



**Australian Government**  
**Australian Maritime Safety Authority**

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## **Marine Order 21 (Safety and emergency arrangements) 2016**

**made under the *Navigation Act 2012***

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Prepared by the Australian Maritime Safety Authority

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## Division 1 Preliminary

### 1 Name of Order

This Order is *Marine Order 21 (Safety and emergency arrangements) 2016*.

### 2 Purpose

This Order:

- (a) provides for safety of navigation, emergency procedures and atmosphere sampling and measuring; and
- (b) gives effect to:
  - (i) Regulations 19-1 and 21 of Chapter II-1 of SOLAS (Construction — Structure, subdivision and stability, machinery and electrical installations); and
  - (ii) Regulations 8, 19, 27, 29, 30 and 37 of Chapter III of SOLAS (Life-saving appliances and arrangements); and
  - (iii) Regulations 14, 22, 23, 25, 26 and 30 of Chapter V of SOLAS (Safety of navigation); and
  - (iv) Regulation 7 of Chapter XI-1 of SOLAS (Special measures to enhance maritime safety).

### 3 Power

- (1) The following provisions of the Navigation Act provide for this Order to be made:
  - (a) subsection 51(2) which provides for regulations specifying matters for making a determination on the minimum manning requirements for vessels;
  - (b) subsection 125(1) which provides for regulations for musters, drills, checks of machinery and equipment and other tests;
  - (c) paragraph 309(2)(a) which provides that the regulations may prescribe the entries to be made in an official logbook and when they must be made;
  - (d) paragraph 339(2)(c) which provides for regulations for operating, maintaining, checking and testing machinery and equipment;
  - (e) paragraph 339(2)(l) which provides for regulations for logbooks;
  - (f) paragraph 339(2)(m) which provides for regulations for records about compliance with the Act;
  - (g) paragraph 340(1)(a) which provides for regulations to give effect to SOLAS;
  - (h) subsection 341(1) which provides for the imposition of penalties for a contravention of a provision of the regulations.
- (2) Subsection 339(1) of the Navigation Act provides for regulations to be made prescribing matters required or permitted to be prescribed, or that are necessary or convenient to be prescribed, for carrying out or giving effect to the Act.
- (3) Subsection 342(1) of the Navigation Act provides that AMSA may make a Marine Order about matters that can be provided for by regulation.

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**4 Definitions**

In this Order:

**certified person** means a person who holds:

- (a) a certificate of proficiency in survival craft and rescue boats, other than fast rescue boats, issued in accordance with the STCW Convention; or
- (b) a certificate determined by AMSA to be equivalent to that certificate.

**confined space** has the same meaning as it has in Part 4 of the *Occupational Health and Safety (Maritime Industry) (National Standards) Regulations 2003*.

**Guidelines for passenger safety instructions on ro-ro passenger ships** means the IMO guidelines set out in IMO MSC/Circ.681.

**muster list** means a muster list prepared in accordance with and including the matters mentioned in regulation 37 of Part B of Chapter III of SOLAS.

**near coastal voyage** means a voyage in waters landward of the outward boundary of the exclusive economic zone of Australia.

**Revised guidelines for passenger safety instructions** means the IMO guidelines set out in IMO MSC/Circ.699.

**safe manning document** means:

- (a) a determination made under subsection 51(1) of the Navigation Act; or
- (b) a determination made under section 10 of this Order; or
- (c) a minimum safe manning document or equivalent mentioned in Regulation 14 of Chapter V of SOLAS.

**survival craft**, for a vessel, means a craft capable of sustaining the lives of persons in distress from the time of abandoning the vessel.

**tanker** means a cargo vessel constructed or adapted for the carriage in bulk of liquid cargoes.

*Note 1* Some terms used in this Order are defined in *Marine Order 1 (Administration) 2013*, including:

- IMO
- national law
- NSCV
- SOLAS.

*Note 2* Other terms used in this Order are defined in the Navigation Act, including:

- AMSA
- issuing body
- Marine Order
- official logbook
- seafarer certificate
- STCW Convention.

*Note 3* Information on obtaining copies of any IMO Resolution, IMO document or other document that is mentioned in this Order is available from the AMSA website Marine Orders link at <http://www.amsa.gov.au>. The text of the original SOLAS convention and any amendments in force are in the Australian Treaty Series, accessible through the Australian Treaties Library on the AustLII website at <http://www.austlii.edu.au>.

*Note 4* For delegation of AMSA's powers under this Order — see the AMSA website Marine Orders link at <http://www.amsa.gov.au>.

## 5 Interpretation

A reference to the Administration in SOLAS, an IMO resolution or a document mentioned in this Order is taken to mean AMSA.

## 6 Application

- (1) This Order applies to:
  - (a) a regulated Australian vessel; and
  - (b) a foreign vessel.
- (2) Division 2 applies to a domestic commercial vessel.

