

IMCA Safety Flash 12/18

June 2018

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 info@imca-int.com

Any actions, lessons learnt, recommendations and suggestions in IMCA safety flashes are generated by the submitting organisation. IMCA safety flashes provide, in good faith, safety information for the benefit of members and do not necessarily constitute IMCA guidance, nor represent the official view of the Association or its members.

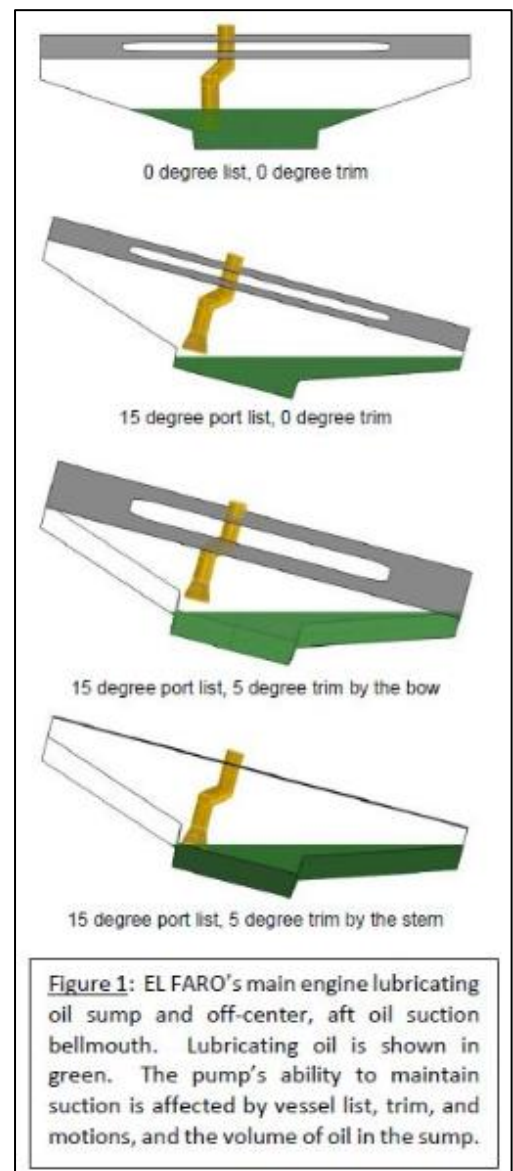
1 USCG: The Role of Main Propulsion Lube Oil System in the Loss of the *El Faro*

The United States Coast Guard (USCG) has distributed [Marine Safety Alert 04-18](#) “Compliance with SOLAS and USCG Regulations for Operation of Main Propulsion and Essential Auxiliary Machinery: Lessons Learned from the SS *El Faro* Casualty,” in order to inform operators of the role that the main propulsion lube oil system was found to have played in the *El Faro* casualty, in which 33 lives were lost. This alert also recommends that operators, especially ship engineers, review the operational procedures and limitations of vital propulsion machinery, and verify compliance with International Convention for the Safety of Life at Sea (SOLAS), Classification Society and regulatory standards.

The USCG Marine Board Report on the sinking of the *El Faro* revealed that the loss of propulsion during extremely heavy weather was a contributing factor to the sinking of the vessel. The exact operational status of all vital *El Faro* engineering equipment during the hours preceding the casualty could not be determined. However, bridge audio recordings indicated that the vessel lost lube oil pressure to the main propulsion turbine and reduction gear bearings, resulting in loss of propulsion. It is believed that the vessel’s substantial list, coupled with trim by the bow, caused the main engine lube oil pump to lose suction. A detailed modelling and static analysis of *El Faro*’s lube oil system determined that a severe inclination of the ship, coupled with a relatively low volume of oil in the sump, would likely result in a loss of pump suction.

Figure 1 shows examples (at a constant lube oil volume) of the position of the suction bellmouth relative to the level of lube oil in the sump in several heel and trim conditions. This static model does not attempt to address the sloshing of lube oil in the sump caused by vessel motions.

The USCG Alert 04-18 can be seen [here](#).



2 Helicopter Navigation Experienced Magnetic Interference

What happened?

On a normal (passenger) crew change flight in an AW169 helicopter, crew noticed a “1-2 AHRS FAIL” caution displayed in the crew alert system shortly after departure from the offshore installation. With this caution message, electronic helicopter heading information was completely lost.



Image: Wikipedia

What went wrong? What were the causes?

After disembarking, the passengers were asked if they had any ferrous or magnetic parts in their luggage, which was initially denied. After becoming aware of certain products possibly containing magnets, one of the passengers realized and admitted that he had two medium size stereo speakers in his luggage.

The cause of the instrument failure was found to be due to the presence of magnetic elements (speakers) in the luggage hold.

In bad weather conditions, navigation errors due to loss of orientation could have resulted in a far more serious outcome.

What actions were taken?

