IMCA Safety Flash 01/14

January 2014

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.

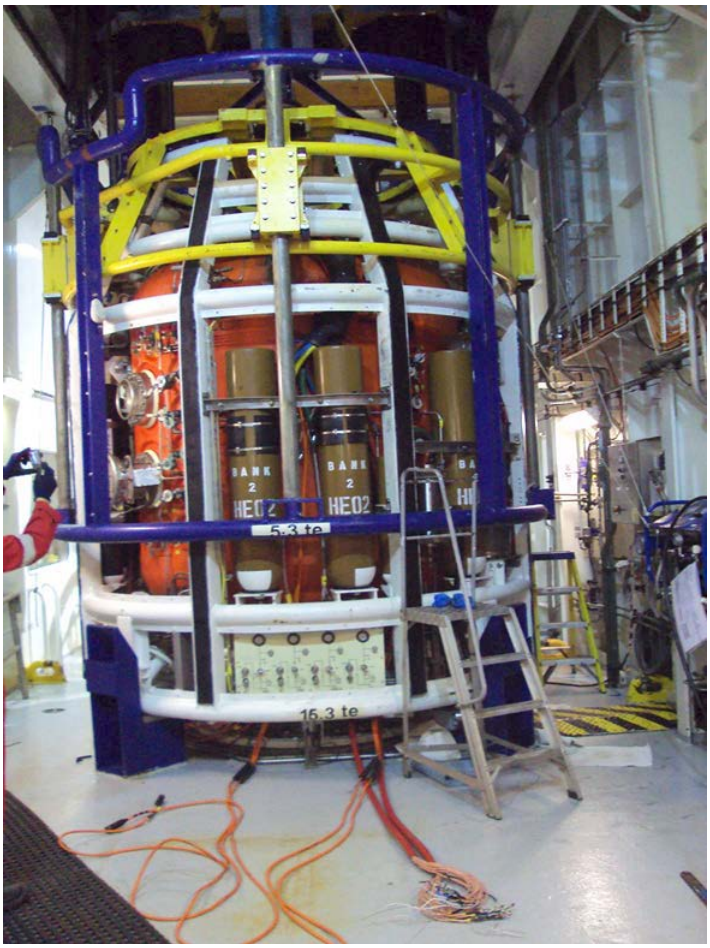
The effectiveness of the IMCA safety flash system depends on receiving reports from members in order to pass on information and avoid repeat incidents. Please consider adding the IMCA secretariat (imca@imca-int.com) to your internal distribution list for safety alerts and/or manually submitting information 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 Uncontrolled Descent of Diving Bell

A member has reported an incident which occurred whilst conducting diving operations from a diving support vessel (DSV). The incident did not lead to any injury or health consequences, but could potentially have been fatal.

As the diving bell was being lowered into the moonpool, two uncontrolled descents were experienced. During the second uncontrolled descent, the bell's umbilical was damaged leading to a loss of bell pressure. Investigations have shown that the system had been placed in an unsafe condition following operator error and that the programmable logic controller (PLC) had failed to safeguard against these errors. Several layers of additional barriers and backups constrained the actual consequences of the incident to material damage only.



The investigation revealed the following:

- The implications of introducing PLC technology in to the diving industry may not have been fully understood, and the related roles, responsibilities and competencies of both the technical and operational personnel were not sufficiently clarified;
- Although the risk management documentation was advanced for a DSV, there was evidence that it lacked continuity and integrity – operator error was not considered;

