



Maritime &  
Coastguard  
Agency

Guidance

# **Safety Bulletin 4: Automatic water mist sprinkler systems**

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# Summary of issue

In recent years there have been several publicised failings of automatic water mist sprinkler systems identified during routine testing. In the worst cases, greater than 50% of the installed automatic nozzles have failed to activate. It is advised that owners/operators of automatic water mist sprinkler systems consult with their original equipment manufacturer.

In Spring 2012, the Bahamas Maritime Authority highlighted a number of failures found during the testing of automatic water mist sprinkler nozzles fitted in vessels under their Flag.

In this instance a significant proportion of the Marioff Corporation Hi-Fog 1000-Series automatic sprinkler nozzles had failed to activate at the pilot pressure (minimum operating pressure); other water mist systems may also be susceptible to the root causes described below:

- Poor water quality
- Increased corrosion of sprinkler body and quicker ageing of O-rings
- Water leakage past O-rings results in deposits
- Piston and other dynamic components have an increased resistance
- Automatic nozzle fails to activate at the normal pilot water pressure

The International Maritime Organisation has since produced Amendments to the Revised Guidelines for the Maintenance and Inspection of Fire Protection Systems and Appliances (MSC.1/Circ.1516 and MSC.1/Circ.1432), and several manufacturers have published technical guidance.



Figure: Marioff Hi-Fog 1000-Series Automatic Sprinkler Nozzle

## Actions to take

It is advised that owners/operators of automatic water mist sprinkler systems consult with their original equipment manufacturer to ensure the operation of these sprinkler systems and to confirm a suitable maintenance and testing regime exists.

Marioff customers should contact: [aftersales@marioff.fi](mailto:aftersales@marioff.fi).

## Further information

For further information please contact Marine Technology Branch, Maritime and Coastguard Agency

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