

IMCA Safety Flash 27/17

October 2017

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.

Summary

In this safety flash, the first four incidents cover, respectively, a laptop battery fire, the risks of scalding, a dropped object, and equipment failure leading to injured personnel. The second three relate to product recalls or safety alerts relating to:

- ♦ 'Eurogrit' – due to asbestos contamination;
- ♦ Potential failure of ADAMS 'MAK' automated flanged valves;
- ♦ Safety features of the Siemens Maxum Edition II gas chromatograph.

1 Laptop Battery Fire

What happened

A laptop battery exploded and caught fire. The incident happened in a workshop setting. The laptop was being used to control certain operations, which had been recently completed. The laptop itself was switched off at the time but was on charge at the mains.

The laptop was on a wooden topped work bench. A loud bang was heard from the laptop, after which it caught fire. Crew were nearby and immediately extinguished the fire by using the adjacent 3kg CO₂ extinguisher. Owing to the quick reaction in extinguishing the fire, the vessel's General Alarm was not activated.

Having extinguished the laptop, it was safely removed from the power source and removed to a safe location on the steel deck outside where it could cool down.

What went wrong/causes

The cause of the fire was the overheating and subsequent partial explosion of the laptop lithium-ion battery.

The last portable appliance testing (PAT) of this item had been conducted three months before.



Lessons learnt

- ◆ There was a quick and professional response to the fire which swiftly brought it under control before it spread;
- ◆ The laptop was in date for PAT.

Actions taken

- ◆ Address the issue of potential faulty laptop batteries – full asset review to establish whether desktops and laptops need replacing;
- ◆ Ensure all laptops are tested and inspected as required by PAT;
- ◆ Consider whether or not laptops should be left unattended whilst plugged in.

Members may wish to refer to the following similar incidents:

- ◆ [Laptop battery fire and explosion](#)
- ◆ [Mobile phone charger failures](#)

2 Two Near Miss Incidents with a Risk of Scalding

Seahealth.DK www.seahealth.dk/en has kindly shared this safety alert with IMCA.

Incident 1: Blowing boilers

What happened: A heavy rain of scalding water from the funnel fell down on the boat deck when the engine department was blowing the boilers. The possible consequences would have been major, had crew been on the boat deck below the chimney at the time. The engine room crew were unaware that blowing of the boilers could cause a drop down of scalding water from the chimney.

Lesson learnt: This matter of ‘blowing of the boilers’ had been discussed before and the engine room crew on board had already acknowledged the hazard, but the learning had not been implemented into daily work and routines. Constant reminders were required as time goes by, basic safety issues could easily be forgotten.



Incident 2: Maintenance ends in an almost scalding situation

What happened: Crew were carrying out maintenance on the vessel’s engine, involving fitting protective shields around two cylinders to prevent the escape of pressurised hot gas. Work on the shield for the second cylinder proved more complex than expected. When fitting the second shield the cooling water pipe was dislodged and the hot water poured out and almost scalded a crew member.

Cause: An engineer removed the bolts to a cooling water pipe to make more space available. While moving the shield the engineer dislodged the cooling pipe.

Learning: Management of change: reevaluate the risks presented by a job as it becomes more complex. Don’t rush hazardous work. Isolate engine-room systems to increase safety. Ensure all crew involved in maintenance are aware of how the task should be completed.

Members may wish to refer to the following similar incidents:

- ◆ [Crewman badly scalded during tank cleaning](#)
- ◆ [First aid injury: Person scalded by steam condensate](#)

3 High Potential Dropped Object Near Miss: Steel Ferrule Failure

What happened

A winch wire failed causing a pennant assembly and wire to fall directly into a crane basket. There were no injuries. The incident occurred whilst operating a forward utility or 'tugger' hoist. Weight was taken by the winch to support a 1.5t basket, to assist the crane in removing the basket from the drill floor. The winch wire was under tension and the load was 5cm above the deck, when the winch wire failed sending the pennant assembly and wire directly down into the basket itself and finally coming to rest on the forward winch.

What went wrong/causes

The 20mm steel wire rope was pulled out of its Flemish eye termination due to a failure of the ferrule. The Marine Safety Forum (MSF) member reporting the incident considered that the incident had the potential to have been a fatality or to have caused multiple major injuries.

Lessons learnt/actions taken

Steel wire ropes should be checked for the correct crimping of the ferrule. Care should be taken to ensure that the ferrule shape is correct and the condition is good. In the case of 20mm steel ferrules, the 20mm steel ferrule when pressed should have been round and not hexagonal. Any 20mm steel wire ropes not meeting that criterion should be removed from service.



Correctly pressed 20mm steel ferrule



Incorrectly pressed 20mm steel ferrule

Note: Other rope sizes and ropes from other suppliers may have hexagonal ferrules and should be inspected.

