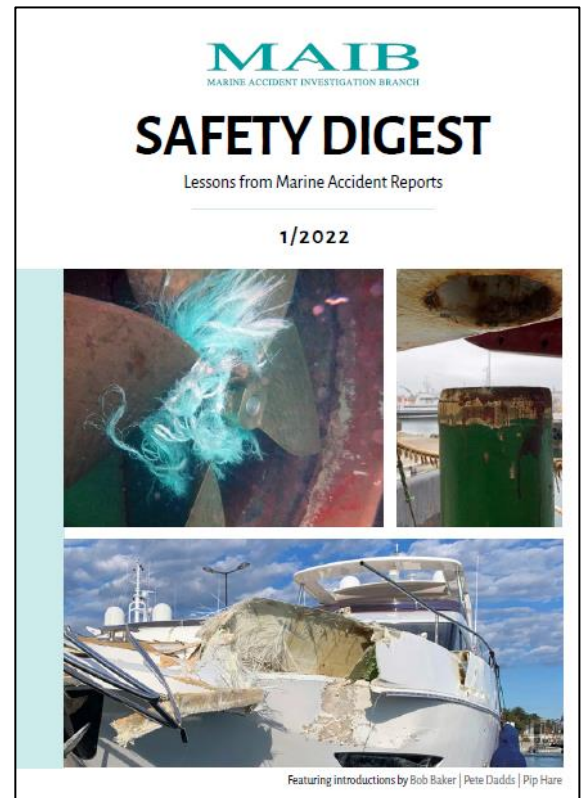


IMCA Safety Flashes summarise key safety matters and incidents, allowing lessons to be more easily learnt for the benefit of all. The effectiveness of the IMCA Safety Flash system depends on members sharing information and so avoiding repeat incidents. Please consider adding [safetyreports@imca-int.com](mailto:safetyreports@imca-int.com) to your internal distribution list for safety alerts or manually submitting information on incidents you consider may be relevant. All information is anonymised or sanitised, as appropriate.

## 1 MAIB Safety Digest 1/2022

The UK Marine Accident Investigation Branch has published [Safety Digest - Lessons from Marine Accident Reports 1/2022](#), which draws the attention of the marine community to some of the lessons arising from investigations into recent accidents and incidents. This information is published to inform industry of the general circumstances of marine accidents and to draw out the lessons to be learned. The sole purpose of the Safety Digest is to prevent similar accidents happening again. Some of the incidents in the report include:

- A cargo vessel flooding;
- Vessels grounding and running into the quay;
- Fire in the accommodation;
- Workboat collisions;
- Engine and machinery failure;
- A severed finger;
- Pilot ladder failures;
- Man overboard;



## 2 USB power bank (Lithium battery) fire

### What happened

A crew member on a vessel was inside his cabin bedroom when he heard a popping sound in his dayroom. Upon investigating he noticed the USB battery bank (containing Lithium-polymer batteries) charging on the desk was on fire. He immediately smothered the power bank with nearby clothing to knock down the flames and at the same time disconnected the power bank from the mains. He then sprayed the clothing with water to remove heat and placed the whole lot in metal for removal from the room.

Damage was contained to the desk, adjacent bulkhead and deck where the battery bank rested after being extinguished. There were no injuries.

### What went right?

- The prompt action of the crew member (who was in the cabin at the time) meant that power was isolated from the USB power bank and the fire was quickly extinguished;

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- The individual was very familiar with the company policy on personal electrical appliances.



### Findings

- The power bank was not supplied with an adaptor when purchased, leaving the buyer to match the adaptor plug with the unit for wall charging. In this case the adaptors did match the input and output requirements and the USB cord;
- The USB power bank was plugged into a 220V wall outlet for charging. A 240V-100V adapter (European to North American plug) was plugged into the wall outlet then a standard, North American style, USB charge adapter plugged into the 240V-100V adapter. A type 'C' charge cord was used from the North American style USB charge adapter to the power bank;
- The crew member had noted at 19:10 that the power bank was 97% charged and planned to wait for a full charge. At approximately 19:50, the crew member heard the popping sound and saw a flash of light and flames coming from the power bank;
- From the location of the burn pattern away from the outlet, the failure looked to be within the USB power bank itself and not in the receptacle or adaptor;
- There were no reported electrical or power interruptions in the ship supply or in the receptacle in which the unit was charging. Trends were normal and didn't show any interruptions. Power at the receptacle was reported by the chief engineer to be 237 V.

### Actions

Our member notes that *“whilst these devices are becoming more and more popular and are necessary for crew members who have long travel times to and from the vessel, there is no particular reason for their general or daily use onboard. There is more than enough power and electrical supply onboard for charging personal devices”*.