## 7 Exemptions

- (1) The owner of a regulated Australian vessel may apply for an exemption of the vessel from a requirement of this Order in accordance with the application process set out in Division 3 of *Marine Order 1 (Administration) 2013*.
- (2) AMSA may give an exemption only if satisfied that:
  - (a) compliance with the requirement would be unnecessary or unreasonable having regard to the vessel, its equipment and its intended voyage; and
  - (b) giving the exemption would not contravene SOLAS.
- (3) An exemption is subject to any conditions AMSA imposes to ensure the safety of the vessel.
- (4) The owner of the vessel must comply with any conditions mentioned in subsection (3).

*Note 1* *Marine Order 1 (Administration) 2013* deals with the following matters about exemptions and equivalents:

- making an application
- seeking further information about an application
- the time allowed for consideration of an application
- imposing conditions on approval of an application
- notification of a decision on an application
- review of decisions.

*Note 2* For transitional arrangements for an exemption given from a provision of a previous issue of this Order — see Division 5.

## 8 Equivalents

- (1) A person may apply, in accordance with the application process set out in Division 3 of *Marine Order 1 (Administration) 2013*, for approval to use an equivalent.

*Note* For definitions of equivalent and use — see section 6 of *Marine Order 1 (Administration) 2013*.

- (2) AMSA may approve use of an equivalent only if satisfied that use of the equivalent would be at least as effective as compliance with the requirement to which the equivalent is an alternative.

*Note* For transitional arrangements for an approval to use an equivalent that was given under a previous issue of this Order — see Division 5.

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**Division 2 Safety measures****9 Manning of vessels**

- (1) For subsection 51(2) of the Navigation Act, AMSA must have regard to IMO Resolution A.1047 (27) *Principles of minimum safe manning*.
- (2) For paragraph 340(1)(a) of the Navigation Act, the owner of a vessel to which Regulation 14 of Chapter V of SOLAS applies must ensure that the safe manning document for the vessel is kept on board the vessel and is available for inspection.

Penalty: 50 penalty units.

- (3) An offence against subsection (2) is a strict liability offence.
- (4) A person is liable to a civil penalty if the person contravenes subsection (2).

Civil penalty: 50 penalty units.

- (5) A copy of the safe manning document must be placed on board the vessel in a location where it is available for perusal, without the need for a seafarer to ask for access to it.
- (6) For paragraph 340(1)(a) of the Navigation Act, the owner of a vessel to which Regulation 14 of Chapter V of SOLAS applies must:
  - (a) determine the working language of the vessel; and
  - (b) ensure that paragraph 3 of Regulation 14 of Chapter V of SOLAS is complied with.

Penalty: 50 penalty units.

- (7) An offence against subsection (6) is a strict liability offence.
- (8) A person is liable to a civil penalty if the person contravenes subsection (6).

Civil penalty: 50 penalty units.

**10 Safe manning document for certain regulated Australian vessels**

- (1) This provision applies to a regulated Australian vessel that is:
  - (a) engaged on a near coastal voyage; and
  - (b) less than 3000 GT.
- (2) For paragraph 340(1)(a) of the Navigation Act, AMSA may determine in writing that:
  - (a) a vessel must carry:
    - (i) a master who holds a specified certificate of competency issued under *Marine Order 505 (Certificates of competency) 2013*; and
    - (ii) at least:
      - (A) a specified number of officers who hold specified certificates of competency issued under *Marine Order 505 (Certificates of competency) 2013*; and
      - (B) a specified number of other seafarers who hold specified certificates of competency issued under *Marine Order 505 (Certificates of competency) 2013*; and
  - (b) specified seafarer certificates may be held by seafarers on board the vessel instead of specified certificates of competency.

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- (3) In making a determination, AMSA must have regard to the requirements of IMO Resolution A.1047 (27) *Principles of minimum safe manning* that are relevant to near coastal voyages.
- (4) A determination may specify conditions.
- (5) More than 1 determination may apply to a vessel.

**11 Navigation bridge visibility****[SOLAS V/22]**

- (1) The owner of a vessel must not use the vessel if it:
  - (a) is at least 55 m long; and
  - (b) was constructed after 30 June 1998; and
  - (c) does not comply with Regulation 22.1 of Chapter V of SOLAS.  
Penalty: 50 penalty units.
- (2) The master of a vessel must not use the vessel if it:
  - (a) is at least 55 m long; and
  - (b) was constructed before 1 July 1998; and
  - (c) does not comply with paragraphs 1.1 and 1.2 of Regulation 22 of Chapter V of SOLAS.  
Penalty: 50 penalty units.
- (3) The owner of a vessel must not use the vessel if it:
  - (a) is less than 55 m long; and
  - (b) does not comply with the bridge visibility requirements of Part C1 of the NSCV.  
Penalty: 50 penalty units.
- (4) An offence against subsection (1), (2) or (3) is a strict liability offence.
- (5) A person is liable to a civil penalty if the person contravenes subsection (1), (2) or (3).  
Civil penalty: 50 penalty units.

