DIVISION 332

ALARM DEVICES FOR MAN OVER BOARD AND RESCUE ACTIONS (DAHMAS)


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CHAPTER 332-1

GENERAL

Article 332-1.01

Scope

1. This chapter applies to all alarm devices of man overboard and rescue actions (DAHMAS) installed on board the ship in January 2006 and after that date.

2. All DAHMAS installed on board a French ship before 1st January 2006 shall have an authorization to use no later than 1st January 2007.

3. The rules for installing DAHMAS are explicitly defined in divisions of the second book that are applicable to each type of vessel concerned.

Article 332-1.02

Definitions

1. An "alarm devices of man overboard and rescue operations" or "DAHMAS" is defined as any system of materials or equipment that can provide in case of a person falls into the sea a sounds and lights alarm clearly identified, at least in the cockpit of the ship, and eventually the automatic or manual control, through a specific system trigger, of any material or equipment that could facilitate the survival or recovery of a person who has fallen into the sea.

   Other facilities listed in divisions 311 and 333, and that provide rescue function, are not within the scope of this chapter.

2. The term "DAHMAS component" is defined as any material or equipment specifically designed and dedicated to the operation of DAHMAS.

3. The term "specific trigger device" is defined as any mechanical interface, electrical, or computer, allowing the DAHMAS to implement a peripheral.

4. The term "peripheral" is defined as any equipment or material onboard, directly linked, physically or logically with at least one DAHMAS component. The link was also found if a DAHMAS component uses a material or equipment as a physical support for installation.

Article 332-1.03

Alarm

1. The alarm in case of fall of person overboard should be noisy and luminous, and distinct from the other ship's alarms. It must be powerful enough to be seen with all machinery and deck machinery operated, and in all conditions weather.
2. The DAHMAS must be designed so that automatic triggering does not occur inadvertently.

3. The alarm sounds and lights must be in the cockpit of vessel.

4. The triggering of the alarm shall be performed automatically with a fall of a person overboard

5. The triggering of the alarm must be done manually by potential crew members remained on board, at least from the cockpit position.

6. When DAHMAS includes one or more individual portable devices which activation is required for triggering the man overboard alarm, these should be manually activated.

7. An easy acknowledgment of the alarm shall be provided.

8. The acknowledgment of the alarm sound and light may not cause the deletion of data needed for identifying and recovering a person fall at sea.

**Article 332-1.04**

*Rescue operations*

1. The DAHMAS can collect information and submit orders to their peripherals to facilitate the recovery or survival for a person fallen at sea.

2. Any rescue operation triggered by binding of a DAHMAS device to a peripheral must provide a result at least as equal in terms of efficiency and time, as that obtained in an independent implementation or local of the peripheral.

3. Any automatically action triggered by a DAHMAS must be neutralized easily from the cockpit of the ship.

4. When a fishing vessel is fishing, the DAHMAS must be configured so that it cannot cause, automatically, change of speed of propulsion or direction, in case of fall of a person overboard.

5. When a ship is manned by a single crew member, the DAHMAS should not cause, automatically, change of speed of propulsion or direction if a person falls into the sea. However, so it can Automatic control stopping the propulsion, to stop the ship.

**Article 332-1.05**

(Amended by Decree of 9/21/06)

*Peripherals*

1. Subject to satisfying the provisions of this Article, may DAHMAS be connected, with or without specific trigger devices, to materials or equipment:
   
   i) of navigation or navigation aid;
   ii) for radio communication;
   iii) of safety
iv) any other device, provided when it is simultaneously available for the purpose for which it is normally intended.

2. When no falling overboard has been detected, DAHMAS should not modify the normal operation of other devices on board. Their provision should never impede the free movement of personnel on board, nor the implementation of life saving appliances.

3. When DAHMAS undertakes the implementation of a component of the rescue equipment required on board, the competent authority shall verify that all provisions are made for that in all circumstances the autonomous implementation of lifesaving equipment concerned is quick and easy.

4. When DAHMAS implements a GMDSS device for issuing a digital message security or distress, it must indicate no equivocal nature of the claim, ie a fall of person overboard.

5. A DAHMAS should not be able to undertake the implementation of a device on another vessel with a similar installation.

Article 332-1.06

Dual function DAHMAS / equipment required

1. Boarding equipment that is mandated by the rules of the vessel can be used as a component or specific device for trigger a DAHMAS.

2. To be added to a DAHMAS, such a component or specific trigger device must meet the rules for approval as required equipment mandated by the rules applicable to the ship, and Rules Approval of this division.

3. One or more components or devices of DAHMAS or specific triggering devices approved can be onboard instead of equivalent equipment approved.

CHAPTER 332-2

APPROVAL

Article 332-2.01

Provisions concerning the approval

1. All DAHMAS must be approved by the procedure set by the division 310 of this Regulation. Each system shall be type approved, used to certify compliance with the provisions of this chapter. The approval relates to:
   i) all the configurations association of DAHMAS components, and the specific trigger devices;
   ii) the types of compatible peripherals;
   iii) a precise description of connections required.

2. Are applicable to all components and specific trigger device of DAHMAS :
   i) R & TTE 1999/5/EC Directive;
ii) IEC 60945 (test environments) standard;
iii) IEC 61162 (digital interfaces) standard.

3. Each system comes with a manual, in the working language of the ship, including all appropriate instructions for its installation, operations and crew training, the methodology of tests to verify its current operation and a clear and brief instruction activation labeled on the equipment.

4. The material exposed to the sea or portable must be constructed to meet with paragraph 1.2.2 of Chapter 1 of the International Code applicable to life-saving appliances IMO (LSA).