- Our member proposed to control how and when these devices are charged up (as distinct from a possibly unpopular blanket ban on them). Such battery/power banks should:
  - NEVER be left unattended when on charge;
  - Be unplugged as soon as they are fully charged.

In this incident the potential was severe; however the individual was in his cabin at the time and early action was taken.

Members may wish to refer to:

- [Fire in the accommodation: electronic items in cabins](#)
- [Fire in vessel accommodation – Overheating notebook computer](#)
- [Portable electrical equipment – serious fire in the accommodation](#)

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

### 3 USCG: Lithium battery fire

The United States Coast Guard (USCG) has published [Safety Alert 01-22](#) relating to a Lithium battery fire in a freight container whilst *en route* to a port for trans-shipment to a vessel.

#### What happened

In August 2021 a container illegally loaded with discarded Lithium batteries caught fire while enroute to the Port of Virginia in the United States. The container was being transported to port with the intent that it would be shipped to China aboard a container ship. The batteries caught fire on the highway resulting in loss of the cargo, and significant damage to the shipping container.



#### What was the cause?

Upon initial investigation, the fire department determined that the heat produced from the fire burned hot enough to burn or melt a hole through the freight container’s structure. In addition, the bill of lading listed “computer parts,” not Lithium batteries. This is a situation that made responding to the fire more challenging and could have been potentially catastrophic had the container caught fire after being loaded aboard the container ship.

Further investigation determined that the shipper had *failed to properly placard, label, mark and package the lithium batteries, class 9, UN 3480 and 3481*. The cause of fire was determined to be residual charge/full circuit, which led to a thermal increase.

#### Actions

Lithium batteries are inherently hazardous and should be treated with the greatest respect. IMCA members have reported a number of incidents of injuries, fires and explosions caused by mishandling of Lithium batteries.

- Ensure damaged/defective Lithium batteries are appropriately and properly packaged for disposal and/or recycling according to applicable legislation;
- Be aware of how to address additional marking requirements for Lithium batteries being transported and Lithium batteries that are damaged or defective, or being disposed of or recycled;
- Ensure that Lithium batteries prepared for transportation are protected against short circuit;
- Ensure that Lithium batteries are stored appropriately.

Members may wish to refer to:

- Incidents where containers were inappropriately loaded or cargo not properly secured:
  - [Near miss fire – epoxy overheating \[old epoxy was stored at the back of a freight container\]](#)
  - [Unsecured cargo inside containers](#)
  - [Loading and securing of containers](#)
- Lithium battery issues
  - [Lithium battery pack explosion](#)
  - [LTI: Severe burn from short circuited Li-Ion battery](#)
- [Lithium Battery Guide For Shippers – USDOT](#)

- United States Environmental Protection Agency (EPA) guidance on Used Lithium-Ion Batteries
- The International Maritime Dangerous Goods (IMDG) Code

#### 4 UK HSE: worker died following fall from crane platform

The UK Health and Safety Executive (HSE) has prosecuted a company after an electrician died in a fall of approximately eight metres when an access panel on the raised walkway of an overhead crane gave way beneath him. Press release [here](#).

##### What happened

An electrician was repairing wiring that had been causing a short circuit on the lifting equipment of a large overhead gantry crane. As he was walking along the crane’s walkway, an access panel gave way beneath his feet, causing him to fall through to the ground below. He sustained fatal injuries and was pronounced dead at hospital.

##### What went wrong?

HSE investigation found the company had failed to maintain the crane walkway’s access panels, which had been used to replace lighting fittings some months earlier. Also, the panel itself had been subject to weld repair, and there was no evidence of any steps being taken to ensure that the panel was safely replaced into the void and secured to ensure it did not fail.



Speaking after the hearing, the HSE inspector said that workers “were at risk from serious injury whilst walking on a gantry 26 feet high, as the company had failed to assess the risk of these access platforms, which should be secured in accordance with the manufacturer’s instructions.”

The inspector noted that “This was an incident, which could easily have been prevented had the company considered the risks associated with such access panels not being secured in place following maintenance work and general wear and tear.”

Members may wish to refer to:

- BSEE: Crewman fell to his death through faulty grating
- Raising awareness on safety barriers such as railings and gratings
- Near miss – grating dislodged and fell, leading to crewman slipping



#### 5 Riggers struck/trapped by pipe section

##### What happened

A vessel crane was lifting two 16 inch pipes of 24.4m length from a supply vessel to the pipelayer conveyor system. The second pipe section when being lowered into position unexpectedly moved sideways, striking two riggers, and trapping one between the suspended pipe and the vessel handrail. The rigger caught between the load and the handrail suffered a fracture in his back. Of the two who were struck, one suffered bruising to the ribs, and the other was physically unharmed.