**12 Pilot transfer arrangements****[SOLAS V/23]**

- (1) When a vessel uses a pilot, the owner must ensure that:
  - (a) pilot transfer arrangements are in place; and
  - (b) the pilot transfer arrangements are in accordance with Regulation 23 of Chapter V of SOLAS.  
Penalty: 50 penalty units.

*Note* For pilot ladders — see ISO 799-2004 *Ships and marine technology — Pilot ladders*.
- (2) When a vessel uses a pilot, the master must ensure that embarkation and disembarkation of the pilot are carried out in accordance with the arrangements mentioned in subsection (1).  
Penalty: 50 penalty units.

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- (3) An inspector may prohibit further use of a pilot boarding arrangement if he or she thinks that the means of access are defective or do not comply with this Order.
- (4) A master who receives written notice of a prohibition under subsection (3) must ensure that the means of access are not used for pilot transfer arrangements until the defect or non-compliance is rectified.

Penalty: 50 penalty units.

- (5) An offence against subsection (1), (2) or (4) is a strict liability offence.
- (6) A person is liable to a civil penalty if the person contravenes subsection (1), (2) or (4).

Civil penalty: 50 penalty units.

**13 Operation of steering gear****[SOLAS V/25]**

The master of a vessel that has 2 or more steering gear power units capable of simultaneous operation must ensure that at least 2 units are operating when the vessel is entering an area where navigation requires special caution.

**14 Steering gear — testing and drills****[SOLAS V/26]**

- (1) The master of a vessel must ensure that, within 12 hours before the vessel's departure from a port, the vessel's steering gear is checked and tested by the vessel's seafarers in accordance with paragraphs 1 and 2 of Regulation 26 of Chapter V of SOLAS.  
Penalty: 50 penalty units.
- (2) AMSA may exempt a vessel or class of vessels that regularly travels on voyages of short duration from compliance with subsection (1).  
*Note* For an application for an exemption — see subsection 7(1).
- (3) The master of a vessel that is given an exemption mentioned in subsection (2) must ensure that the checks and tests mentioned in subsection (1) are carried out at least once every week.
- (4) The owner of a vessel must ensure that clear operating instructions, that include a block diagram showing the procedures for changing between systems, are displayed on the navigation bridge and in the steering compartment of the vessel for any:
  - (a) remote steering gear control systems; and
  - (b) steering gear power units.
- (5) The master of a vessel must ensure that all officers operating or maintaining steering gear on a vessel are familiar with the operation of the steering systems on the vessel and the change-over procedures.
- (6) The master of a vessel must ensure that, at least once every 3 months, emergency steering drills take place to test the emergency steering procedures on the vessel, including:
  - (a) direct control from within the steering gear compartment; and
  - (b) the communications procedure with the navigating bridge; and



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- (c) the operation of any alternative power supplies.  
Penalty: 50 penalty units.
- (7) The master of a vessel must ensure that the following information is recorded in the official logbook:
  - (a) the date the checks and tests mentioned in subsection (1) are carried out;
  - (b) the date and details of emergency steering drills mentioned in subsection (6) are carried out.Penalty: 50 penalty units.
- (8) An offence against subsection (1), (6) or (7) is a strict liability offence.
- (9) A person is liable to a civil penalty if the person contravenes subsection (1), (6) or (7).  
Civil penalty: 50 penalty units

**15 Operational limitations****[SOLAS V/30]**

The owner of a passenger vessel must ensure that the operational limitations of the vessel are documented in accordance with Regulation 30 of Chapter V of SOLAS.

**Division 3 Emergency procedures****16 General emergency alarm signal**

- (1) The general emergency alarm signal for an emergency station muster of the passengers and seafarers of a vessel is a signal of at least 7 short blasts followed by 1 long blast on the vessel's whistle or siren.
- (2) In an emergency, the master of a vessel must ensure that:
  - (a) the general emergency alarm signal is sounded, and repeated on the vessel's electrically operated warning bell system; and
  - (b) suitable instructions to passengers and seafarers are given over a public address system, if fitted, or by any other means available.

**17 Signal to prepare to abandon ship**

- (1) The master of a vessel must decide the prepare to abandon ship signal and ensure that it is stated in the muster list and emergency instructions.  
*Note* Regulated Australian vessels have traditionally used the following signal as a prepare to abandon ship signal: 1 short blast followed by 1 long blast on the vessel's whistle or siren, sounded at least 3 times in succession.
- (2) If the master of a vessel decides to abandon ship, the master must ensure that:
  - (a) the signal to prepare to abandon ship is sounded; and
  - (b) instructions stating what the passengers and seafarers must do are given over a public address system, if fitted, or by any other effective means available; and
  - (c) the engine-room telegraph is put to 'Finished with Engines', unless the master considers that it would adversely affect the safety of passengers and seafarers.

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- (3) If a vessel is to be abandoned, the master of the vessel must ensure that:
  - (a) any machinery or appliance whose operation could impede the safe abandonment of the vessel is stopped, disengaged or otherwise rendered inoperative; and
  - (b) stabilisers, if extended and liable to interfere with survival craft, are retracted; and
  - (c) all seafarers working below deck or in other parts of the vessel distant from survival craft are warned by all means available that the vessel is to be abandoned, in sufficient time to allow all seafarers to reach their survival craft stations.

