them but the air bags disappeared under the vessel and were assumed to have sunk to seabed. Two days later, during transit, the vessel crew saw that a thruster was experiencing increased power consumption and reduced revolutions. An ROV confirmed that one of the lost lift bags was caught in the thruster. The vessel went to port for further investigation and, as a result of an oil leakage in the thruster, had to be docked for repair.

Investigation revealed that the points used for lifting the bags were not appropriate certified lifting points but only user handling points. Subsequent tests demonstrated that these user handling points were insufficiently strong to carry the weight of the lift bag.

The company has made the following suggestions:

- Only use appropriate lifting points, do not use unidentified lifting points.
- Lifting points on lift bags should be clearly marked. Suppliers should be made aware of this requirement.
- Remove or stitch together the man-handling strops, to prevent the possibility of mistakenly using these for lifting the bag during installation and recovery.


*Lifting bag similar to that involved in incident*