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**Applicable Life Saving Rule(s)**



Bypassing Safety Controls      Working at Height

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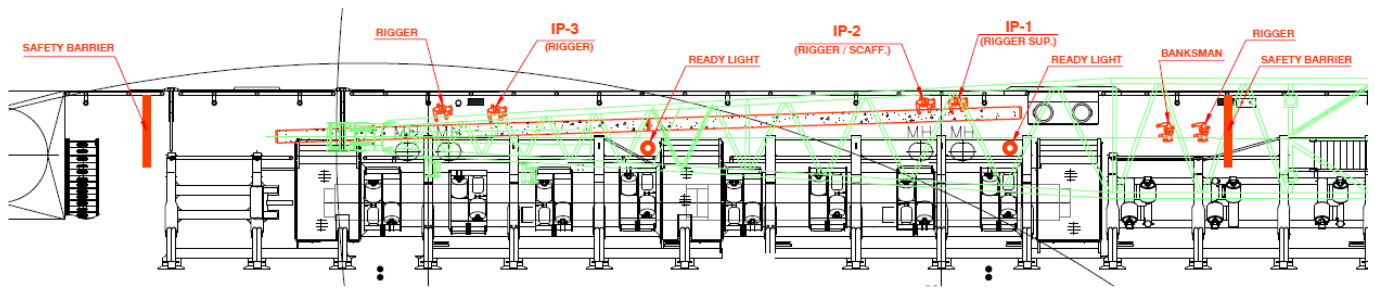
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**Applicable Life Saving Rule(s)**

Bypassing Safety Controls      Line of Fire

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It was an established practice to lift two pipes at a time from the supply vessel, stabilize them against the conveyor bumper bars, then lower both pipes onto the conveyor. Riggers then step forward and disconnect one pipe from the crane, leaving the second pipe connected. The riggers then remove the end caps, soft slings, and rope rings from the first pipe. The second pipe is then raised, still resting against the bumper bars and the first pipe is transferred along the conveyor into the firing line. Once the first pipe has moved into the firing line, the second pipe is then lowered into the conveyor and the riggers repeat the preparation process. The riggers are expected to vacate the immediate area while the second pipe is raised and lowered.

On instruction from the banksman to lower the second pipe, it moved downward and away from the bumper bars. The pipe continued its horizontal motion, striking three riggers who were standing between the conveyor rollers and the vessel handrail. One rigger received a glancing blow. One rigger was momentarily impacted, and one rigger was caught between the suspended pipe and the handrail.

### What went wrong?

Our members' findings indicated that:

- The crane operator did not follow the banksman's instruction to lower but also introduced slew. The crane operator was new to the project crane operator position and this change in workload may have been a stressor.
- The rigging supervisor was directly involved in removing load rigging and protection and not in a stand-off position to oversee operations;
- No-one stopped the job: neither the banksman, supervisor nor crane operator, stopped the operation to ensure the line of fire zone was clear;
- The riggers remained in the line of fire during the movement of the second pipe section;
- The requirement to get out of the way while the pipe was raised was not specified in the task plan or the task risk assessment (TRA) but was discussed at the toolbox talk. Conflict was introduced through a verbal requirement reinforced in the toolbox talk to keep clear, whereas the task plan required riggers to be near the pipe to remove taglines;
- The repetitive nature of the operation, without any issues being experienced, may have reduced the risk perception of the potential line of fire hazard, making the riggers positions appear safe to them.

### Lessons learned

- Ensure that crane operation communications are clear, repeated and confirmed before load movements;
- Operations which have line of fire hazards should be checked to confirm the safe positioning of personnel is clearly defined, understood, and followed;
- Review zones where line of fire operations are regularly conducted. Confirm that where appropriate suitable barriers (permanent or temporary) are in place;
- Consider marking the deck as to identify no-go zones or restricted access;
- For repetitive work consider frequent toolbox talk sessions or introduce a pause to question the team to confirm they remain focused on the task and to reinforce the potential hazards and the controls to be maintained;
- Review repetitive high-risk tasks to confirm risk awareness is not decaying.

Members may wish to refer to:

- [Fatality during lifting operations](#) [2013: *the load made contact with his chest and crushed him against the cargo rail, at his back.*]
- [Rigger sustains injury to left hand](#)
- [Near-miss: Unexpected lowering of a suspended load](#)
- [Lost time injury \(LTI\) during lifting operations – backloading tubular cargo](#)