**18 Abandon ship signal**

- (1) The master of a vessel must decide the abandon ship signal and ensure that it is stated in the muster list and emergency instructions.
- (2) When abandoning ship, the master of the vessel or senior surviving officer must:
  - (a) give the abandon ship signal in the most effective manner possible; and
  - (b) authorise those in charge of survival craft to launch the craft as soon as ready.

**19 Emergency drills**

- (1) The signal for an emergency drill on a vessel is the general emergency alarm signal with the master's instruction that an emergency drill is in place, given:
  - (a) over a public address system, if fitted; or
  - (b) by any other effective means.
- (2) The master of a vessel must ensure that the signal and instructions mentioned in subsection (1) are given.
- (3) If the master of a vessel considers the emergency signal to be a nuisance outside the vessel, he or she may initiate the emergency drill using:
  - (a) the ship's electrically operated warning bell system; or
  - (b) instructions given over the ship's public address system, if fitted; or
  - (c) any other equally effective means.
- (4) The master of a vessel must ensure that:
  - (a) before a signal is given for an emergency drill, all passengers and crew are warned about:
    - (i) the time for the practice to be held; and
    - (ii) the emergency drill signal; and
  - (b) for a passenger vessel — all passengers are told what actions to take.
- (5) The master of a vessel must ensure that the emergency drill and damage control drill procedures mentioned in Schedule 1 are carried out in accordance with Regulation 19-1 of Chapter II-I and Regulations 19 and 30 of Chapter III of SOLAS.

*Note* MSC.1/Circ. 1446/Rev.2 recommends for passenger ships that practice musters are conducted before departure at each port of embarkation.

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- (6) The master of a vessel must arrange for training sessions for the seafarers in survival and use of survival equipment, at suitable intervals to ensure that the seafarers maintain their competence in survival and use of equipment.

*Note* These training sessions are not emergency drills, but may be combined with them.

- (7) The master of a passenger vessel must ensure that the seafarers carry out a practice of the closure of internal watertight doors on the vessel at least once each week.

**20 Passenger lists**

- (1) The master of a passenger vessel must ensure that before the vessel leaves port all persons on board are counted.
- (2) The master must ensure that a passenger list containing the following information is prepared:
- (a) the name and gender of each passenger;
  - (b) whether a passenger is an adult, a child or an infant;
  - (c) whether a passenger requires special assistance in an emergency situation.
- (3) The information mentioned in subsection (2) must be kept ashore and made available to search and rescue services if requested.

**21 Emergency management plans**

- (1) A decision support system for emergency management must be kept on the navigation bridge of a passenger vessel.
- (2) The decision support system must include at least 1 emergency management plan.
- (3) Each emergency management plan must include a list of recommended actions for dealing with at least the following emergencies or any combination of them:
- (a) fire;
  - (b) damage to the vessel;
  - (c) pollution from the vessel;
  - (d) acts by persons that threaten the safety or security of the vessel or its passengers or crew;
  - (e) injuries to seafarers or passengers;
  - (f) cargo-related incidents;
  - (g) assistance required by other vessels.
- (4) Damage control procedures in an emergency management plan must take account of the vessel's voyage stability data.
- (5) The vessel's voyage stability data must be available for any emergency.
- (6) Emergency management plans must have a uniform structure and be easy to use.
- (7) Each emergency management plan:
- (a) must be in printed form; and
  - (b) may be in electronic form.

**Section 22****22 Emergency instructions**

- (1) The master of a vessel must ensure that clear instructions about what to do in an emergency are given to every person on the vessel.

Penalty: 50 penalty units.

*Note* For guidance on the method and content of instructions to be given to passengers see the *Revised guidelines for passenger safety instructions* and the *Guidelines for passenger safety instructions on ro-ro passenger ships*.

- (2) An offence against subsection (1) is a strict liability offence.
- (3) A person is liable to a civil penalty if the person contravenes subsection (1).  
Civil penalty: 50 penalty units.
- (4) Emergency instructions must be displayed in areas of the vessel where they may be easily seen, including the navigation bridge, engine-room and seafarer and passenger accommodation spaces.
- (5) The master of a vessel carrying passengers must:
- assign each passenger to a muster station; and
  - record information about the assignment; and
  - ensure that procedures are in place to locate and rescue passengers trapped in cabins.
- (6) The owner of a vessel carrying passengers must ensure that the muster stations for passengers are indicated by painted or other signs readily visible by day or night.

*Note* For appropriate signs — see IMO Resolution A.760(18) *Revised guidelines for safety passenger instructions* as amended by IMO Resolution MSC.82(70) *Amendments to resolution A.760(18) Symbols related to life-saving appliances and arrangements* and IMO Circular MSC.1/Circ.1244 *Symbol of infant life jacket*.