4 A Structural Failure Leads to Uncontrolled Motion of a 'Billy Pugh' Basket and Injuries to Crew

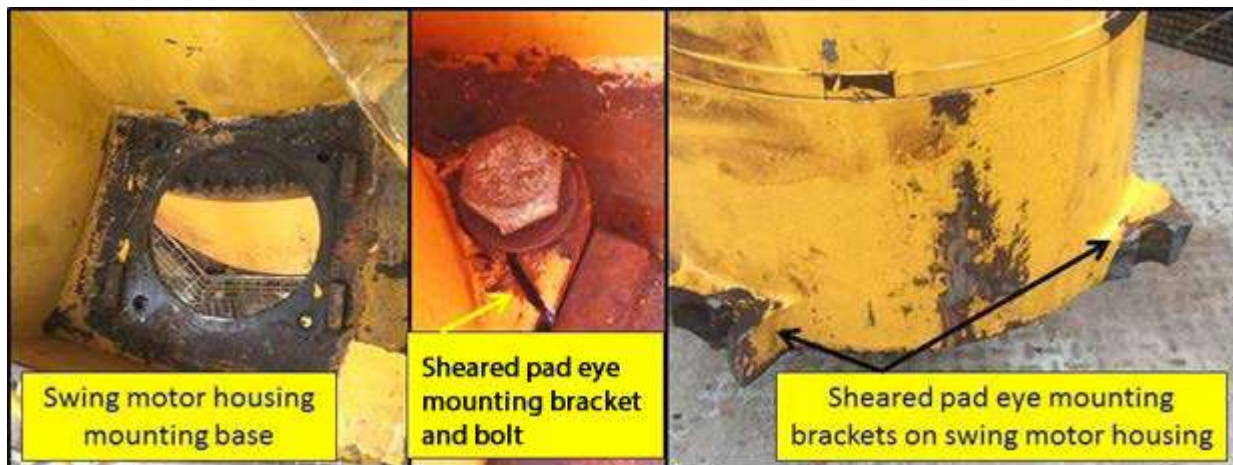
What happened

The United States Bureau of Safety & Environmental Enforcement (BSEE) has issued a bulletin ([see here](#)) about an incident in which a 'Billy Pugh' basket was subject to uncontrolled motion leading to three crew being injured. Four offshore personnel in the Gulf of Mexico were subject to uncontrolled motion while being transferred from a vessel to a production facility via the 'Billy Pugh' basket hoisted by a Titan model T5400B boom crane. The boom began to swing due to the wind, and neither the swing brake lock nor attempts to reverse the swing stopped the uncontrolled motion. The basket subsequently hit the railing on the vessel which caused injuries to three of the four offshore personnel.

What went wrong/causes

Investigation determined that the crane's hydraulic swing gear motor (slew drive system) had failed, which made it impossible to control the lateral movement of the boom. The mounting pad eye brackets that secured the swing gear drive housing to the crane cab base had sheared, allowing the housing to deflect under loading and the swing gears to disengage from each other. The disengaged swing gears prevented any control of swing motion and effectively disabled the crane during the personnel lift. The BSEE investigation concluded the following:

- ◆ The mounting bolts either backed out during operations due to vibration or other operational causes, or the bolts were never fully tightened to torque specification when the crane was installed;
- ◆ The loose bolts allowed the swing gear motor mount to deflect under loading, which put unplanned stresses on the pad eye mounting brackets until the brackets sheared;
- ◆ Inspection of these bolts for any loosening and to insure the proper torque setting is not a normal part of daily pre-use, quarterly, or annual inspection(s) of the crane;
- ◆ Abnormal movement of the swing gear motor under loading, resulting from failure of the securing bolts or mounting brackets, may only be detectable by personnel looking for that specific failure.



Lessons learnt/actions taken

BSEE recommended the following actions:

- ◆ **Read the full BSEE [Accident Investigation Report Incident Date 27 January 2017](#);**
- ◆ Evaluate the condition of the mounting brackets and the torque values of the bolts securing the swing drive gear housing of cranes;
- ◆ Consider incorporating specific periodic examination (quarterly and/or annual inspections) of the crane swing drives, including pad eye connections and bolts;
- ◆ Review this incident with all personnel and organisations that work with crane operations, including crane personnel, crane contractors, crane manufacturers, riggers, and inspectors.

Members may wish to refer to the following similar incidents (these focus on 'Billy Pugh' incidents rather than shearing or other failure of equipment):

- ◆ [Fatality during basket transfer](#)
- ◆ [Rigging incident](#)

5 Safety Alert Regarding the Product 'Eurogrit': Asbestos contamination

A member has passed to us a safety alert regarding the product 'Eurogrit', an aluminium silicate (coal slag) blast cleaning abrasive, which has been contaminated with asbestos (Chrysotile).

This product may be in use in ship yards, dry docks etc.

The following text is copied from the notification:

Eurogrit blasting grit recall campaign on account of small quantities of asbestos fibres

An independent and recognised research institute commissioned by Eurogrit has noted after analysis that small quantities of the chrysotile type of asbestos fibres (also known as 'white asbestos') can occur in Eurogrit coal slag blasting grit (aluminium silicate).

According to experts, the quantities found are so small that the product itself does not present any health risks. When the use involves prolonged unprotected exposure, increased health risks cannot be ruled out.

