MAIB
MARINE ACCIDENT INVESTIGATION BRANCH

SAFETY BULLETIN

SB1/2020 MARCH 2020

Extracts from The United Kingdom Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 Regulation 5:
"The sole objective of a safety investigation into an accident under these Regulations shall be the prevention of future accidents through the ascertainment of its causes and circumstances. It shall not be the purpose of such an investigation to determine liability nor, except so far as is necessary to achieve its objective, to apportion blame."

Regulation 16(1):
"The Chief Inspector may at any time make recommendations as to how future accidents may be prevented."

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NOTE
This bulletin is not written with litigation in mind and, pursuant to Regulation 14(14) of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012, shall be inadmissible in any judicial proceedings whose purpose, or one of whose purposes is to attribute or apportion liability or blame.

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Inadvertent discharge of a FirePro condensed aerosol fire extinguishing system during its installation on board the fishing vessel *Resurgam* (PZ 1001) on 15 November 2019 resulting in one fatality

Image courtesy of www.marinetraffic.com

Resurgam

MAIB SAFETY BULLETIN 1/2020

This document, containing safety lessons, has been produced for marine safety purposes only, on the basis of information available to date.

The Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 provides for the Chief Inspector of Marine Accidents to make recommendations or to issue safety lessons at any time during the course of an investigation if, in his opinion, it is necessary or desirable to do so.

The Marine Accident Investigation Branch is carrying out an investigation into the fatality of a shore-based engineering apprentice who was working in the engine room of the fishing vessel *Resurgam* in Newlyn on 15 November 2019.

The MAIB will publish a full report on completion of the investigation.

Andrew Moll
Chief Inspector of Marine Accidents

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BACKGROUND

On 15 November 2019, the UK registered fishing vessel *Resurgam* was in Newlyn, England undergoing maintenance. An engineer and an apprentice from the owner's shore-based support team were working on the main engine in the engine room. Also working in the engine room were two contractors installing a new FirePro condensed aerosol fire extinguishing system.

During the installation and without warning, the fire extinguishing system partially and inadvertently discharged, filling the engine room with a dense cloud of aerosol fire suppressing particles **(Figure 1)**. Both installation contractors and the company's engineer managed to evacuate, but the apprentice collapsed in the engine room. He was later recovered by the local fire and rescue service but was found not breathing and could not be resuscitated.