**23 Emergency duties for seafarers**

- (1) The master of a vessel must ensure that:
- each seafarer, on joining the vessel, is assigned to an emergency station and to a survival craft; and
  - each lifeboat on a passenger vessel has assigned to it at least the number of certified persons mentioned in the following table.

| <b>Carrying capacity of lifeboat</b> | <b>Number of certified persons</b> |
|--------------------------------------|------------------------------------|
| less than 41 persons                 | 2                                  |
| 41 to 61 persons                     | 3                                  |
| 62 to 85 persons                     | 4                                  |
| 86                                   | 5                                  |

- (2) The master of a vessel must:
- assign to seafarers emergency duties, including damage control duties; and
  - provide instructions to seafarers on those duties.

*Note* If the size of the crew permits, specialised emergency parties could be designated to deal with specific emergencies and duties. In other cases, the whole crew might muster at a specific point (except those whose duties necessitate them remaining at their posts, or whose emergency

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duties require them to undertake a specific duty, such as a person in charge of emergency radio communications) and be given relevant tasks as appropriate.

- (3) The master must ensure that the assignments made under subsections (1) and (2) are:
- (a) recorded in the muster list; and
  - (b) displayed on the vessel in a way that the seafarers can easily see them.

*Note* Regulations 8 and 37 of Chapter III of SOLAS set out arrangements for the muster list and emergency instructions.

**24 Responsibilities of owner and seafarers**

- (1) The owner of a vessel must give a copy of this Order to:
- (a) the master of the vessel; and
  - (b) for a passenger vessel — each officer or other person who is directly responsible to the master for a department of the vessel.
- Penalty: 50 penalty units.
- (2) The master of a vessel must ensure the following:
- (a) the requirements of this section are met to the extent that each seafarer knows his or her assigned emergency stations and duties, and the emergency procedures generally;
  - (b) each seafarer is trained in the operation and application of all life-saving, fire fighting and other emergency appliances and equipment of the vessel;
  - (c) entries are made in the vessel's official logbook recording each drill, practice muster or training session held for section 19;
  - (d) if a drill, practice muster or training session required by section 19 is not held — an entry is made in the vessel's official logbook stating the reason that it was not held.
- (3) Each officer or other person mentioned in paragraph (1)(b) must:
- (a) be familiar with the requirements of section 22 and subsections 23(1) and (2); and
  - (b) ensure that all seafarers under his or her control are instructed in:
    - (i) their assigned duties under subsection 23(1); and
    - (ii) the survival craft, fire and damage control drills.
- Penalty: 50 penalty units.
- (4) An offence against subsection (1) or (3) is a strict liability offence.
- (5) A person is liable to a civil penalty if the person contravenes subsection (1) or (3).
- Civil penalty: 50 penalty units.

**Division 4 Atmosphere sampling and measuring****25 Atmosphere sampling and measuring**

- (1) An owner of any of the following vessels must ensure that the vessel has on board the equipment mentioned in Schedule 2 for the vessel:
- (a) oil tanker;
  - (b) chemical tanker;

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- (c) gas carrier;
  - (d) a vessel carrying a cargo likely to deplete the oxygen concentration in a cargo space;
  - (e) a vessel carrying a cargo likely to give off flammable, toxic, corrosive or other chemical gas;
  - (f) a vessel that has inert gas generating capability;
  - (g) a regulated Australian vessel on which the seafarers may be required to enter a confined space;
  - (h) any other vessel to which Chapter I of SOLAS applies.
- Penalty: 50 penalty units.
- (2) An offence against subsection (1) is a strict liability offence.
  - (3) A person is liable to a civil penalty if the person contravenes subsection (1).  
Civil penalty: 50 penalty units.
  - (4) The atmosphere sampling equipment for a regulated Australian vessel must comply with the following standards:

**Performance requirements****Installation, use and maintenance requirements**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>(a) AS/NZS 60079.29.1:2008 — <i>Explosive atmospheres — Gas detectors — Performance requirements of detectors for flammable gases</i>; or</li> <li>(b) IEC 60079-29-1 Ed. 1.0. <i>Gas detectors — Performance requirements of detectors for flammable gasses</i></li> </ul> | <ul style="list-style-type: none"> <li>(c) AS/NZS60079.29.2:2008 <i>Gas detectors — selection, installation, use and maintenance of detectors for flammable gases and oxygen</i>; or</li> <li>(d) IEC 60079-29-2 Ed 1.0 <i>Gas detectors — selection, installation, use and maintenance of detectors for flammable gases and oxygen</i></li> </ul> |
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**Division 5 Transitional arrangements****26 Continuation of exemptions**

An exemption given or continued under section 24 of *Marine Order 21 (Safety of navigation and emergency procedures) 2012*, that was in force on 30 June 2016, is taken to be in force under this Order.

