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REVISED CODE OF PRACTICE FOR ATMOSPHERIC OIL MIST DETECTORS

1 The Maritime Safety Committee, at its seventy-seventh session (28 May to 6 June 2003) approved the *Code of practice for atmospheric oil mist detectors* (MSC.1/Circ.1086), taking into account that most engine-room fires were the result of the formation of oil mist, that sectors within the shipping industry had been actively fitting oil mist detection equipment and following the recommendation of the forty-seventh session of the Sub-Committee on Fire Protection.

2 The Maritime Safety Committee, at its 110th session (18 to 27 June 2025), having considered a proposal made by the SSE Sub-Committee at its eleventh session (24 to 28 February 2025), approved the *Revised code of practice for atmospheric oil mist detectors*, as set out in the annex.

3 Member Governments are invited to bring the annexed Revised code of practice to the attention of shipbuilders, shipowners, ship operators, shipmasters and other parties concerned with the manufacture and installation of oil mist detectors.

4 This circular supersedes MSC.1/Circ.1086.

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ANNEX

REVISED CODE OF PRACTICE FOR ATMOSPHERIC OIL MIST DETECTORS

1 Fire caused by the presence of oil spray/mist, vaporized fuel or gaseous fuel in an enclosed space would not be possible if no release occurs; however, preventing any release has proven to be practically impossible.

2 It is generally accepted that oil or fuel releases can form a hazardous atmosphere when present in the form of:

.1 atomized spray/mist;

.2 vaporized liquid fuel; or

.3 oil droplets.

3 Danger occurs when the concentration of oil reaches the lower explosion limit. It should be noted that ignition or auto-ignition temperature can be extremely low, depending on the type of oil being released.

4 Sources of releases are not only from the piping system but also include pump seals, leaking injectors, loose or incorrectly fitted pipe fittings, flexible connections, weld fractures and poor maintenance of machinery.

5 Possible ignition sources include, but are not limited to, heat exchangers, exhaust pipes, turbocharger, electrical contacts, static electricity, faulty wiring and high- and low-pressure turbines.

6 Approval of detectors

Oil mist detectors should be approved in accordance with international standards acceptable to the Administration.[1]

7 Location of detectors and sampling lines

7.1 The number of detectors or sampling points to be used is dependent on the size and layout of the particular application.

7.2 To determine suitable positions for mounting detectors, a survey would be required to verify air movements in relation to the application. Such a survey should be performed under normal operational conditions.

7.3 If detector units are to be located close to the source of application, care should be taken to ensure that the detector unit is suitable for excessive vibration, high temperature, risk of electromagnetic interference, and high levels of humidity, which may occur. It has to be considered that maintenance can be carried out in a safe manner in the position in which the detectors are mounted.

[1] Refer to ISO 16437:2012.

7.4 Locating any equipment in an explosive atmosphere should not be undertaken, unless the equipment is certified for the hazardous area.

7.5 The arrangement of sampling lines should prevent the accumulation of oil to avoid blockage.

8 Connection of detectors

When connecting the detector power supply to the ship's power grid, it should be done according to the manufacturer's instructions, taking into account any impact from the ship's power grid.

9 Setting alert levels and indication[2]

9.1 In determining the requirements of the alert setting level, there are likely to be two stages, but one stage may suffice. The alert given should be advisory, and the monitor should be able to define the areas where oil mist has been detected.

9.2 The alert level set initially should take into account the atmospheric conditions when there is no problem, for example, there is always a small amount of hydrocarbon vapours generated within an oil purifier room. The initial set level will change with each application, but should not reach an explosive level for the specific oil used in the application. For oil, the concentration should not exceed 2 ppm. Alerts should be activated as the concentration reaches a certain percentage of this set value.

9.3 The oil mist detection system should be able to provide information on the condition concerning alert, fault or other status of the detectors or detector units.

10 Test procedure

10.1 The equipment should have built-in calibration capabilities to verify and to adjust measurements.

10.2 The manufacturer should calibrate the detector against a known oil mist measurement. Calibration may be done by the user in accordance with the manufacturer's instructions.

11 Inspection and maintenance

11.1 Inspection and maintenance should be done in accordance with the manufacturer's instructions.

11.2 Oil mist detectors should be accompanied by an instruction manual. It should include the following information: intended use; operational limitations tests and certificates; measuring principles; indication of alarms; mechanical structure and diagram of apparatus; description of apparatus function; technical data; start-up procedure; calibration and adjustment procedure; service and maintenance; measures to be taken in case of malfunctions; accessories; and replacement parts.

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[2] Refer to resolution A.1021(26) on *Code on Alerts and Indicators, 2009*, as may be amended.