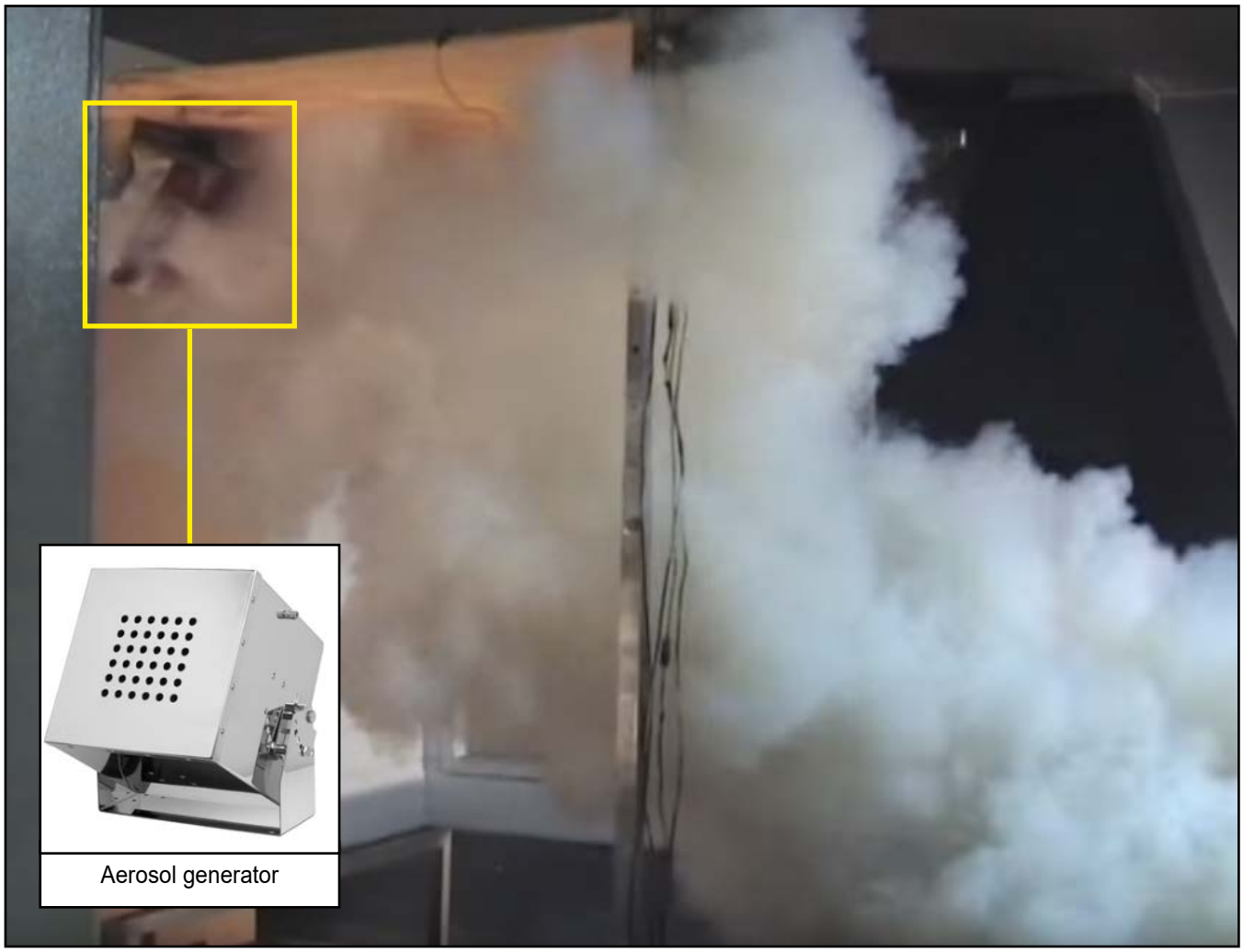

Figure 1: Typical discharge of a condensed aerosol fire suppressant
(not at time of accident)

INITIAL FINDING

The exact causes and circumstances of this accident are still being investigated and the findings will be published by the MAIB in a full investigation report. However, during the inadvertent discharge, it is evident that the apprentice inhaled a high concentration of the suppressant particles and this significantly contributed to the fatality.

FirePro's Installation and User Manual and its product's material safety data sheets had recognised the inadvertent discharge of the system, particularly during installation and maintenance, as a hazard. However, the loss of life was not identified as a potential outcome; therefore, the risk associated with inhaling or ingesting a large volume of the suppressant particles was not fully appreciated or protected against.

SAFETY LESSONS

Vessel owners, operators and those contracted to install FirePro and other similar condensed aerosol fire extinguishing systems should be fully aware of the potential risk to life from exposure to the aerosol particles.

Safety precautions should be put in place to ensure that personnel are not exposed to this hazard:

- Prior to intentional discharge of a condensed aerosol system, there should be visible and audible alarms to alert personnel. Checks should also be made to ensure the protected compartment has been evacuated before the system is activated.
- When condensed aerosol fire extinguishing systems are being installed or maintained the system should be fully isolated to guard against inadvertent activation, non-essential personnel should be clear of the area and an enclosed space rescue plan should be in place.

RECOMMENDATION

FirePro is recommended to:

S2020/114 Issue a safety alert to the owner/operators of vessels fitted with its systems and its network of marine installation/maintenance engineers highlighting the circumstances of this accident and advising them of appropriate measures to take to reduce the risk of exposure to fire suppressant particles.