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## Schedule 1 Emergency drill procedures

(subsection 19(5))

### 1 Emergency drill

- (1) On the general emergency alarm signal, each seafarer must immediately assemble at his or her emergency station, unless the master orders the seafarer to continue with his or her immediate duties.
- (2) Emergency parties must be trained and practised in the emergency duties assigned to them by the master.
- (3) When the master is satisfied with the emergency drill, he or she may give the prepare to abandon ship signal.
- (4) When the prepare to abandon ship signal is given, each seafarer must muster at the survival craft to which he or she is allocated.
- (5) The person in charge of each survival craft must do the following:
  - (a) call the roll of persons assigned to the survival craft;
  - (b) be satisfied that each person assigned to the craft understands the duties given to him or her for launching and boarding the craft;
  - (c) be satisfied that each person assigned to the craft is correctly wearing a lifejacket;
  - (d) report to the master the total number of persons, including the person in charge, at the survival craft;
  - (e) report to the master when the drill is complete.
- (6) For a passenger vessel, each seafarer allocated duties in connection with marshalling and mustering passengers must take his or her assigned place in:
  - (a) a stairway; or
  - (b) a passageway; or
  - (c) a muster station.
- (7) For a passenger vessel, a person in charge of, or assisting at, muster stations must:
  - (a) instruct and assist each passenger to correctly put on a lifejacket; and
  - (b) advise passengers on the procedures for abandoning ship, including telling them that:
    - (i) the vessel is the safest refuge unless it is sinking; and
    - (ii) conditions may occur when it is necessary to evacuate every passenger from the vessel; and
    - (iii) the seafarers will be with the passengers in their survival craft to take appropriate action and assist the passengers to board rescue vessels; and
    - (iv) report to the master the number of passengers mustered at the muster station.
- (8) After the muster, the abandon ship practice must be carried out with launching of survival craft as appropriate.

## **2 Lifeboat drills**

- (1) A drill is to be carried out in accordance with the vessel's safety management system.
- (2) When a fire-protected boat is lowered into the water, the water spray system on the boat is to be tested.
- (3) If a lifeboat drill is held at sea and weather prevents the swinging out and the part lowering of a boat, the boat is to be swung out and partly lowered at the next suitable opportunity.

## **3 Liferaft and marine escape system drills**

- (1) At least 1 liferaft is to be prepared for launching by releasing all securing lashings.
- (2) If a cradle or other device is used to ensure that the liferaft when launched will enter the water clear of the vessel, the device is to be tested during or immediately after the drill.
- (3) If a liferaft will be davit launched, the davit is to be tested by hooking on to a liferaft, if practicable without disturbing the waterproofing of the liferaft container.
- (4) After unhooking the container, the davit must be swung out and secured in the lowering position.
- (5) A small weight may be attached to the fall to check the lowering and braking capability of the davit and winch.
- (6) If a vessel has more than 1 davit, all davits are to be tested at least every 3 months.
- (7) A liferaft is to be inflated and the seafarers given instruction in the use of the equipment and the maintenance of the liferaft at least every 6 months at a suitable place, including:
  - (a) on board the vessel; or
  - (b) on the wharf adjacent to the vessel; or
  - (c) at the liferaft service station; or
  - (d) at a training establishment; or
  - (e) at a swimming pool if the instruction is to be combined with practical training in righting and boarding the raft.
- (8) The liferaft may be:
  - (a) a spare raft; or
  - (b) a demonstration raft supplied by a liferaft service station or training establishment.
- (9) If a vessel is fitted with a marine evacuation system, drills must include:
  - (a) carrying out the procedures required for deployment of the system; and
  - (b) regular instruction using on board training aids.
- (10) Each member of a party assigned to a marine evacuation system must participate in training on board the vessel or on shore, of the full deployment of the marine evacuation system into water, at least once every 3 years.



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#### **4 Testing of power supplies**

- (1) The main and emergency lighting at the following places on the vessel must be tested:
  - (a) all muster and survival craft stations;
  - (b) alleyways, stairways, emergency exits;
  - (c) accesses to all muster and survival craft stations.
- (2) The emergency power supply to the following equipment on the vessel must be tested:
  - (a) the vessel's whistle or siren;
  - (b) general alarm bell system;
  - (c) public address system, if fitted.

#### **5 Fire drill**

A fire drill must be carried out as follows:

- (a) the officer in charge of the drill must order an attack on a mock fire on the vessel;
- (b) on the fire signal or warning in the engine room, the fire pumps must be prepared by the engineers on the muster list;
- (c) each seafarer forming the fire party must go to the location of the mock fire;
- (d) at the mock fire:
  - (i) fire hoses must be laid out; and
  - (ii) at least 2 fire hoses must be connected to the hydrants and tested at full pressure, with water being supplied from the main fire pumps; and
  - (iii) the fire extinguishers must be unshipped; and
  - (iv) any isolating valves fitted in the fire main must be shut and opened to test the valves operation; and
  - (v) for a cargo vessel — at every second fire drill, the water is to be supplied from the emergency fire pump;
- (e) at least once in each consecutive 3 months — a practical demonstration of the use of the portable fire extinguishers must be given by expending the charge of at least 1 extinguisher;
- (f) the seafarers must practise closing openings on the vessel to reduce the supply of air to the mock fire, including the following:
  - (i) doors;
  - (ii) windows;
  - (iii) ports;
  - (iv) ventilators;
  - (v) ventilating shafts;
  - (vi) stairways;
  - (vii) lift shafts;
- (g) the seafarers must practice:
  - (i) using breathing apparatus and safety lamps; and