The products in question are primarily supplied to professional industrial processors such as blasting grit companies. Eurogrit has informed them and asked them to no longer use or re-sell the product.

A limited quantity is also supplied to construction centres, rental companies and to individual consumers through our factory in Dordrecht. The products for consumers are supplied in 25-kg brown paper bags and with Abrasive ISO 11126N/CS/G marked in blue on the packaging.

We are asking all consumers who have bought this product not to use it. Consumers' closed packs should remain closed and open packs should be packed in a plastic bin bag. Consumers may then contact our support staff on +32 (0) 28920538 or sales.eurogrit@sibelco.com. They will then be given further information on disposal methods and financial compensation. They can also contact our support staff if they have any other questions. We are available from Monday to Saturday from 8 am to 8 pm.

www.eurogrit.nl/uk_us

Please see the following for further information:

- ◆ Manufacturer's [notification](#)
- ◆ Manufacturer's [product datasheet](#)

6 Product Safety Retrofit Notice: MAK Automated Flanged Valves 3", 4", 6", 8" and 12"/600#

A product-safety retrofit notice was issued by ADAMS Armaturen GmbH on 23 December 2016 and this has been recently highlighted by the International Association of Oil & Gas Producers (IOGP).

The letter of notification from the manufacturer can be downloaded [here](#).

The IOGP Safety Alert, #290, is [here](#).

The following text is copied from the notification.

Our MAK automated flanged valves MAK 3", 4", 6", 8" and 12"/600# have shown that the Thrust Bearing of the shaft can be exposed to higher than anticipated wear while in operation. If the wearing becomes too high there is a chance that the shaft can be discharged from the valve.

This has the potential to cause personal injury or damage to the surrounding area.

The Thrust Bearing is marked as a wearing part in the part list.

We strongly advise that you immediately inspect the Thrust Bearing with a depressurized valve to check for exposed wear, and contact us immediately for further action!

To address the issue, we will provide you with a modified Thrust Bearing and clamping device that will extend the life of the Thrust Bearing and mitigate the risk of premature failure.

Please confirm that you have received this information and that the information has been forwarded to the relevant person in your plant.

Please use the following information to contact us: product_info@adams-valves.com

Please note that ADAMS takes great pride in its Quality promise and that is why we are proactively informing you about these findings.

7 Safety Features of the Siemens Maxum Edition II Gas Chromatograph

What happened

An incident occurred involving one of these instruments, in which an instrument technician was injured as a result of an explosion.

The UK Health & Safety Executive (HSE) has issued a [safety bulletin](#) regarding the safety features of the Siemens Maxum Edition II gas chromatograph (GC). It is aimed at those using the Siemens Maxum Edition II GC which is believed to be widely in use in the oil, gas and chemicals industries. The purpose of the GC is to analyse samples of chemicals and determine the composition. The unit is Atmosphères Explosibles (ATEX) certified for use in potentially hazardous areas.

What went wrong/causes

An incident occurred involving one of these instruments, in which an instrument technician was injured as a result of an explosion. The GC was being returned to service after being left in 'hold' status, during this 'hold' period flammable gas (hydrogen) had accumulated in the electronics enclosure of the GC. The main safety feature to prevent the potential build-up of gas, an automatic purge unit, was not re-engaged as part of the start-up operation. It is possible to bypass the automatic purge unit prior to start up by setting the GC mode from 'operation' to 'maintenance' using a key located behind the detector cabinet panel.

An issue was discovered after an incident when an instrument technician was injured as a result of an explosion. The GC was being returned to service after being left in 'hold' status; during this 'hold' period flammable gas (hydrogen) had accumulated in the electronics enclosure of the GC. The main safety feature to prevent the potential build-up of gas, an automatic purge unit, was not re-engaged as part of the start-up operation. It is possible to bypass the automatic purge unit prior to start up by setting the GC mode from 'operation' to 'maintenance' using a key located behind the detector cabinet panel.

The injuries sustained were life changing and could have been even more serious.

Although the incident occurred whilst operating the Siemens Maxum II GC unit there is the possibility that a similar set of circumstances may be replicated with GC equipment from other manufacturers.

Lessons learnt/actions taken

- ◆ Users of Siemens Maxum Edition II GCs should review the operation of the units, specifically the automatic purge unit control, making specific reference to the latest version of the maintenance manual;
- ◆ Users of Siemens Maxum Edition II GCs should discuss the suitability of their current operating arrangements for the GCs with Siemens;
- ◆ Users of GCs produced by other manufacturers should discuss the suitability of their current operating arrangements for the GCs with the manufacturers.

Related links

- ◆ UK HSE bulletin: www.hse.gov.uk/safetybulletins/siemens-maxum.htm
- ◆ IOGP Safety Alert 291: http://safetyzone.iogp.org/SafetyAlerts/alerts/Detail.asp?alert_id=291
- ◆ Siemens UK product support: <http://w3.siemens.com/mcms/sensor-systems/en/process-analytics/process-gas-chromatograph/maxum-edition-ii/pages/maxum-edition-ii.aspx>