

SAFETY BULLETIN 02 OF 2021:

Lessons from a fire at sea



This Safety Bulletin is issued following a fire aboard 'Just Mine' a 23-metre-long, Jersey registered, pleasure vessel off the coast of Greece in November 2020.

The fire, which started in the Engine Room (ER), spread so rapidly that the crew were forced to abandon the vessel within ten minutes of the fire starting.

The vessel subsequently sank during attempts by a fire-fighting vessel to extinguish the fire.

The two crew were recovered, uninjured, from the vessel's tender and there was no pollution. Due to the vessel sinking in deep water no examination of the vessel has been possible, and the exact cause of the fire has not been established.

A full investigation was carried out by the Jersey Administration, and the investigation report is being published in full. Lessons from this incident are being shared in order that the safety of those at sea may be improved and to reduce the likelihood of similar events in future.

Effective maintenance: Many incidents are caused by lack of maintenance. However, in this case, prior to the repositioning voyage, the Main Engines and the generators had been serviced by a reputable contractor and the annual checks of fixed and portable Fire Fighting appliances/ systems and Life Saving Appliances had been completed. **Although anything mechanical can fail, the risks are reduced when equipment is maintained in accordance with the manufacturer's guidance.**

Effective monitoring of the machinery spaces: The procedure aboard the vessel was for the deck hand to conduct regular inspections of the machinery spaces every half hour. On this occasion, having noticed nothing unusual, he was leaving the space when he thought he smelled smoke. Investigating further, with smoke confirmed, he was able to raise the alarm even before the fire detection system operated. **Check frequently and act promptly if anything that does not seem to be right.**

Effective Training and Drills: These are important no matter how small the vessel and how few the crew. On this occasion the skipper and the deck hand had been working together for nearly two years and had completed nearly one hundred separate drills during that time. Although mistakes were made, this training enabled the crew to react quickly to the developing situation, attempt to contain the fire and, once this proved impossible, to safely evacuate the vessel; an eventuality for which they had prepared. **Effective practice enables to right actions to be taken, in the right sequence, at the right time. Although checklists may help, an emergency is not the time to be reading the instruction manuals.**

Containment and Extinguishing the fire: Once increasing smoke was observed, the Main Engines were slowed and stopped, the ER fans shut down, pneumatically operated flaps to seal off ER ventilators were operated, the remote fuel shut offs were operated and the fixed ER Fire suppression system was activated. Although these actions took place promptly and in the correct sequence, it is probable that some of these systems did not operate completely as designed, and the engine room boundaries also failed to contain smoke and flames for the designed 15-minute period.

Keep the compartment sealed: Once a compartment has been sealed off, and particularly if a fixed system had been operated, it is essential that nothing is done that will admit more air to feed the fire. On this occasion, just minutes after activating the fixed system, the crew checked the aft ER bulkhead for heat. Unfortunately, they then decided to open the adjacent bulkhead door to assess the situation. This posed serious risks to both the crew and the vessel; from possible flash over, from the release of smoke and extinguishing media into the adjacent space risking the crew's safety, from the spread of the fire if it was not possible to subsequently close and seal the entrance and most importantly, by allowing air into the space to feed the fire and possibly reignite a fire which had been extinguished and not cooled. The 'Golden Rule' is **'Once a space containing a fire is sealed, do NOT reopen it except under the advice of, and preferably with the assistance of, trained firefighters. A significant period is required to allow cooling'**.

Raising the Alarm and maintaining communications: The vessel sent a distress message on VHF 16 immediately as smoke was confirmed. Even so, the battery back-up supply to the GPS and Chart Plotter failed before a full position could be read out.

'Mayday' or 'Pan'? **If you need assistance, ask early; it is better to subsequently downgrade a 'distress' message to an 'urgency' message if the situation improves; then to be unable to send a distress message if it worsens.**

Voice or DSC? **Both if possible.** The DSC (Digital Selective Calling) function, that would automatically have included a GPS position in the distress message, was not used as it was not user-friendly, not routinely used aboard, and the crew were unfamiliar with its use. **Familiarise yourself with your safety equipment. It is better to initiate a call using DSC and back up with voice communication. Write down your position, and update it frequently, before making the call so it remains available if your electronics fails.**

VHF or Mobile phone? **Both if possible.** Once the accommodation was evacuated, the hand-held VHF sets provided a means to continue to communicate with the Coastguard and other vessels. When needed, the crew had to retrieve these as the accommodation filled with smoke. **Hand-held VHF's should be distributed early in an emergency.** VHF on channel 16 has the advantage in communicating with all in the area and can enable shore stations to obtain your position using DF (Direction Finding) equipment. A mobile phone requires you to know the number to call and can normally only talk to one person at a time. On this occasion the low power of the hand-held sets caused the Coastguard difficulties, requiring relay via other vessels, which were resolved when direct communication was re-established via the deck hand's mobile phone. **A mobile telephone, preferably waterproofed, can on occasion provide useful backup to VHF; which should remain the primary means of communication.**

Preparations for abandoning ship: Although conditions were benign, and the lifejackets were stowed readily accessible in the saloon, the crew did not collect them prior to abandoning ship. **Lifejackets are useless if not worn. They need to be distributed early in an emergency and must remain readily accessible. They should also be worn whenever there is a risk of falling overboard.**

Take what you need and prepare in advance: In an emergency, time can be short and it is useful to decide what you will need in the way of essentials and have them always ready; this includes suitable clothing and essential documentation. On this occasion the crew had the necessary items to hand and were able to collect them without delay.

Liferaft or Tender? **The liferaft and its equipment provides protection from the elements and location aids** (also offshore packs includes suitable if limited supplies of food and water). **The tender can serve as a rescue boat and can enable survivors to more easily get clear of the vessel;** particularly useful in the event of fire or the vessel sinking. A tender may also help you to subsequently re-board should the situation subsequently improve. In this case the crew successfully deployed a liferaft, then having launched the tender, they attached the liferaft to it, clear of the vessel and awaited assistance. These actions had been considered during previous drills.

Summary: During this serious incident the crew reacted quickly and despite the rapid spread of the fire and a couple of mistakes, took the necessary actions to attempt to save first the vessel and then themselves. It is always better to learn from the experiences of others, and it is hoped that all will benefit from the open nature of the crew sharing their experience.

The full incident report will shortly be published on the Ports of Jersey website and shared with others.

Where an incident occurs involving a Jersey Registered vessel anywhere in the world, or any vessel in Jersey Territorial waters, mariners are reminded of their responsibility to notify the Jersey Shipping Registry and/or the Harbour Master without delay and to complete the appropriate on-line incident report form immediately after the incident and with as much information as possible.

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