

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 Topic Working with Tubulars – Incident Report

Keywords: *Lifting*

While carrying out backloading operations at a rig, a crewman suffered a lost time injury. The operation being carried out at the time was the movement of tubulars to make room for an extra 50ft basket. There were a number of learning points, which came out of the inquiry into this incident, which if instigated should prevent a recurrence of this type of incident.

1. No backload list had been supplied to the vessel to allow a loading plan to be produced before backloading commenced. The basket was also an additional item, which was only prepared for backloading after the original backloading was complete.

This was an incident that occurred in the UK sector. The company notes that the preparation of a deck plan prior to loading is a requirement under the UK Code of Safe Working Practices for Merchant Seamen. It is also recommended that vessels are included in any work planning discussions that involve the use of the vessel.

2. This was the second time the tubulars had been moved during this voyage. The tubulars were in different size bundles and of differing lengths. There were not enough tubulars to make use of the pipe stanchions viable.

The United Kingdom Offshore Operators Association (UKOOA) Guidelines on Safe Handling and Packaging recommends that small tubulars be transported in racks.

3. Inadequate risk assessments were carried out onboard the vessel when the task changed from a standard lifting process. The strops of one of the tubulars being moved were trapped and therefore the crane hooks were put through a bight on the strops to try and free them. Also when one of the strops failed to come free and it was decided just to straighten up the stow of that tubular, there was no reassessment. There were job discussions as to what to do (i.e. toolbox talks), but these did not include a discussion on the associated risks.

Tasks should be re-risk assessed any time the job changes.

4. At no time did anyone call a 'time out for safety' when the operation changed. Also nobody stopped the crewman going into danger when they saw him. (Crewman was seen to walk on the unsecured tubulars to grab hold of the for'd crane hook, instead of waiting for the hook to come to him).

All crew were aware of their 'stop work' authority, but did not exercise it when it was important to do so.

5. The crew of the vessel knew that the statutory procedures for backloading were not being followed, but saw the process as 'common practice' when working rigs. The company stated that during the investigation a comment that was made quite a few times regarding working on a rig was that "you never know what you are going to backload until it is on the hook," thus there still seems to be acceptance of 'common practice,' which is not always 'best practice'.
6. There was a general acceptance both on the vessel and the installation that non-compliance with the UKOOA PSV and Packing guidelines was accepted.

The company notes that all companies have accepted the need for common guidelines and practices and that Masters should be encouraged to challenge installations which are not complying and vice versa.

2 Airline Coupling Failure

Keyword: Hoses

We have received the following report of an incident which occurred during internal cleaning operations in a produced water de-gasser which was being undertaken by two contract cleaners. This vessel had been open for over a week and forced extraction was in place to ensure that fresh air was being drawn in. In line with normal operating procedures the two cleaners were working under air from a breathing apparatus air line unit fed from a breathing apparatus compressor. During the operation a coupling on the air line parted, terminating the primary source of air supply. The problem was immediately recognised by the vessel entry control personnel and both cleaners immediately opened the air supply from their personal secondary supply and withdrew from the vessel to a place of safety.

The inventory of breathing apparatus (BA) air hoses was collected together for inspection and on cursory inspection the male and female connections looked identical on all hoses. The inspection data, certificates and equipment register also did not indicate any difference between the types of hose.

However, on closer inspection the male fitting indicated a slight difference (see below) which appears to prevent satisfactory connection with the female fitting. The pictures below indicate the difference in the appearance of the made up joints. Both joints hold when tested by hand on initial set up, but the dissimilar tubing fitting is not secure if the tubing is flexed, indicating it does not make a tight/locked connection on the make up.



Both 'male' connectors. Both 'female' connections look identical superficially.

Groove present on this one but not obvious on a cursory examination.



Black 'male' connection to blue 'female' connection. This combination is the only one that would not seat correctly.

Note the gap. NB some pressure is being exerted to push the connection together.



Blue 'male' connection to blue 'female' connection.

A tight connection. No pressure.

The following key lessons have been noted:

- ◆ Male connections were not stabbing fully into the female connection because of the slight differences in the design of the male connectors;
- ◆ Back up air systems worked correctly;
- ◆ Safety procedures were complied with.

The company involved has made the following recommendations:

- ◆ A system is to be put in place to record that equipment has been fully checked each day before being used on a worksite, to include a supervisor's signature;
- ◆ The contractor is to establish how it was that it was supplied with hoses with 'mixed' fittings with the project equipment;
- ◆ A new set of compatible hoses has been requested of the contractor.

3 Internal Explosion within 12V Forklift Battery

Keyword: Battery

A forklift battery was found to be flat and it was changed out with a replacement that was held onboard and tested per procedures, the forklift was also function tested and all were working satisfactorily. The following morning the pre-start up checks on the forklift were carried out, and no problems were identified. The forklift operator then attempted to start the engine. As he did this he heard a loud noise from behind him, he immediately switched off the engine, and turned to see vapour and electrolyte spilling from the battery compartment. The spill was contained, and the electrician was called to make the area safe by disconnecting the battery. The battery was found to have a ruptured cell and was returned to the supplier to determine the cause of the failure. The battery was a 12 volt, sealed, lead acid type.

On inspection it was found that the cell plates within the battery had sulphated and dried, the mud space was also found to be full, which is a natural process with age and this combination had led to an internal explosion. The failure occurred inside the battery enclosure, which protected personnel from flying battery case particles and electrolyte. The electrolyte that spilled had drained from two holes in the base of the battery compartment.

