

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

I Starting Air System Incident

A member has reported an incident which occurred during vessel management system trials, whereby an overpressure event occurred in the starboard engine room air start system. A company investigation team carried out a detailed examination of the damage to determine the root cause of the event. It was apparent that an explosion had occurred in the system causing visible damage in four locations; failed hose, ruptured pipe-work, cracked tee piece and failure of valves and fittings at the receivers. The sequence of events was established through discussion with crew members, engine room logs and physical examination of the damage.

The investigation determined that the air system had become saturated with compressor oil sufficient to provide a flammable mixture and sustain combustion. Ignition occurred when the DG had started up and blew back via the start valve and solenoid valve into the air system, causing the damage to the pipes and fittings.

Key indicators to support these findings were that:

- ◆ oil found in the pipework was tested and confirmed to be compressor lub oil;
- ◆ the pattern of the damage indicated that the explosion had travelled from the DG into the air system pipe-work;
- ◆ the air start solenoid valve on the DG was removed and contained evidence of combustion;
- ◆ starting air valve no. 4 from the DG also showed signs of sooty deposits on the stem and spring. This indicated that combustion had travelled from the cylinder into the common air rail;
- ◆ there was no indication of combustion between the air start compressor and the receivers, eliminating the compressor as a source of ignition

The investigation concluded that the event occurred due to compressor lub oil carried over to the air start system pipe work over a number of years and collected in an isolated crossover system. During maintenance operations the crossover was de-isolated and oil distributed to the system. Additionally the air start system was not fitted with NRV's and flame arrestors as required by the latest codes.

System Reinstatement

It was highlighted that the system drawings did not reflect the actual outfitting of the engine and that the non-return valve on the solenoid valve was not in place on any of the four engines, these components will be fitted during the next DG maintenance periods. All pipe work and fixtures that were exposed to the explosion have been replaced with approved material and fittings. These have been pressure tested prior to assembly into the systems and the systems have been subject to a full leak test at working pressure and flushing prior to being taken into service. The classification society has subsequently accepted the reinstatement of the pipe-work and valve arrangements.

Both air start compressors have been tested for oil carryover, and found to be below 0.5mg/m³. Flushing of the systems has been carried out to an acceptable standard to remove all traces of the compressor lub oil.

Based on these actions being completed, the vessel was considered fit for return to service. In the longer term, the company has committed to the following actions:

- ◆ installation of suitable coalescing filters to the air start compressor outputs, to prevent any future carry-over of oil
- ◆ a review of PMS with regard to the air start system, including starting valves; compressor air samples and overhauls; and pipework and receiver inspections.
- ◆ a design review with regard to the installation of flame arrestors and burst discs to the air start systems of the four DGs;
- ◆ Review of engine room as built documentation.

2 Pollution Caused by Burst Hydraulic Hose

A member has reported a pollution incident which occurred during recent diving operations. A hydraulic torque tool was deployed with the ship's hydraulic down-line. The planned intervention was to operate a sub-sea valve. However, the hose failed and some 200 litres of hydraulic oil were lost to sea. No divers were harmed by the event.

The hose certification was checked and found to be in-date. The hose was being operated within its specified pressure limits, but the failed section of hose was removed and inspected. The outer cover of the hose appeared to have been damaged through abrasion or scraping on a rough surface or sharp edge. The nature and colour of corrosion on the hose braiding indicated that the damage had originally occurred some weeks before rather than just prior to the failure.

The subsequent investigation revealed that the inspection regime onboard had failed to visually detect an obvious area of damage to the hose prior to its deployment, and recommended the following actions:

- ◆ Hoses to be reeled out on a regular basis and inspected thoroughly for damage, including connectors. See the attached poster (courtesy Step Change in Safety/UKOOA) for information regarding types of damage and failure mode;
- ◆ Frequency of above inspection should be commensurate with the utilisation: the more utilisation the shorter the period between inspections, but all hoses to be inspected not less frequently than every six months;
- ◆ Maintain a written log of inspections including the name of the person inspecting;
- ◆ Appropriate responsible person, for example, deck foreman and/or chief engineer, to verify that the inspection regime is followed and that suspect equipment is quarantined and replaced.

