

Guidance on the Danish Maritime Authority's guidelines on battery installations for ship operation

1. Purpose

The purpose of these guidelines is to ensure that battery installations on board ships – for either hybrid or electrical operation – have the same safety level as installations on board ships conventionally operated.

2. Definitions

For the purposes of this guidance, the following definitions shall apply:

1. "Battery" means one or more cells electrically connected and fitted in a case with terminals, markings and protective devices, etc. as necessary for use (IEC 62281:2013).
2. "Battery installation" means the entire energy storage system consisting of batteries, electrical circuits and electronics, including steering system, switches, chargers, converters and safety systems, etc.
3. "Battery space" means the space where the batteries are installed.
4. "Electrical operation" means the operation of ships only by batteries, where all energy originates from batteries that are charged by an external supply.
5. "Hybrid operation" means operation of ships where the propulsion or the remaining energy consumption is ensured through a combination of generators with combustion engines and batteries functioning as an energy storage.

3. Installation requirements

In connection with the installation of batteries for hybrid or electrical operation of ships, the Danish Maritime Authority will, in general, require the following:

1. The batteries shall be installed in a separate space, meeting the requirements for machinery spaces of category A.
2. The battery space shall be secured against external heat effects by means of A 60 insulation against other machinery spaces of category A and other spaces presenting a high or moderate fire risk.
3. The ventilation system for the battery space shall be independent from other spaces, and exhaust to open air shall take place in a safe place.
4. A suitable, fixed, automatic fire-extinguishing system shall be available in the battery space. The fire-extinguishing system should be in accordance with the recommendations of the battery manufacturer.
5. The battery and electrical installations shall have been approved by a recognised classification society.
6. The batteries shall be installed in accordance with the manufacturer's instructions.
7. It shall be considered whether a suitable gas detection system is to be available in battery spaces and ventilation systems/ducts.
8. A risk analysis for the installation shall be drawn up in accordance with MSC.1/Circ.1455, based on the specific installation.
9. On the basis of the result of the risk analysis mentioned in paragraph 3.8, additional or other requirements may be made for the installation as well as requirements for a fire test/overload test of the batteries, etc.