Regulations of 15 June 1987 No. 507 concerning Safety Measures, etc. on Passenger Ships, Cargo Ships and Lighters


Chapter 1
General provisions

§ 1 Scope of application

(1) These Regulations with appurtenant annex apply to new and existing Norwegian ships, including lighters, of more than 50 gross tonnage as well as to smaller ships and lighters to the extent deemed reasonable and practicable by the Norwegian Maritime Directorate, unless otherwise stated in the individual sections.

(2) These Regulations do not apply to fishing vessels.

(3) Any ship used for catching fish, whales, seals or other living resources of the sea for purposes of research and training shall also comply with the requirements laid down for its particular activity in the applicable fishing vessel regulations.

Amended by Regulation of 29 June 2007 No. 1006 (in force on 1 July 2007).

§ 2 Definitions

For the purpose of these Regulations, the following definitions shall apply:

a) Manned lighter: A lighter which is manned in accordance with the regulations currently in force relating to manning of Norwegian ships.

b) Gross tonnage: The numeric value indicated as gross tonnage in the Tonnage Certificate. If safety tonnage is entered in the «Remarks» column of the Tonnage Certificate, the numeric value for such tonnage shall apply as gross tonnage.

c) Deck cargo: Cargo which is carried on exposed decks.

d) Fixed means of access: Fixed ladders, fixed gangways and platforms.

e) Portable means of access: Rope/ladders, gangways, etc. which are temporarily arranged for particular purposes.

f) Approved, type-approved or accepted:

1. In respect of equipment covered by the regulations concerning marine equipment. Type-approved by a Notified Body and marked in accordance with the said regulations.

2. In respect of other equipment:

   2.1 Approved: A single piece of equipment approved by the Norwegian Maritime Directorate, with the exception of radio equipment approved by the Norwegian Post and Telecommunications Authority.

   2.2 Type-approved: Prototype approved by the Norwegian Maritime Directorate with or without spot checks of mass production.

   2.3 Accepted: Equipment accepted by the Norwegian Maritime Directorate on the basis of approval or type-approval by a recognized classification society, any other public or private institution, or the administration of a country which has ratified the SOLAS Convention.

g) Helicopter deck: Special deck constructed for landing and take-off of helicopters.

h) ISO: The International Standards Organization.
i) **Landing area**: Area on the ship which is marked for landing and takeoff of helicopters (e.g. part of tank deck, hatch cover, etc.).


k) **Cargo ship**: Any ship which is not a passenger ship, a fishing vessel, a lighter or a pleasure craft.

l) **Lighter**: A hull or ship with no propulsion machinery which has to be towed or pushed whenever it is to be moved, and which is used for carrying cargo.

m) **Area for winching operations**: Area on the ship which is marked for winching operations, but not for landing (e.g. part of tank deck, hatch cover, etc.).

n) **Passenger ship**: A ship that can carry more than 12 passengers or which is required to have official permission to carry passengers.

o) **The SOLAS Convention**: The International Convention for the Safety of Life at Sea, 1974, with subsequent amendments.

p) **Ship of historical importance**: Ship/vessel which has been given such status in accordance with approval by the Central Office of Historic Monuments or whoever is authorized by this Office. This status is maintained for as long as the Central Office of Historic Monuments, through a separate agreement with the owner, finds the antiquarian conditions to be sustained.

Amended by Regulation of 29 June 2007 No. 1006 (in force on 1 July 2007).

§ 3

**Duties**

The company, master and other persons working on board shall perform their duties in accordance with the Ship Safety and Security Act and the supplementary provisions laid down in this Regulation.

Amended by Regulation of 29 June 2007 No. 1006 (in force on 1 July 2007).

§ 4

**Exemptions**

The Norwegian Maritime Directorate may, in individual cases and upon written application, grant exemptions from the requirements of these Regulations. There must be special reasons that make the exemptions necessary and they must be justifiable in terms of safety. Exemptions must not contravene international agreements to which Norway has acceded.

§ 5

**Inspection, survey, testing, etc.**

1) It is the responsibility of the ship’s master to ensure that the requirements, inspection measures, etc. in accordance with these Regulations, are carried out in accordance with the individual provisions.