- (ii) rescuing casualties and using stretchers, hoists or other apparatus for the rescue; and
- (iii) other emergency drill considered necessary to combat the assumed fire;
- (h) the seafarers forming the fire party must be instructed in the use of all fire-fighting appliances on the vessel;
- (i) the master must carry out fire drills for fires in the engine room, including:
  - (i) shutting down ventilation systems to the engine room (although it may be necessary to keep some air inlets open during the drill to supply air to machinery that cannot be shut down at the time of the practice); and
  - (ii) operating remote shut off arrangements for fuel valves for tanks and fuel pumps, operating different remote shut-offs in rotation so that all, if possible, are operated between seafarer changes; and
  - (iii) if a fire on the other side of the bulkhead may hazard the engine — using hoses in the engine room for cooling bulkheads, tanks and other equipment; and
  - (iv) instructing persons to shut off any electrical machinery before operating fire-hoses; and
  - (v) the rescue of persons endangered by smoke or gas; and
  - (vi) moving around the engine room in blackout conditions caused by smoke.

## **6 Damage control drill**

- (1) A damage control drill for a vessel must be conducted in accordance with the vessel's safety management system and as follows:
  - (a) on the emergency signal being given, the officer in charge of the drill must indicate a section of the vessel where the mock emergency is happening;
  - (b) assigned seafarers must immediately close the bulkhead doors for the section and report the closure of the doors to the master or to the officer in charge of the drill;
  - (c) doors that were already closed at the commencement of the drill must be opened and then closed, other than any watertight door or other fitting that is required by *Marine Order 12 (Construction — subdivision and stability, machinery and electrical installations) 2016* to be kept closed;
  - (d) cross-flooding arrangements must be checked, if it is practical and safe to do so;
  - (e) seafarers assigned to sounding duty must immediately sound tanks and bilges in the section of the vessel indicated for the drill;
  - (f) a messenger from the sounding party must communicate with the officer in charge of the drill;
  - (g) as many pumps as possible that are related to damage control and operated from the engine room must be connected to the section of the vessel indicated for the drill;
  - (h) a report must be made to the command point by messenger or other means when the pumps are ready for action;

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- (i) if open in port, vessel's side doors, sidescuttles, valves and similar fittings must be closed as directed on the muster list;
  - (j) a report must be made to the bridge by messenger or other means when the side doors, sidescuttles, valves and similar fittings have been closed.
- (2) However, the master of a passenger vessel must, in addition to meeting the requirements of subclause (1):
- (a) conduct a damage control drill at least every 3 months; and
  - (b) vary the damage control drill scenarios for different damage conditions; and
  - (c) ensure that any seafarer with damage control drill responsibilities:
    - (i) participates in each drill; and
    - (ii) is familiar with their duties before a voyage begins; and
    - (iii) is familiar with the vessel's damage control system; and
    - (iv) is instructed in damage survey.
- (3) The following are also required for each damage control drill on a passenger vessel:
- (a) any seafarer with damage control drill responsibilities must report to the seafarer's muster station and prepare for duties mentioned in the muster list;
  - (b) any bilge pump must be operated and its alarm and automatic starting system checked;
  - (c) any communication link to shore based support must be tested;
  - (d) stability assessments must be conducted for the simulated damage conditions by using:
    - (i) damage control information; and
    - (ii) if fitted — an on board damage stability computer; and
    - (iii) if the vessel has a communication link to shore based support — the activated link at least once a year;
  - (e) any seafarer with damage control drill responsibilities must demonstrate the ability to:
    - (i) operate watertight doors and closures; and
    - (ii) if fitted — use the flooding detection system and the cross-flooding and equalisation systems.

## **7 Recovery of lifeboats used as rescue boats**

For a lifeboat that is a rescue boat, the owner must ensure that:

- (a) it is capable of being recovered safely after use as a rescue boat; and
- (b) training is carried out each time the lifeboat is launched for a drill in accordance with clause 2; and
- (c) the instructions are compatible with the particular arrangements on each vessel, and documented in the vessel's safety management system.

## **Schedule 2 Atmosphere sampling equipment, measuring equipment and related procedures**

(section 25)

### **1 Portable gas detectors**

- (1) The following vessels must have a portable gas detector:
  - (a) an oil tanker;
  - (b) a chemical tanker;
  - (c) a gas carrier;
  - (d) a cargo vessel carrying any substance that may give off combustible gases;
  - (e) a vessel that carries a substance likely to deplete the oxygen concentration in a space;
  - (f) a vessel where a person may have to enter a confined space;
  - (g) any other vessel to which Chapter I of SOLAS applies.
- (2) The gas detector must indicate:
  - (a) the percentage of oxygen by volume in the sample tested; and
  - (b) the combustible gas concentration as a percentage of the lower explosive limit (*LEL*) or lower flammable limit (*LFL*); and
  - (c) the concentration of hydrogen sulphide and carbon monoxide in parts per million.

