IMCA Safety Flash 03/19

February 2019

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 Product Caution Notice Relating to Commercial Diving Equipment: Gas Conditioner Cartridges

What happened?

JFD has issued a Product Caution Notice to inform you of a potential safety issue with commercial diving equipment manufactured/supplied by JFD. JFD are aware of a potential safety issue and are advising our customers and end users that all stock of this item requires inspection before use.

This product caution notice applies to the following equipment supplied by JFD:

- B1562A DISPOSABLE CARTRIDGE SET, GASMIZER
- B1591A DISPOSABLE CARTRIDGE SET, GASPURE
- B1563 DISPOSABLE CARTRIDGE SET, AIR FILTER SYS, 2 SETS BO
- B1592A GASPURE CO CATALYST CARTRIDGE

What went wrong?

A manufacturing defect has been identified with a batch of the components used for the bottom nozzle of the cartridge. Some of these nozzles are misshapen and will not correctly seal the disposable cartridge into the stainless-steel pressure housing. This will lead to a certain amount of the non-treated gas bypassing the cartridge and not being subject to the treatment provided by the chemicals within the cartridge.

JFD recommends that all Disposable Cartridges are subjected to the following inspection before use:

Pre-use inspection:

1. Visually inspect the nozzle on each cartridge to check for damage similar to that shown in Figure 1.
2. Grip the nozzle between the thumb and forefinger and rotate the cartridge to check for flat spots, out of roundness and any other damage missed during the visual inspection.
3. Using suitable digital callipers, check the OD of the nozzle is 20.7mm/20.6mm as shown in Figure 2. A number of different diameter measurements should be taken to confirm the roundness of the nozzle.

Possible indication of damage during use (B1562A only) is a higher than expected CO_2 level in the post scrubber gas sample immediately after cartridge change. This may indicate gas bypassing the cartridge.

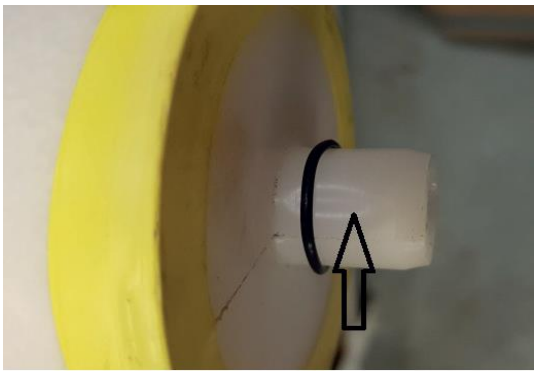


Figure 1: example of damage

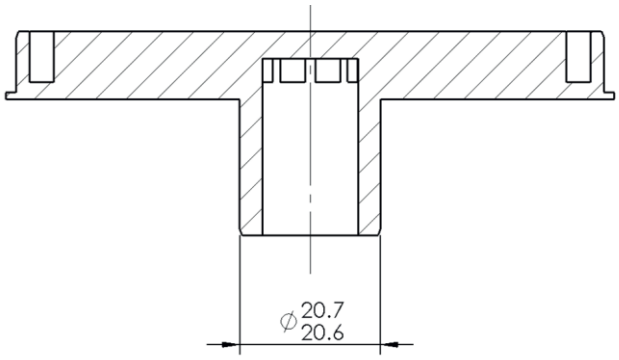


Figure 2: dimensions of nozzle

Damaged Cartridge

Any unit which is found or suspected to be defective should not be used and should be returned to JFD for replacement. Any item of which the user is unsure of its suitability can be returned to JFD for assessment.

If you have any queries or need any additional information, please contact JFD at sales@jfdglobal.com

Members may wish to refer to:

- IMCA D 02-19

2 Corrosion: Failure of Bolts on a Cargo Barge Bollard

What happened?

During pipelay operations a cargo barge was moored port side to the pipelay vessel to enable pipe loading. Mooring lines were secured to the cargo barge's bow, stern and mid-ships bollards. Due to adverse weather, an additional mooring line was attached to the centre bow bollard of the cargo barge. As this additional mooring line was picked up by the vessel winch, the centre bow bollard 'toppled over'. There were no personnel in the vicinity of the bollard during this operation.

An all-stop was called and the winch was operated to slacken the mooring line. Upon inspection, it was found that the bollard was in very poor condition and that all of the securing bolts were corroded, to the extent that they were not connecting the bollard to the deck of the barge.

Image#1: Showing the bow-centre bollard's position on the cargo barge.

Image#2: Cargo barge bow-centre bollard laying on deck following the incident.

What went wrong? The findings:

- This centre bollard was not designed to be used for mooring operations. Instead, it was in place for the securing of the barge's tow bridle, when not in tow. This particular bollard, rated 25 T SWL, was not fit to perform its designed purpose and hold any weight;
- The condition survey for the barge did include inspection of all mooring bollard but not the bow centre bollard which was not designed or planned for use;
- NB: The classification certificate for the barge was valid and class inspection conducted in March 2017.

What lessons were learned?

- Cargo barge mooring arrangements should be properly engineered, and clearly defined in any procedures, with usable mooring points clearly identified;
- Cargo barge condition survey process should include visual inspection of all items to be used during barge operations;
- Bolted load bearing structures, exposed to the marine environment, should be subject to detailed inspection such as removal and inspection of the bolted connection, which may have experienced corrosion and rapid degradation even within the certification validity period.

Members may wish to refer to:

- Near miss: corrosion-related failure of bolts used to secure lifeboat winches
- Galvanic corrosion causes dropped object – satellite dome fell from mast

3 LTI: Engineer Injured Following Engine Room Slip/Trip

What happened?