2) The Norwegian Maritime Directorate’s station (local office) may at any time investigate if the requirements, provisions, etc. have been complied with and carried out in accordance with these Regulations.

3) It is the responsibility of the master and the company to ensure that equipment referred to in these Regulations is inspected and tested by the manufacturer and the installation contractor and that the equipment complies with the requirements laid down by the Norwegian Maritime Directorate for the individual items of equipment in accordance with the appendix to these Regulations.

§ 6

**Equipment in general**

The provisions of these Regulations relating to safety measures, etc. shall not prevent the use of other equipment, material, appliance, apparatus, etc. on board, or prevent that other measures, representing at least the same level of safety as required by these Regulations, are carried out.
Chapter 2
Means of access, etc.

§ 7
Inspection, etc. of fixed and portable means of access and of passages on board

(1) Fixed and portable means of access shall be properly maintained. In case of damage to a means of access, it shall, if required, be fenced off until the necessary repairs have been carried out.

(2) Movable platforms with appurtenant equipment shall be inspected and marked in accordance with the regulations currently in force concerning cargo-handling appliances on ships.

(3) When a ship carries deck cargo, manropes, and if necessary, safe passageways on top of the deck cargo shall be provided in places frequented by people on board. Manropes or railings shall also be provided to prevent anyone from falling overboard, or into holds, tanks, etc.

§ 8
Means of access for pilots etc.

(1) Ships which shall employ a pilot shall be equipped with a pilot ladder or a pilot hoist as prescribed by regulation 17, of Chapter V of SOLAS 1974.

(2) Pilot hoists shall comply with the provisions of the appendix to these Regulations. Pilot ladders shall comply with Norwegian Standard (NS) 6247 or ISO standard No. 799.

(3) Pilot ladders and pilot hoists shall be inspected and kept in good order. Prior to use, the pilot hoist shall be inspected and functionally tested.

§ 9
Gangways, accommodation ladders, passenger lifts, etc.

(1) All ships shall be provided with satisfactory means of access on board to ensure safe embarkation and disembarkment.

(2) Means of access must be positioned so as not to impede safe launching of the lifeboats, at a safe distance from openings in the ship’s side and, as far as practicable, so that nobody will have to pass below suspended cargo. Means of access such as accommodation ladders should point aft, and shall in suspended position rest against a straight ship’s side. Where this is not practical owing to the structure of the ship, an adequate supporting arrangement must be provided.

(3) For ships of less than 300 gross tonnage, it is sufficient that the means of access is to the Norwegian Maritime Directorate’s satisfaction, but it shall, to the greatest possible extent, comply with the requirements for approved equipment.

(4) When means of access for embarking and disembarking shall be fitted, the following shall be complied with:
   a) Under the means of access, a net shall be fitted between ship’s side and shore. Further, the means of access shall be provided with adequate lighting.
   b) In railing or bulwark there shall be an opening or similar to place the accommodation ladder or gangway. If the means of access, nevertheless, have to be placed over the bulwark/railing, stairs or steps with handrail shall be fitted, leading from the means of access down to the deck. The bulwark ladder shall be secured in a reliable manner.
   c) If means of access from ashore are used, these shall be in proper condition, and they shall be fitted in a reliable manner.
   d) When the ship is at anchor, an accommodation ladder with a platform fitted at the lower end shall be used.
   e) Rail ropes and rope nets shall be fitted on the sides of the means of access and at both platforms when the means of access are in use.
   f) The maximum angle of inclination permitted for gangways is 35 degrees. The maximum angle of inclination for combined gangways and accommodation ladders is 50 degrees.

(5) Accommodation ladders with appurtenant platforms shall meet the requirements of NS 6249 or ISO standard No. 5488.

(6) Gangways shall meet the requirements stated in the appendix to these Regulations or ISO standard No. 7061.