### **2 Cargo spaces on tankers with inert gas capability**

- (1) The following vessels must have a portable gas detector capable of accurately measuring hydrocarbon percentage by volume in an inert atmosphere:
  - (a) an oil tanker with inert gas capability;
  - (b) a chemical tanker with inert gas capability;
  - (c) a liquefied gas carrier.
- (2) The owner of a vessel with a flue gas generated inert gas system must ensure that the gas detector is designed to operate in inert gas containing a high proportion of carbon dioxide.

### **3 Detection of other gases**

- (1) The following vessels must carry the equipment and information mentioned in subclause (2):
  - (a) a vessel carrying cargo that may give off toxic, corrosive or other gases;
  - (b) a vessel on which a person may enter a confined space that may contain a harmful gas that is not hydrogen sulphide or carbon monoxide.
- (2) The equipment and information required is:
  - (a) an instrument or instruments, with instructions for use, capable of detecting those gases and indicating their proportions, either as a direct reading of parts per million (ppm), or milligrams per cubic metre (mg/m<sup>3</sup>); and

- (b) Material Safety Data Sheets completed in accordance with the recommendations of Safe Work Australia in the National Code of Practice for the Preparation of Material Safety Data Sheets, 2nd Edition, [NOHSC:2011(2003)].

*Note* The Data Sheets specify exposure standards for the chemical in question, which are in Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)].

#### 4 Operating instructions

- (1) A person using a portable gas detector must have access to the operating manual and maintenance instructions supplied by the manufacturer.
- (2) A person using or maintaining the equipment must ensure the use or maintenance is in accordance with the manufacturer's instructions and Australian Standard AS/NZS 60079.29.1:2008 — *Explosive atmospheres — Gas detectors — Performance requirements of detectors for flammable gases*.

*Note* For further information — see Schedule H of AS 2865:2009—*Confined Spaces*.

#### 5 Recalibration

Each portable gas detector must be recalibrated in accordance with the manufacturer's instructions:

- (a) at least annually; or
- (b) if the manufacturer's instructions require a more frequent interval — at those intervals.

#### 6 Responsibilities

- (1) The owner of the vessel must ensure that the following are carried on board the vessel:
- (a) the correct gas detector for the vessel type;
- (b) any equipment required for testing or calibrating the gas detector according to the manufacturer's recommendations, including span gas;
- (c) sampling lines, filters, and spare parts in sufficient quantities for taking accurate measurements of the gas concentration or makeup in the atmosphere being tested.
- (2) The owner of the vessel must give appropriate instructions and procedures for safe working conditions, including information on safe levels for the following:
- (a) the percentage of oxygen;
- (b) the percentages of LEL or LFL;
- (c) the percentages of hydrocarbons;
- (d) the concentration of hydrogen sulphide and carbon monoxide;
- (e) toxic, corrosive or other harmful gases on or likely to be on the vessel.
- (3) The owner of the vessel must ensure that a person using a portable gas detector is trained in the correct use of the instrument.
- (4) The master of a vessel must ensure that the atmosphere in a space is tested by a trained person to assess its safety, if:
- (a) the space is about to be used for an operation that is hazardous, eg gas freeing; or

- (b) the space is a confined space that a person is about to enter: or
- (c) there is an identified need to monitor the properties of a cargo.

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## Notes to *Marine Order 21 (Safety and emergency arrangements) 2016*

### Note 1

*Marine Order 21 (Safety and emergency arrangements) 2016* (in force under subsection 342(1) of the *Navigation Act 2012*) as shown in this compilation comprises *Marine Order 21 (Safety and emergency arrangements) 2016* amended as indicated in the following tables.

### Table of Orders

| Year and number   | Registration date | FRLI number | Commencement date | Application, saving or transitional provisions |
|---|-------------------|-------------|-------------------|--|
| <i>Marine Order 21 (Safety and emergency arrangements) 2016</i> (MO 2016/7)                 | 24 June 2016      | F2016L01076 | 1 July 2016       |  |
| <i>Marine Order 21 (Safety and emergency arrangements) Amendment Order 2019</i> (MO 2019/9) | 29 November 2019  | F2019L01531 | 1 January 2020    |  |

### Table of amendments

ad. = added or inserted    am. = amended    rep. = repealed    rs. = repealed and substituted

| Provision affected | How affected                              |
|--------------------|---|
| 1A .....           | rep. <i>Legislation Act 2003</i> , s. 48D |
| 1B .....           | rep. <i>Legislation Act 2003</i> , s. 48C |
| 2.....             | am. 2019/9                                |
| 19.....            | am. 2019/9                                |
| 23.....            | am. 2019/9                                |
| Schedule 1.....    | am. 2019/9                                |