- ◆ The helicopter equipment involved in the occurrence was checked for damages and for correct function. No damage nor discrepancies were found; the helicopter was released for service;
- ◆ Check-in personnel now inform passengers that stereo speakers are not permitted on board helicopters;
- ◆ Check-in personnel make random checks of passengers' luggage (as approved by customer/passenger) for items not to be transported onboard helicopters;

What lessons were learned?

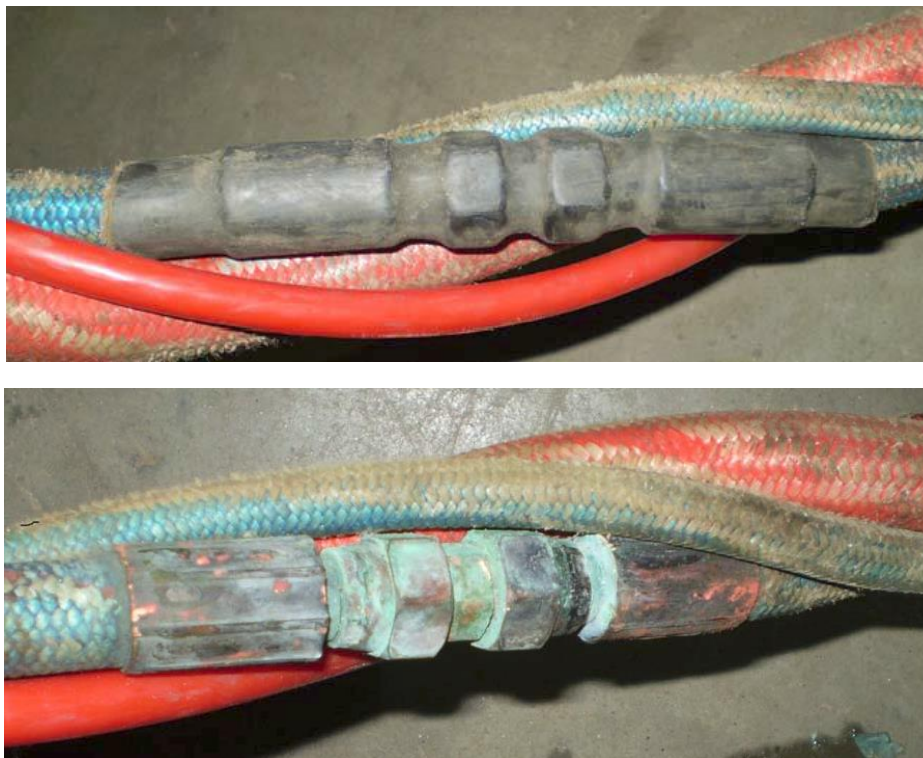
- ◆ There is poor awareness amongst helicopter passengers as to what could constitute hazardous goods; information on such potentially hazardous items needs to be made more readily available;
- ◆ Offshore facilities (helicopter departure lounges) are not displaying adequate lists or images of items which are not permitted on board helicopters; this needs to be addressed and rectified.

3 Unapproved Repair of Diver Gas Supply Umbilical

What happened?

A diver umbilical assembly was recently returned from a diving support vessel (DSV) to a shore-based workshop, as it was no longer required. During the demobilisation of the umbilical assembly, it was noted that there had been a repair carried out on the diver gas supply hose. Repairs to a diver gas supply umbilical are not considered good practice by our member and as a direct result the umbilical assembly was scrapped.

The non-reclaim umbilical was 80m long and had been in service for approximately 5 years; the repair was located approximately 5 meters from the umbilical end. The diver gas supply hose had a maximum working pressure of 1000psi. The joint was formed by standard umbilical end fittings with 6 JIC(F) swivels, connected by a 6 JIC(M) adaptor. The complete joint was then covered with a layer of black heat shrink:



Conclusion

Our member noted that potential existed to trap sea water within the repaired section of the umbilical, resulting in an increased corrosion rate to the fittings forming the joint. No evidence of the repair was found in the planned maintenance system (PMS). The failure of a diver umbilical could have potentially resulted in the loss of gas supply, activation of the secondary supply and the termination of the dive. The worst-case scenario, though unlikely, could have resulted in serious injury or death.

With this information now being circulated, it is hoped that all umbilical users will ensure that sufficient and correct information is made available to all applicable personnel. Our member noted that subject to maintaining diving operations, repairs such as this may take place, but only until a permanent fix is implemented and subject to the completion of a risk assessment and full management approval.

Members may wish to refer to the following incidents:

- ◆ [Near miss involving diver's neck dam](#) [root cause identified: **unauthorised maintenance**]
- ◆ [Two near misses: loads fell from height to deck](#) [investigation showed that **unapproved changes** had been made to the rigging. This was highlighted as a major contributing factor to the loads being dropped.]
- ◆ [Unauthorised modification to electrical plant equipment](#)

4 Accidental Drinking of Thinners Stored in Mineral Water Bottle

What happened?