(7) The accommodation ladder shall be of such a length that at 55 degrees (50 degrees for fixed steps) to the horizontal, it will at least reach down to 1 metre above the surface of the water at the most adverse trim and draught. If the distance from the deck to the water surface exceeds 10 metres, the accommodation ladder shall, at an angle of 50 degrees to the horizontal, at least reach down to 1 metre above the surface of the water at the most adverse trim and draught. Telescopic accommodation ladders are permitted for lengths of up to 30 metres.
(8) Passenger lift installations shall comply with the regulations currently in force concerning the construction of passenger ships, cargo ships, and lighters. Maintenance and inspection of lift installations shall be carried out in accordance with ISO standard No. 8383-1984.

Chapter 3
Closing arrangements, stowing of cargo etc.

§ 10
Hatches, hatch covers, etc.

(1) All hatches, closing appliances, etc. shall comply with the load line provisions currently in force, and cargo room hatches shall be securely closed and battened down when the ship is not in harbour.
(2) During loading or discharging from holds where all hatches or hatch covers/pontoons have not been removed, adequate safety devices shall be provided to prevent these from falling down.
(3) Hatches, shifting beams, pontoons, etc. shall, when removed, be placed on deck at a distance of at least 600 mm from hatch coamings or hatch openings. Hatch covers shall be secured when left in an open position.
(4) Mechanically operated hatch covers must be handled only by persons who are familiar with their operation.
(5) Deck openings, which are not protected by hatch coamings or similar, having a net height of 750 mm above deck, shall be effectively fenced off. Deck openings shall be adequately lighted.
(6) Where truck guards are required and these are demountable, it shall be ensured that these are in their proper place before truck work is started.
(7) Swimming pools shall be effectively safe-guarded by means of a net or similar device stretched over the pools when not in use.

§ 11
Ports in the ship’s side

(1) Manoeuvring levers/wheels for mechanically operated ports in the ship’s side shall be properly secured when not in use.
(2) Before the ports in the ship’s sides, bow or stern are opened, adequate railings and security devices shall be in place. The ports shall be handled only by persons who are familiar with their operation.
(3) Ports in exposed positions in the ship’s sides, bow and stern shall be closed and properly battened before the ship leaves the quay or berth and other ports in the ship’s sides shall be closed and properly battened before the ship leaves port. Instructions for operating, opening and closing of such ports shall be available.

§ 12
Carriage of deck cargo

(1) The following general requirements apply to the carriage of deck cargo:
   a) The ship or lighter shall be approved for the carriage of deck cargo.
   b) Information regarding the maximum deck cargo permitted shall be available. The necessary calculations shall be available on board.
   c) Hatch openings in weatherdecks which are covered by cargo shall be closed and battened down according to regulations. Ventilators and air pipes shall be effectively protected.
   d) Deck cargo shall be stowed in a safe and proper manner and such as to allow water to drain freely from the deck.
   e) When temporary bulkheads (bins) are used for the carriage of deck cargo, openings shall be arranged so as to prevent water from accumulating.
   f) The deck cargo shall be effectively stowed and shored so that it cannot shift.
   g) Lashings are to be such that they can be readily loosened or tightened during the voyage.
   h) When the cargo is so placed that the effective height of the bulwarks or railings is reduced, railings or manropes shall be provided in accordance with Section 7, third paragraph.
   i) Deck cargo shall not block exits from accommodation and machinery spaces or emergency exits.
   j) The deck cargo shall not be placed so as to impede the immediate use of the lifesaving equipment.
   k) It shall be possible at all times to sound tanks and bilges.
   l) The deck cargo shall be so stowed that navigation and manoeuvring of the ship is not hampered. Particular care shall be taken to ensure that the cargo does not obstruct the view from the bridge or light from lanterns and signals, or impede the use of the required equipment.
   m) There shall be ready access to fire hydrants.
Deck cargo shall not prevent access to or use of anchors, windlasses, winches or other mooring gear.

(2) When carrying fish and the like in bins on deck, the provisions of the regulations concerning the construction of passenger ships and cargo ships currently in force shall be complied with.

(3) Ships of less than 50 gross tonnage which do not possess stability data for the carriage of deck cargo as required in the regulations concerning the construction of passenger ships and cargo ships currently in force, shall before departure with deck cargo, if possible, be inclined sufficiently or in other ways examined, so that the ship’s master has been assured that the ship has sufficient stability for the voyage to be undertaken. The characteristics of the cargo, as well as conditions which may occur during the voyage, shall be taken into consideration.