The company involved has made the following recommendations:

- ◆ Change out all batteries of sealed lead acid type annually.
- ◆ Future permits to work (PTW) and maintenance procedures should take this incident into consideration, if jump starting or fault diagnosis is carried out with the battery exposed.

4 Fire Inside Falcom Steamer

Keyword: Fire

We have received a report of an incident which began when a night cook baker, returning to the galley after his break, smelt burning. He then noticed that there was smoke coming from the top of the steamer. He then informed the facilities manager, who accompanied the baker to the galley to investigate. The manager slowly opened the steamer door and could see that the elements on the base of the steamer were glowing red. A fire then ignited. The manager immediately closed the door to contain the fire within the stainless steel unit and then switched off the power from the main control panel. The fire was extinguished by starving it from oxygen. The OIM was informed immediately and assessed that the machine was made safe and an investigation would be completed.

Investigation showed that there was a blockage in the pipe that feeds the water into tank and unit. There was no system that warned of lack of water to the unit and no fail-safe, e.g. the thermostat cut-off to the elements.

The company's subsequent recommendations were as follows:

- ◆ A daily visual check to be made to ensure water is flowing freely to the units.
- ◆ Contact manufacturers to enquire if a fail-safe device could be installed within this unit.

5 Follow-Up to Toxic Gas Emission from Transponder (Lithium Batteries)

Keywords: Batteries

Further to the information provided in safety flash 01/03, Kongsberg Simrad has now updated its transponder safety information. This can be found at www.kongsberg-simrad.com by following 'Products', 'Transponders' then 'Battery Safety'.

Users of alternative systems are advised to contact their own suppliers for product-specific information.

6 Loss of Mooring Chain to FPSO

Keywords: Winch

A planned routine maintenance operation was in progress, to individually move each of eight anchor chains, to a pre-arranged plan, to ensure that the chain links were not subject to wear and fatigue at the same points over the life of the mooring chain. This operation had been repeated successfully on an annual basis for the four previous years.

The linear tensioner assembly equipment was pressured up to allow for the stowing of two links of chain for tensioner number 5. The chain was lifted by energising the rams to raise the chain gripper and the chain stopper was opened. When the rams reached their full extent, the operator tried to close the chain stopper, to engage the chain in its new position. The chain stopper would not fully engage.

The rams were lowered back to the start position and a second attempt was made. Once again, the chain stopper could not be engaged, due to an incorrect chain position (i.e. they tried to close on the side of the link, rather than on the shoulder of the link).

After the second failed attempt, the operator made the decision to lower the rams to stow the chain in its original position and report the problem. As the rams were being lowered, the operator heard a loud noise, realised there was a major problem and abandoned the immediate worksite. The failure of the equipment assembly resulted in the gypsy wheel being torn from the deckhead. The upper assembly sheared off of the rams and the chain grippers sheared their retaining bolts, allowing the chain to fall freely and pay out of the locker. The bitter end shackle pin broke in the chain locker and the chain paid out to the seabed.

As a result of a lengthy investigation, including the company involved and the equipment manufacturer, the follow lessons learned have been noted:

- ◆ The size variation of the individual chain links had had a major impact on the (re)design of chain tensioning equipment, which had not been fully understood or taken into account in the original design. This had had a significant impact on both the chain gypsy wheel design and the chain gripping arrangement;
- ◆ Changes made during the design stages had not been fully evaluated for their effect on the installed equipment, resulting in the need to redesign and change out the gypsy wheel and to extend the full hydraulic ram lifting movement, which was insufficient to allow for the tolerances on the mooring chain and correct engagement of the stoppers at certain points in the chain;
- ◆ The angle of engagement between the mooring chain and the upper grippers during the chain moving operation was critical. If there was an increased angle, there was the potential for the chain weight to force open the upper grippers.

The company involved has made the following recommendations:

- ◆ The gypsy wheel and its support structure are to be redesigned, to ensure that bearing and chain snagging are eliminated. The planned maintenance regime will be redeveloped, to ensure the necessary maintenance tasks are carried out;
- ◆ The tensioner assembly is to be modified to lock chain grippers and stoppers in place hydraulically, to ensure correct alignment and to prevent movement and chain release due to chain loading;
- ◆ A modification will be made to increase the ram travel distance, to ensure that correct stopper engagement can be achieved when a chain is lifted, taking into account chain link tolerances and variations;
- ◆ A remote control device is to be fitted, to allow the operator to be well clear of the equipment when chain movement operations take place.

7 Filtration Materials

Keywords: Breathing Air Compressors

Please see the attached safety notice from Divex regarding filter materials for use in breathing air compressors.



DIVEX SAFETY NOTICE

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Safety Notice No. DVX001/2003
Filtration Materials
Breathing Air Compressors

Please be advised that from the date of this letter Divex Limited will no longer supply loose filter materials to enable customers to re-fill filter cartridges for use in high pressure breathing air compressors.

It has long been the policy of our principals, Bauer Kompressoren, that only factory supplied and sealed filter cartridges should be used in their breathing air compressors.

These cartridges were never designed to be opened and re-filled by operators.

We are aware that some users operating in remote areas have been carrying out this procedure in the interests of economy and logistics, but recent incidents involving other than factory supplied cartridges have highlighted the inherent danger of this practice.

We apologise for any inconvenience this may cause to our compressor operating customers but I am sure you will see the wisdom of our actions.

For and on behalf of Divex Limited,

SIGNED _____

G.Gilbert, for and on behalf of Divex Ltd.

DATED: 6th August 2003