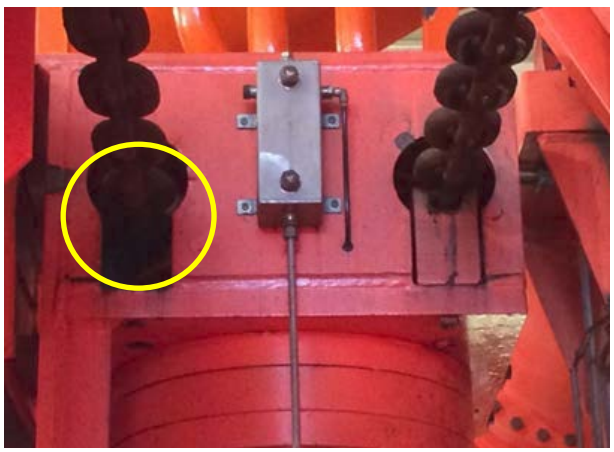
- Emergency response to reasonably foreseeable hazardous conditions was not sufficiently defined; for the most effective use, the ergonomic layout, checklists, training and drills requires optimisation. Emergency related processes were not audited for effectiveness or for feedback to improve the related technical, procedural or competency systems;
- There was insufficient supervisory understanding of both the bell launch and recovery control system. A lack of situational awareness was needed to understand and control the human and equipment response to a complex and hazardous situation;
- During the development or construction phases, the bell launch control systems were not assigned a SIL rating and consequently, lacked the correct level of safety scrutiny as that given to other, more highly rated, systems;
- The investigation team identified a number of deviations under various disciplines that the member's audit and compliance organisations had failed to detect.

Members' attention is drawn to the IMCA document AODC 009 *Emergency Isolation of Gas Circuits in the Event of a Ruptured Bell Umbilical*

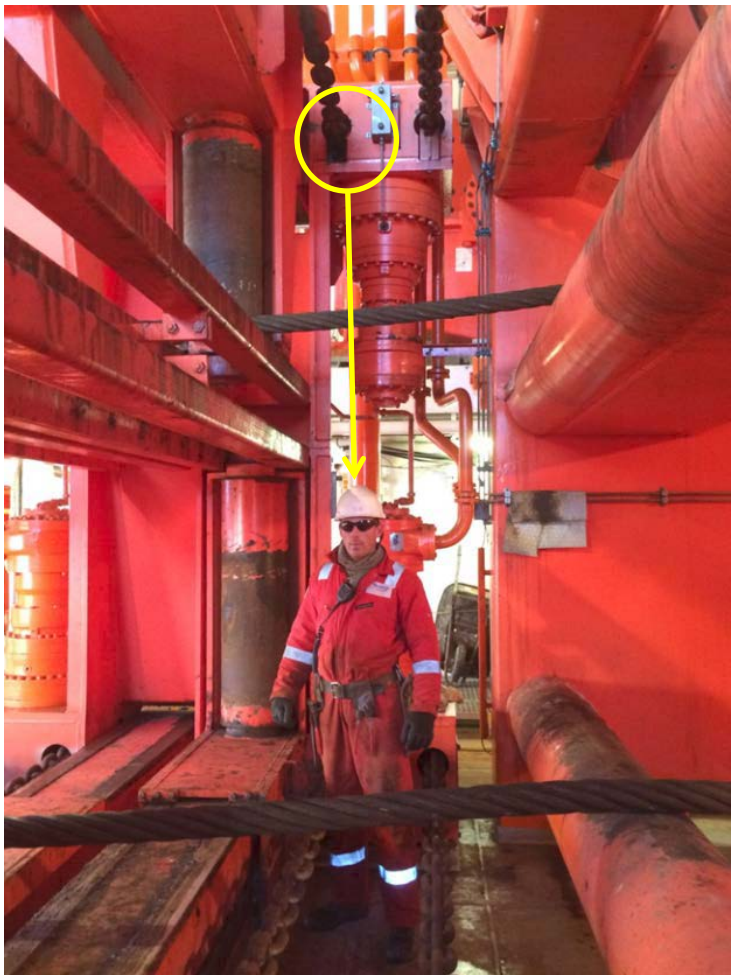
2 High Potential Dropped Object – Rigger Struck by Falling Object

A member has reported an incident in which a crew member was struck by a falling object. The incident occurred during the recovery of a subsea plough; whilst spooling a 200m pennant onto the storage pocket of an anchor handling winch. The chain guide weighing 21kg dropped a distance of approximately 2m from the starboard chain motor area and struck a member of crew on the skip of his hard hat. It glanced off the front of the hat onto his chest and landed on the vessel deck. The person's hard hat was dislodged and he suffered superficial injuries.