§ 13

*Embarking, disembarking, and stowage, etc. of vehicles on ferries*

(1) In open or partially open ferries, the Norwegian Maritime Directorate may permit passengers to remain seated in their vehicles during embarkation, disembarkation and during the crossing when the ferry is employed in sheltered waters or lesser trade and the following requirements have been met:

a) The arrangement for mooring and locking etc. the ferry to the vehicle ramp shall be in compliance with the regulations currently in force concerning the construction of passenger ships and cargo ships. During vehicle embarkation and disembarkation the vehicle ramp from ferry to quay shall be securely locked to the recess of the ferry.

b) Vehicles shall be stowed to leave a clearance of at least 60 cm on one side of the vehicle and adequate passageways giving free access to the sides of the ferry.

c) Passageways to the accommodation, emergency exits, fire and rescue equipment shall be kept free of obstructions.

(2) On enclosed ferries, the Norwegian Maritime Directorate may on assessment give special permission for passengers to remain in their vehicles during embarkation and disembarkation.

(3) On enclosed ferries, passengers are not permitted to remain on the car deck during the crossing between ports.

(4) Before the ship leaves port, the crew shall check that all the passengers have left the car deck.

(5) The means of access to the car deck shall be locked during the crossing.

(6) Exits from the car deck shall be clearly marked.

(7) A public address system which also covers the car deck shall be installed for the communication of information to the passengers.

(8) If the same gangway is used for passengers and cars, provisions shall be made for passengers to move across the gangway and to and from the passenger accommodation unimpeded by cars.

(9) Propulsion engines in motor vehicles and other combustion engines fitted in motor vehicles or trailers shall be turned off during the voyage. For appliances operated using open flames, the main valve on the gas or fuel container shall be closed so that all flames are extinguished. Notices to this effect shall be clearly visible on board.

(10) Permission may be granted for combustion engines apart from a vehicle’s propulsion engine to be left running during the voyage on partially enclosed ferries if the car or trailer is positioned in the open section of the car deck, and on open ferries if the car or trailer is positioned in the afterpart of the car deck. Permission will be granted as deemed necessary due to the length of the journey and for what purpose the combustion engine will be used etc.

(11) While vehicles are parked on board, the handbrake shall be applied with the engine in lowest gear.

(12) When required, vehicles shall be lashed down and secured against shifting.

(13) Portholes on the car deck shall be closed and battened down during the crossing.

(14) Smoking and the use of naked flames is not permitted on the car deck. Signs to this effect shall be clearly visible.

(15) It is the duty of the driver of a vehicle to act according to the instructions, etc. given by way of notices or by the ferry crew in accordance with this Section.

(16) On enclosed ferries operating on short ferry links between main highways, the Norwegian Maritime Directorate may on assessment give special permission for passengers to remain seated in their vehicles during the crossing.

Amended by Regulation of 29 June 2007 No. 1006 (in force on 1 July 2007).

§ 14

*Stability*

(1) Stability data and other aids which shall be kept on board:

a) One approved copy of each of the drawings and calculations documenting the stability of the ship, both in the intact condition and in a possible damaged condition.

b) A calculation example shall also be included showing the use of KG limitation curves, and possible other aids for controlling the stability of the ship for the various loading conditions. Aids which are used in addition to – or as a substitute for – KG limitation curves for evaluating the stability of the ship, shall have been submitted to the Norwegian Maritime Directorate for approval.
If a ship shall carry grain or other dry bulk cargo with a natural angle of inclination of less than 35 degrees, approved calculations for carrying such cargo shall be available. For existing ships with no such approval, reference is made to Chapter VI, Part C, regulation 9.2 of the SOLAS Convention.