5. The aerial receivers and transmitters must operate in the present of frost.

6. In order to make reliable detection of falls overboard, all fixed electrical equipment as a component of a DAHMAS must be continuously powered by the vessel power supply. If it is a storage battery, the latter will ensure the operation without recharging system for at least six hours.

7. Equipment should be constructed to be easily accessible for inspection and testing.

Article 332-2.02
(Amended by Decree of 9/21/06)

Additional provisions for approval of transmitters and receivers, and alarm control panels, and monitoring

Where they exist, transmitters and receivers and alarm control panels, of monitoring of a DAHMAS must comply with following:

1 - Features:
   a) Any portable transmitter or receiver shall be equipped with appropriate means preventing it from being inadvertently activated and deactivated;
   b) no manual action should be able to prevent the automatic operation of a transmitter in a situation of falling overboard. Apart from this case, all portable transmitter must be turned on or off voluntarily repeatedly;
   c) any transmitter must be provided with means indicating that the signal transmission is in progress. At the starting of a portable transmitter, a light with a low duty cycle should begin to flash on the device within 2 seconds, which can be seen on the transmitter regardless of the lighting conditions encountered at sea.

2 - Resistance to the environment:
   a) any portable transmitter or receiver must be thrown overboard from a height of 20 m without damage;
   b) any portable transmitter or receiver must be designed so that the electric elements are watertight to a depth of 10 meters for at least 5 minutes. A change in temperature of 45 °C must be taken into account during passage of the installed position to the submerged position;
c) a portable radio transmitter whose emission is necessary to trigger an alarm of fall into the sea must be able to float in right position in calm water. It must have positive stability and sufficient buoyancy, regardless of the state of the sea;

3 - Power Supply:

a) a test function shall verify the electrical an logical operation of DAHMAS components;

b) insufficient battery charge of any transmitter must be reported automatically by the system with noise and light;

c) any transmitter or receiver must incorporate mechanisms to protect batteries reverse polarity, short circuit, the effects of heat produced by the batteries themselves, the effects of the load cell to cell and effects of the forced discharge. In addition, the transmitter, including the battery should not present any danger to the person handling, using or maintained in accordance with the manufacturer, the device itself or any material or media in which it is transported, housed or installed and that all conditions specified by this chapter;

d) it must not be possible to connect a battery to its reverse polarity;

e) any transmitter or receiver must be designed so that electrical and electronics components cannot be damaged in case of leakage of battery;

f) the batteries should not spread toxic or corrosive outside the transmitter or receiver during or following storage at temperatures between -50 °C and +70 °C and:
   - For a total or partial discharge, regardless of the pace of discharge and including at an external short circuit;
   - During the load or the forced discharge of one or more elements battery by one or more other elements within the battery;
   - After a total or partial discharge;

g) batteries must have sufficient capacity to operate without disruption of the portable transmitter for a period of at least 12 hours in an environment at 20 °C;

h) the expiry date of the batteries should match the date of manufacture more half the length of their useful life. It is indicated by a clear and durable marking on any transmitter or receiver;

i) the life of the batteries is defined as the period from the date of manufacturing during which it will continue to meet the needs supply of any transmitter or receiver. It must be at least three years;

j) to define the useful life of a battery, following losses must be incorporated at a temperature of +20 °C ± 5 °C:
   - Automatic testing, as recommended by the manufacturer or as required by the administration, the requirements to be considered must be the most demanding;
   - Self-discharge;
   - Loads of sleep.

4 - Radio Constraints:
a) transmitting antennas must comply with an elevation angle of 5° to 60°, a hemispherical diagram, and dextrorotatory circular polarization or linear;

b) the fixed receiving antennas must be installed in open areas of metal structures. Their total viewing angle on the horizon must be at least 355°. A sector of 225° visibility without blind spots must be centered on the stern;

c) no DAHMAS component shall use the radio frequency 121.5 MHz.

**Article 332-2.03**

*Additional provisions for approval specific trigger devices*

1. Any specific trigger device must be designed so as to not inhibit normal operation or trigger autonomous of a peripheral.

2. Impairment of specific trigger mechanisms should not prevent the implementation of a local or standalone peripheral.

**CHAPTER 332-3**

**CONTROLS**

**Article 332-3.01**
*(Amended by Decree of 9/21/06)*

*Studies*

Prior to the installation of a DAHMAS aboard a ship, the ship-owner or his representative shall submit to the relevant Safety Committee documents needed to assess the consequences of rescue operations automatically triggered by a DAHMAS on the security of the ship.

**Article 332-3.02**

*Initial inspection*

1. Commissioning of any DAHMAS aboard a ship shall be done in accordance with instructions provided by the manufacturer. These instructions are provided with each DAHMAS, and must indicate at least who are the persons entitled to installing and commissioning.

2. When commissioning a DAHMAS on each vessel, the installer proceeds to tests in the presence of the safety competent inspection. At the end of these tests, a written report must show that the operation of DAHMAS is not less efficient, in terms of time, that the implementation of separate and autonomous peripherals. This report stays onboard the ship and must remain available to the maritime authority.
**Article 332-3.03**

*Periodic checks*

1. The period of use of the equipment is defined by the manufacturer.

2. A periodic inspection must be performed by the manufacturer or authorized person. Several deadlines can be well defined, however, for key checks defined by the manufacturer, the frequency of tests may not be more than one year.

3. The review covers the general condition and operation of DAHMAS components and its specific trigger devices.

4. Audit results are listed in a booklet provided by the manufacturer, taking on board and signed by the captain. This booklet contains also the detailed requirements for approval by the manufacturer of authorized persons to conduct the controls, the frequency of tests and details of checks performed.

5. On the occasion of periodic inspections, this booklet is presented to agents entitled to visits and inspections of ship safety.