An engineer was injured when he stepped on a loose deck plate. The incident occurred during a dry dock, when an engineer was walking in the engine room searching for a tool and he stepped on a loose floor plate. The floor plate was not bolted down and slipped sideways. As the plate moved, his leg started falling to the bilge well below, and the opposite end of the plate flipped upwards and struck his abdomen. He sustained a large laceration to his abdomen which was attended to in the local hospital and required seven days off work to recover.

What went wrong?

There had been recent overhaul of diesel generators; when completed, floor plates removed to facilitate that overhaul had been replaced but were not screwed down.

Reconstruction of events leading to the incident

What were the causes?

Contributing causes identified were:

- No stopping mechanisms were fitted on the supporting frames/bars of the plates in order to stop these plates from sliding to the side. One particular plate was bent upwards at one corner and was able to slide freely if not bolted down;
- An existing unsafe condition (the loose floor plate) had been spotted but had not been reported or addressed;
- The permit to work (PTW) closure protocol following the earlier generator maintenance was not followed. No check had been made that the worksite had been returned to safe condition;

Root cause analysis identified that standards, policies and administrative controls were not used effectively – enforcement was not adequate.

- Procedures and overall ethos for safety during the dry dock was not adequate. There had been a failure to properly implement safety in shipyard procedures/guidelines:
  - the shipyard safety bridging document had been signed, but was not properly completed and did not effectively bridge between vessel and shipyard safety systems
  - there had been daily morning meetings of supervisors of all parties in attendance, but these meetings had discontinued a week prior to the incident;
- On a day-to-day level, there were gaps in enforcement of the following procedures:
  - job safety analysis (JSA) and task planning
  - personal protective equipment (PPE) – the injured person was wearing a light t-shirt instead of a full coverall which contributed to the severity of the injury
  - hazard observation – the hazard posed by the existing arrangements of the flooring plates in the engine room had not been properly identified;
  - managing contractors and third-parties – successful integration and supervision of sub-contractor workforce was not applied despite procedures being in place. This led to a loss of control and safety oversight of their activities to some extent as well as a diminishing of the safety culture.

What lessons were learnt?

- Attention to detail; personal safety is an individual as well as collective responsibility. In this case, both the unsecured deck plates and IP's insufficient PPE were noticed but neither concern was raised further or addressed;
- Failure to properly coordinate activities and to supervise the jobs performed by sub-contractors for safe work can lead to serious consequences;
- The shipyard safety bridging document sets the standard for the importance of safety within a shipyard period. The document dictates the involvement of the Technical Superintendent conducting supervision as well as vessel personnel and all contractors involved.

What actions were taken?

- Fitted stoppers (flat bars) for plates to prevent recurrence;
- Secured all loose floor plates by bolts;
- Conduct a hazard hunt inspection to identify all similar loose floor plates;
- Modified safety inspection schedule and risk assessment to include checking of floor plates, gratings etc.;
- Re-assess high level response to shipyard safety based on IMCA guidance to see if it can be more robust.

Members may wish to refer to:

- Near Miss – grating dislodged and fell, leading to crewman slipping

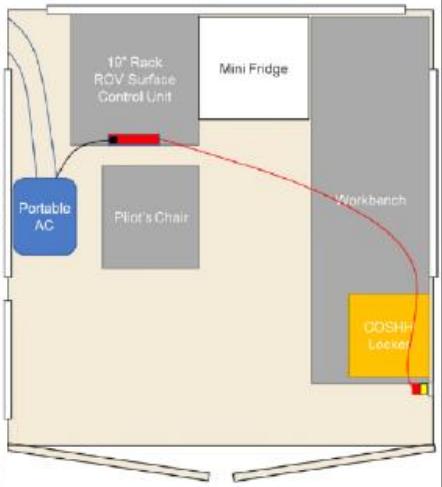
4 Subcontractor ROV Control Room Damaged by Fire

What happened?

An unmanned ROV control room container, located on the deck of accommodation jack-up, caught fire. The fire team extinguished the on-board fire without any injury to personnel. However, the ROV control room, as well as the 'suitcase ROV' (buoyancy fairing and chassis) were badly damaged.

Image#1: Fire damaged ROV

Image#2: Fire damaged ROV control room



Image#3: Portable AC power connection

What went wrong? What were the causes?

- The temporary container was not adequately fitted with fire protection. Only one battery-operated smoke detector and two portable extinguishers were in place;
- The layout of equipment and materials within the container, including the presence of oily rags, created a fire risk which was not identified or managed during mobilisation or pre-use inspections. There was no evidence of ROV System audit/pre-mobilisation checklists being completed;
- A portable air-conditioning (AC) unit that was being used within the container was not fit for purpose. The portable AC unit (that was fitted with a 13A fuse) was incorrectly connected using a British-to-M type adaptor, connected to a 16A outlet. An electrical fault from this connection was found to be the most likely source of the fire.

What lessons were learned?

- Scope of work requirements issued to subcontractors should include project specific requirements and industry standards relating to the electrical safety and fire protection of portable electric equipment;
- Ensure that all third-party electrical equipment is inspected upon mobilisation to the vessel and confirmed fit for purpose, prior to use;
- Site inspections and safety inspections should include checking the condition of portable electrical equipment and electrical connections.

Members may wish to refer to:

- Guidelines for installing ROV Systems on vessels or platforms (IMCA R 018)
- ROV mobilisation (IMCA R 009)
- Fire in the accommodation: electronic items in cabins