



Testing and servicing fire suppression equipment on marine vessels can save lives and protect the environment

The [Fire Protection Industry \(ODS & SGG\) Board](#) (FPIB) is encouraging vessel owners and operators – both private and commercial – to ensure your fixed fire suppression system and/or portable extinguishers are regularly serviced and maintained by [licensed fire technicians](#).

Vessel owners and operators should not take unnecessary risks by putting off routine testing and maintenance of fixed fire suppression systems and portable extinguishers as these are safety-critical devices and it is vital they function properly in the event of a fire hazard.

While some vessel owners and operators may view this maintenance as an unnecessary expense because they consider the risk of a fire incident to be low, they may not realise that the chemical agent inside their gas cylinder and/or portable extinguisher has a higher chance of unintentionally discharging, the longer it goes untested or serviced. In some cases, this inaction can result in the fire suppression system or portable extinguisher not operating at all.

A gas cylinder installed in a fire suppression system on an average size marine vessel typically contains around 13 kg of [scheduled extinguishing agent](#), costing the vessel owner roughly \$2,500. If this system discharges due to a lack of adequate testing or maintenance over time, not only does the vessel owner have to pay for a replacement cylinder with new agent, but they also must pay for the installation. This process far outweighs the cost to have an existing system tested or serviced.

To better understand some common issues occurring within the maritime industry in relation to the use of gaseous fire suppression equipment, the FPIB spoke to John Nightingale. John is a special hazards fire technician employed by Wormald Australia and regularly installs, tests and services fire suppression systems containing scheduled extinguishing agents on marine vessels.

John has concerns that the testing and maintenance of gaseous suppression equipment is being neglected in some corners of the maritime industry, particularly in the private sector, where there is not as much clarity on how regularly fire suppression systems should be tested and serviced.

“We (Wormald) generally find private vessels won’t act until something goes wrong – it’s like driving around on bald tyres in a way, waiting until the day something happens before getting it fixed,” he adds.

John says vessel owners and operators should aim to have their fire suppression system serviced every 12 months, and portable extinguishers six monthly. These are the recommended timeframes as stated in Australian Standard 1851 – Routine service of fire protection systems and equipment.

He also recommends that vessel owners and operators have their fixed fire suppression systems and portable extinguishers undergo pressure testing every five years to ensure there are no leaks to the gas cylinder, and that it will work correctly if required. Vessel owners and operators should be aware that when gas cylinders become low on pressure, they have a higher chance of discharging chemicals into the atmosphere which can cause depletion to the Earth’s ozone layer or contribute to global warming, depending on the substance.

John says owners and operators are usually not aware that the fire suppression system on their vessel may contain these environmentally harmful chemicals.

“When we (Wormald) are installing a system, we tell the owner or operator what it does and how it can affect the atmosphere in the future if the gas is released unintentionally. We try and educate them by explaining that it’s their kids and grandkids that will be wearing the impacts of these gases being released when it can be prevented a lot of the time.”



Because suppression systems are generally mounted in the engine room and a lot are operated by cable, the cable may not be protected, so somebody working on the vessel could easily grab or manoeuvre the cable and fire the cylinder off unintentionally.



Some examples of fire suppression systems on marine vessels.

John believes the risk of discharging a fire suppression system is particularly heightened when the vessel is undergoing maintenance, but this can easily be avoided with a few preventative measures.

“Sometimes it comes back to the vessel owner or operator not realising they can actually cage off the cylinder or cable to stop it from accidentally discharging. And if the boat’s engine is required to be serviced and the gas cylinder is not protected for example, they can give a fire protection company a call to come down and temporarily disconnect it so the mechanic can safely work without the possibility of accidentally setting off the gas cylinder.”

While fire safety and protecting the environment are two critical reasons why vessel owners and operators should have their fire equipment routinely tested and serviced by licensed technicians if it contains scheduled extinguishing agents, John stressed that another thing that shouldn’t be overlooked is insurance and liability.

“It’s pretty important that testing and servicing is maintained. When the boat owner wants to make a claim, the insurer could turn around and say well, you haven’t had the suppression system or extinguisher serviced in 15 years, we’re not going to pay you out.”

While pressure testing and servicing of fire suppression equipment on marine vessels is paramount, John said owners and operators should be wary of contracting fire protection companies that do not have adequately trained and licensed employees to undertake this type of work.

“Some companies just sell a product to boat owners or operators, but it’s not actually designed correctly for that specific application; or the wrong parts are put in and the suppression system won’t work. But the crunch will come when the insurer starts looking at the documentation and sees that mistakes were made during the installation process by an unlicensed individual.”

Before contracting a fire protection company to undertake installation, testing or servicing, boat owners and operators should be aware that it is an Australian Government requirement that any fire technician handling extinguishing agents listed in Schedule 1 of the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* hold a valid [extinguishing agent handling licence](#) with the FPIB.

Fire protection companies that fail to comply with the [ozone protection laws](#) can be penalised. This was the case [recently](#), when a Queensland-based company was fined over \$14,000 because it allowed an unlicensed technician to work on the fire suppression system of a tugboat, leading to the release of 247 kg of HFC-227ea into the atmosphere. This is equivalent to over 795 tonnes of carbon dioxide emissions.



John believes awareness of the [Fire Protection Industry Permit Scheme](#) within the maritime industry can be improved. Because of this lack of awareness, some vessel owners and operators can fall into the trap of just contracting the fire protection company that can do the job the cheapest and provide a certificate afterwards – without verifying their qualifications – or understanding the potential consequences of using unlicensed technicians.

It is imperative that only licensed fire technicians are hired, as they possess the required skillset and understanding of how fixed fire suppression systems work, as there are a multitude of things technicians must be able to identify and correct, as explained by John below.

“Is it within its design parameters, has the space changed at all, are there any holes, do the actuators work, did you blow through to the distribution line, if it’s got nozzles, are they clean and clear?”

“Half the time fire flaps don’t work on boats and if they’re not working, the gas runs out of the space which is no use to the owner as the engine will not be protected if there is a fire,” John said.

As outlined above, there are several complexities involved when it comes to correctly servicing a gaseous fire suppression system on a marine vessel. It is imperative that ONLY licensed technicians perform work on your vessel when the handling of scheduled extinguishing agents is required. Please be aware that mishandling these fire suppression systems has the potential to deplete the ozone layer or contribute to global warming.

The FPIB encourages all vessel owners and operators to verify with us that your current fire protection contractor or a prospective contractor holds a valid extinguishing agent handling licence. To do this, please call 03 8892 3183 or email ozone@fpib.com.au

The national Fire Protection Industry Permit Scheme is prescribed under the Commonwealth’s Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995. Fire Protection Association Australia (FPA Australia) administers the scheme on behalf of the Australian Government Department of Agriculture, Water and the Environment.