A trainee ETO took a sip from a mineral water bottle in the engine room workshop. It contained thinners rather than water. The bottle was kept in the engine room workshop by third-party contractors. After taking a swallow, he realized that it was thinners & immediately spat out most of the contents.

He immediately drank salt water to induce vomiting in order to get any remaining thinner solution out of his system. The advice from the company doctor was that he consume plenty of fluids, eat light food and rest for a few days.

What went wrong? What were the causes?

- ◆ Initial investigation revealed that the third-party contractors working onboard had temporarily stored thinner in the mineral water bottle;
- ◆ The third-party contractors were inadequately briefed and behaved in an unsafe way – unsafe practice was used by the third-party contractors.



What actions were taken? What lessons learned were learned?

Crew and third-party contractors were reminded to only store chemicals in proper, appropriately marked containers. Crew were recommended to refrain from drinking water from shared bottles in common places, and to carry their own bottle.

IMCA notes that this was an entirely avoidable incident, but unfortunately a repeated scenario that other IMCA members have had to deal with in recent times. Members may wish to make a particular 'safety moment' of this incident and others of its type to prevent recurrence.



Members may wish to refer to the following similar incidents:

- ◆ [Unlabelled containers: chemicals stored in drinking water bottles](#) (February 2017)
- ◆ [Near miss: water bottles reused for fuel storage](#) (November 2017)

5 Rodent Caused Short Circuiting of 440V Bus Bar

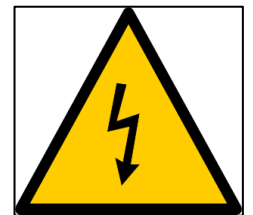
What happened?

A fire alarm was traced to the emergency generator room. A rodent had found its way into an emergency switchboard cabinet, causing a 440V short circuit, sparks and a foul smell. The board was isolated and the dead rat was removed.



What went wrong? What were the causes?

This appears to be an isolated incident wherein the rodent had come on board during port stay, and gained access to the emergency generator room when the door was opened during routine weekly testing. The vessel crew had not experienced the presence of rodents in recent months. There was no evidence (rat droppings) found anywhere on deck, in the accommodation or in the provision stores. All the doors to accommodation and hatches were kept closed at all times. Rat traps were in place at various locations.



What actions were taken? What lessons were learned?

- ◆ The vessel was thoroughly searched for rodents in accommodation, the stores and on the deck after the incident; nothing was found;
- ◆ Rat traps remained in place on deck and in accommodation and stores, and the baits renewed;
- ◆ During port stay, rat guards were to be used on moorings;
- ◆ During the loading of provisions/cargo, crew were to be extra vigilant for presence of rodents.

This incident appears to be unique in the IMCA safety flash database and for that reason is passed onto members.

6 Recent prosecutions by the UK HSE

The UK Health & Safety Executive (UK HSE) publishes regular press releases relating to safety incidents. These can be found on the [HSE website](#). IMCA monitors these publications and passes on brief information relating to some of these incidents, from which members may draw lessons.

Incident 1 – Worker crushed while unloading a vehicle

A worker suffered crush injuries while unloading a vehicle from a visiting delivery lorry. He was unchaining a vehicle ramp from a delivery lorry when the lorry moved forward with one chain still attached to the ramp, crushing the worker between the ramp and a barrier.

Investigation by the UK HSE found that there was:

- ◆ A failure to fully control the risks arising from the operation of vehicle loading and unloading ramps;
- ◆ There were no suitably robust systems of work implemented;
- ◆ There was insufficient training to allow workers to safely unload vehicles;
- ◆ There was no briefing for visiting drivers to the worksite.

The HSE inspector noted that something as simple as removing the visiting lorry driver's keys until the procedure was safely completed was one method which could have prevented such an occurrence.

The full press release can be found [here](#).

Incident 2 – Workers suffer serious burns in electrical flashover

Two workers suffered serious burns from an electrical flashover. They were working to reinstate the power supply to a furnace after repair work had been completed by contractors. After replacing the fuses, they shut the door to the fuse panel which engaged the interlock and tried to close the main switch. As this would not operate, they opened the panel door and decided to bypass the interlock using a screwdriver in order to try the main switch again. At this point an electrical flashover occurred. Both employees suffered serious skin burns requiring surgery followed by a two week stay in hospital to recover.

An investigation carried out by the UK HSE found that:

- ◆ There were no electrical safety rules, safe systems of work or a permit system in place;
- ◆ There were no recorded systems or rules for working with electricity;
- ◆ There was no assessment of risk and the injured employees were not provided with any specific instructions on how to undertake the work safely;
- ◆ The company also allowed employees to work on live conductors without consideration of the conditions which are stipulated in [UK] law.

The full press release can be found [here](#).