Chain guide



(L) missing chain guide (R) Chain guide in original location



Position of the injured person and the place from which object fell

Our member's investigation revealed the following:

- The steel chain guide was part of the spooling mechanism (see photographs) and fell to the deck along with two sheared securing bolts;

- One of the two bolts appeared to have fractured this and had the potential to cause misalignment of the chain guide, during normal operations. This misalignment appears to have caused the chain guide to catch on the chain, causing it to shear the second bolt and thus fall off;
- The injured person should not have been in the area during this operation;
- Using the "DROPS Calculator" as a benchmark in the classification of the potential consequences of a dropped object, the outcome of this incident could have been a fatality.

Our member drew the following conclusions:

- Access to hazardous areas should be properly controlled through effective planning, procedural controls and risk assessment of tasks;
- The crew should maintain a continued focus on situational awareness and hazard perception in what may be considered 'routine' operations.

The following actions were taken:

- The worksite was made secure, and other securing bolts within the winch house area were checked;
- Planning and procedural control of tasks should consider the position of personnel and potential dangers as part of procedure development;
- Vessel and onshore management to reiterate the need for personnel to remain clear of hazardous areas and equipment;
- Ensure access points to all hazardous areas and equipment have adequate barriers and signage.

The following resources may also be of use to members:

- IMCA SPC 12 *Avoiding Dropped Objects*
- IMCA SPP 04 *Avoiding Dropped Objects*
- DROPS On-line - www.dropsonline.org

3 Poor Cargo Stowage: Material Damage on Container

A member has reported an incident in which a freight container was delivered offshore with damaged internal contents, owing to poor stowage. When the doors of the container were opened, there was a strong smell of paint. It was discovered that heavy pipes had been loaded into the container but had not been stowed properly or lashed down. The pipes had moved during transit and had crushed part of the other cargo, including a number of cans of paint and some welding consumables.

Photograph: showing inside of freight container and damaged cargo.

Our member notes that this is a good example of the need for proper stowage and lashing. Cargo in a freight container that is not lashed down properly can easily shift during transit and damage itself or other cargo. In this example it is cans of paint, but it could easily cause a much more serious hazard of dropped or falling objects when the doors are opened, as well as a potential spill to the environment.

4 First Aid Injury: deep cut to forearm

A member has reported an incident in which a crewman was struck and injured by an out-of-control rotating handle. The incident occurred on a small vessel during the deployment of a stand-alone echosounder. This required the use of an over the side pole to deploy the echo sounder. The crewman was lowering the echosounder pole by means of a small winch when the handle slipped from his grasp and started to rotate quickly. As he tried to grab the handle to regain control over the winch, the edge of the handle struck his forearm causing a deep cut which subsequently required seven stitches.

Photographs showing pole and winch

Our member's investigation revealed the following:

- The requirement for an over the side pole arose due to a necessary change of vessel, only one week before mobilisation;
- There was no detailed specification in place for the required pole and winch mechanism;
- Responsibilities for the design, manufacture, installation and acceptance of the pole and winch were not clearly allocated;
- The installed winch was not suitable as it had no safety mechanism to prevent free fall when lowering;
- This hazard was not identified, as existing robust risk management procedures were not followed.

Our member drew the following lessons:

- Clear responsibilities should be defined to ensure all tasks are controlled and executed in a safe manner;
- Formal specifications for equipment should be provided to ensure that the installed equipment meets that specification. Failure to do this means there is no baseline to permit a user to determine if change management is required;
- Failure to comply with existing robust procedures can allow hazards to go undocumented;
- Handovers at shift and crew changes should be thorough, formally documented and cover all potential issues. Failure to do this can result in essential information and knowledge not being passed on.

Our member took the following corrective actions:

- Standard specifications were developed and distributed for this form of over the side pole and winch mechanism;
- Written instructions to be provided to project managers and field crew covering;
  - Requirement for completion of task risk assessment and any associated method statements before project mobilisation
  - Need for clear understanding and documentation of responsibilities associated with projects
  - Involvement in pre-project meetings, hazard id and risk assessment (HIRA) and kick-off meetings
  - Requirement for formal documented project briefing for operational personnel
  - Requirement for better formal documentation of project communications
  - Requirement for adherence to management of change process
  - Requirement for formal documented handovers when personnel changed out
  - Requirement to stop the job in the event of an unsafe condition.