IMCA Safety Flash 03/98

May 1998

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 Crane Wire Failure

A member has alerted IMCA of a failure of a crane wire during the recovery of an ROV. As the ROV was being swung inboard by the ROV system, the crane wire snapped just as the ROV was above the platform rail causing the ROV to hit the rail and fall inboard on its side.

Fortunately no-one was injured and no major damage was sustained by the ROV. The investigation has shown that the crane wire was weakened by the hook being drawn fully up into the sheave at the end of the crane, then the crane articulated sections operated in a manner that over stressed the wire. This caused it to weaken. The wire, outwardly, was in very good condition and had only been offshore in service for five weeks.

The contractor has issued the following instructions to its personnel as a result of the incident:

1. Keep all personnel well clear of loads being manoeuvred by lifting equipment.

2. Persons operating cranes or 'A' frames should ensure that enough 'slack' is maintained in a wire to allow for changes in the crane/ 'A' frame geometry.

3. If, by inspection of the ferrule on the hard eye of the crane wire, there is evidence of distortion or damage that could have been caused by pulling the hard eye into the crane end sheave, or it is known that the crane wire has been overstressed in the above manner, then the crane wire should be changed at the earliest opportunity.

2 Parted Green Pin Plate Lifting Clamps

An incident occurred during the loading of a plate girder (weight approximately 12 tonnes) onto a cargo barge. As the girder was being lowered two out of the four certified Green Pin Plate Clamps, type 6.0 EH, parted causing the plate girder to drop onto the deck.

No-one was injured and no further damage was sustained at the time of the incident. However, since certified lifting gear parted during apparently normal operations, an investigation was carried out into the nature and cause of the fracture of the lifting clamps.

The investigation concluded that the basic cause of the fractured Green Pin Plate Clamp was a brittle fracture initiated by micro-cracks in combination with a fragile design.

The contractor involved proposes to initiate the following actions:

1. Check the Safe Working Load for each single Green Pin Plate Clamp against the original certifications and Vendor's documentation.

2. Dismantle the Green Pin Plate Clamp and inspect the knife plate (= cam) for micro-cracks by using an adequate NDT method prior to using this kind of clamp for lifting plates, plate girders, etc.

3 Fatal Accident Involving a Boom Crane

A recent incident has been reported to IMCA. The 350T/96m long boom of a derrick lay barge (DLB) 2500 short tonne revolving crane broke, crashed onto the deck, fell into the sea, dragging a lot of debris with it and killed a diver working on the sea bed.

The crane was stationary with its boom in a forward position over the DLB deck at an angle of 45°. There was no load on the main hoist which was in a secured rest position. The DLB was anchored on a northerly heading and the sea condition had two metre swells heading east.

The boom failure was caused by the side force due to the rolling movements which ruptured the coupling studs of the boom foot bearings.

It is believed that the incident could have been avoided by adherence to good maintenance/inspections, working practices and to the operating limits of the crane.

4 FPSO Experienced Loss of Stability Whilst Discharging Cargo

During a cargo transfer to a shuttle tanker, an FPSO suffered a loss of stability such that the vessel's metacentric height was reduced well below that required by the installation's classification society approved loading manual. This was due to excessive free surface effect. The main cause of the incident was found to have been caused by failure of the remote tank gauging system. This led the control room operator incorrectly to assume the tank was empty. Following the incident the FPSO operator has elected to review its management procedures.

5 Electrical Installation Onboard Ships

A contractor member has reported that they have experienced a number of potentially serious incidents involving electric shocks to personnel working on what was thought to be isolated electrical machinery onboard their vessels.

At least one of these incidents was caused by failure to isolate supply properly (two separate supplies from two different switchboards to the same machinery). It appears that in this case there may have been unrecorded modification to the electrical system some 10 years ago.

The member has elected to check their vessel electrical systems and to ensure that all drawings of these systems are up to date and in accordance with appropriate rules/safe practice.