

Fixed CO₂ fire extinguishing systems – US Coast Guard alert

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The United States Coast Guard (USCG) has published [Safety Alert 13-17](#) relating to Fixed CO₂ fire extinguishing systems.

What happened ?

This alert follows discovery of critical deficiencies in the fixed firefighting equipment on a container ship. The conditions associated with the onboard CO₂ system may have prevented the system from operating correctly or, if not discovered, the system may not have operated at all in an emergency situation.

What went wrong? What were the causes?

During the inspection, it was noted that some of the hoses which connected the large CO₂ cylinders to the manifolds were wrapped around the bottle valve handles (as shown in the accompanying photographs). The bottles could have been in place for a long period of time, in their original positions without regard to the stresses placed on the connecting hoses.

Inspectors also found significant cracking of the CO₂ discharge hoses which were under tension (see photograph). This condition is known as ozone cracking and occurs when very small amounts of ozone in the atmosphere interact with the polymers that compose rubber products and certain other elastomers when those products are under tension.

Lessons learnt

The USCG notes that IMO has published [MSC.1/Cir.1318](#), “*Guidelines For The Maintenance and Inspections of Fixed Carbon Dioxide Fire extinguishing Systems*“. This provides the minimum recommended level of maintenance and inspections for fixed carbon dioxide fire-extinguishing systems on all ships in order to demonstrate that the system is kept in good working order, as specified in SOLAS regulation II/14.2.1.2. In addition to other important information, it provides useful maintenance and inspection guidance.

IOGP Life Saving Rules:



Bypassing safety controls

according to IOGP's Life Saving Rules.

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