3 Caution Notice – Kirby Morgan Regulators

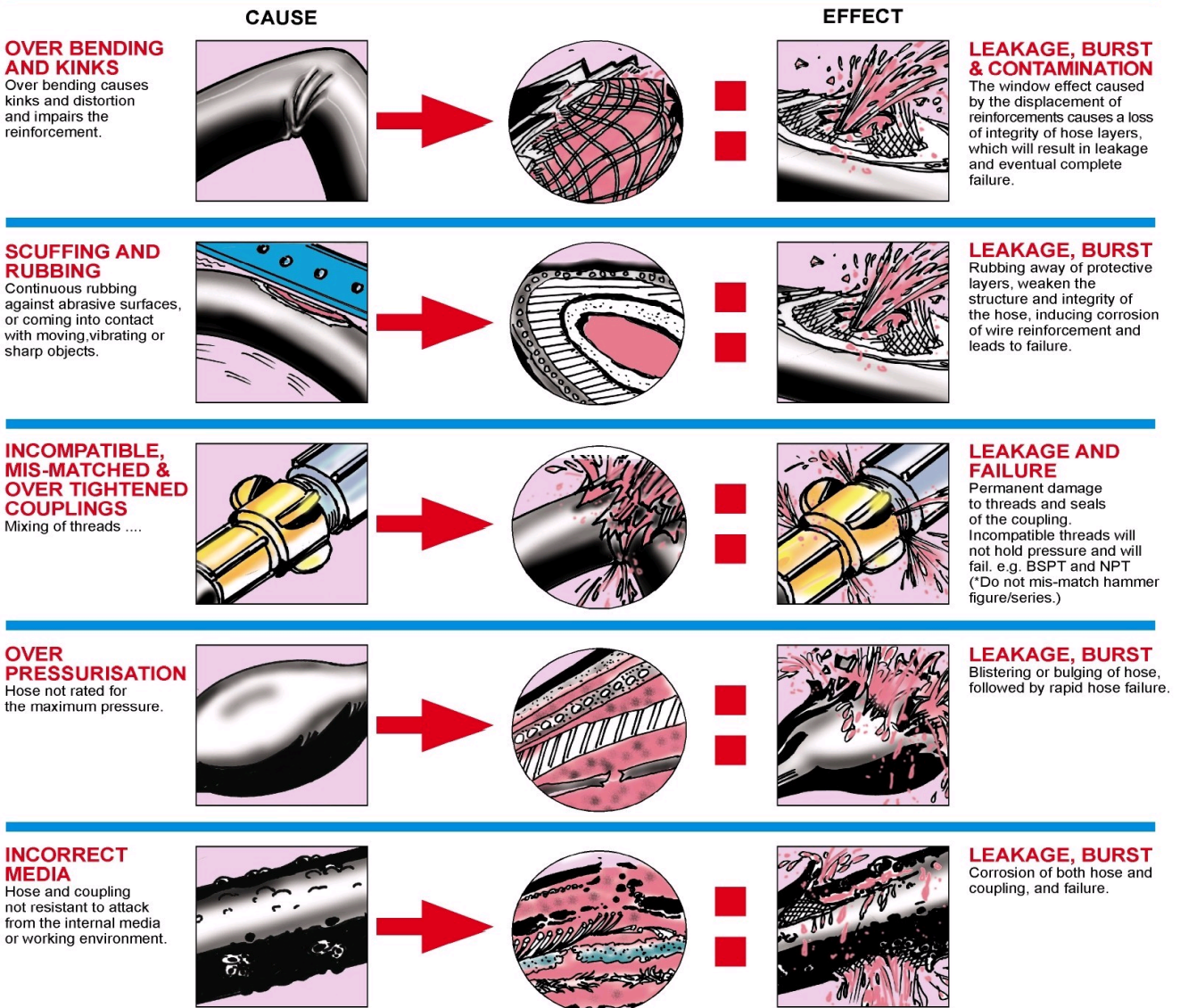
We have received the attached Caution Notice from Kirby Morgan relating to inconsistency in regulator assemblies (product number 505-069) that were manufactured between 1 January and 1 March 2005, of which we have been asked to raise awareness.

Hydrocarbon Leak Reduction Campaign

Flexible Hose Safety

Lack of care in the installation and use of flexible hose assemblies will lead to failures, which can cause personal injury, threaten your installation and have impact to the environment.

REPORT THE FOLLOWING:-



Make sure you are using the correct hose for the application

Developed by the UKOOA flexible hose management workgroup

In association with:



And supported by:



Further Information:- www.stepchangeinsafety.net

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