(2) During normal operation it shall be ensured that:

a) Stability information as well as the relevant conditions for approval of these, are taken into consideration, such as: weathertight/watertight closing appliances, towing, distribution of cargo, passengers, heavy vehicles, timber1, icing and possible use of water ballast, roll damping tanks, exchange/alternate tanks, etc.

b) The ship shall be loaded in such a manner that adequate stability is achieved in all loading conditions, and that the master, according to his own judgement of e.g. the ship’s manouvering characteristics, take the necessary precautions to achieve a reliable trim during the whole voyage for the current loading condition of the ship.

c) The condition on departure and arrival corresponds to the stability data, and that the ship’s centre of gravity lies on the permitted side of the KG limitation curves.

d) The total weight of the deck cargo does not exceed 3 % of the ship’s deadweight, or 30,000 kg if 3 % of the deadweight exceeds this, unless otherwise stated in the approved stability calculations.

e) Increase in weight due to the fact that the deck cargo can absorb or collect water is taken into consideration. Including the presupposed increase of weight, the ship shall not be loaded to a depth greater than to the load line for the trade and season concerned.

f) If the ship is engaged in waters where there is a danger of icing, approved loading conditions under conditions of icing shall be on board. When loading during winter, expected icing and change of draught and stability during the voyage shall also be given reasonable consideration. Under such conditions the ship must not be loaded to the load line for the trade and season concerned.

g) The consequences of loss of crane cargo shall be specially considered if, during loading/ discharging operations at sea, counter ballast is used to balance the heeling moment caused by the weight of the crane.

1 Concerning stowing of timber, reference is made to IMO Code of Safe Practice for Ships Carrying Timber Deck Cargo (A-287 VIII), and the International Convention on Load Lines, 1966, if the ship has timber freeboard.

Chapter 4

Safety measures concerning the danger of gas formation, lack of oxygen, etc. in enclosed spaces etc.

§ 15

Inspection to ascertain gas hazard, etc.

(1) Before anyone enters a tank, small enclosed spaces, tunnels, etc. where there is a possibility of gas or insufficient oxygen without wearing approved breathing protection, the necessary inspection shall have been conducted to ascertain that the air inside these spaces is safe. Measurements shall be taken at different heights and if necessary several times.

(2) To carry out this examination, at least one instrument for measuring hydrocarbons and at least one instrument for measuring the oxygen content of the air or to establish whether the air in the space contains noxious or health hazardous gases shall be provided on board. Tankers and tank lighters shall be provided with at least two instruments for measuring hydrocarbons. If cargo requiring special equipment for the measurement of noxious, health hazardous or explosive gas concentration is carried, such equipment shall be provided on board. Instruments required under this paragraph shall satisfy the requirements stipulated by CENELEC (European Committee for Electrotechnical Standardization) or IEC International Electrotechnical Commission.

(3) Persons responsible for carrying out the measurements shall have received the necessary instruction in the use of the equipment.

(4) Compressed air apparatus shall be checked at least once a month. These apparatus shall be inspected at least once a year by a competent person. The compressed air apparatus shall undergo water pressure testing at least every 5 years. (paragraph 3 corresponds with 14.2.5 in the IBC Code and 3.16.8 in the BCH Code.)

§ 16

Danger charts etc.

(1) All doors, hatches, manhole covers, etc. providing access to spaces where there may be gas or insufficiency of oxygen, shall be clearly marked with signs or adhesive notices giving warning of the danger of gas poisoning and/or lack of oxygen to which a person may be exposed in the space in question.

(2) In places where the sign or adhesive notice can be easily damaged or dirtied, the actual hatch, cover or similar shall also be painted in the same colour code as the signs.
The colour of the warning signs and adhesive notices shall be in conformity with Norwegian Standard NS 6033, or NS 4210, with necessary text in Norwegian and English texts clearly expressing the following:

- **FARE**
- **OKSYGEN MÅNGEL** (Symbol)
- **FARE**
- **GIFTIG GASS** (Symbol)
- **FARE**
- **EKSPLOSIV ATMOSFÆRE** (Symbol)

DANGER
- **LACK OF OXYGEN**
- **POISON GAS**
- **EXPLOSIVE ATMOSPHERE**

§ 17  
**Safety measures in connection with inspections, work, etc.**

(1) When work must be carried out in a tank, space, tunnel, etc. where there may be danger of poisoning or lack of oxygen, this is only permitted on the condition that an approved self-contained breathing apparatus or a breathing mask with hose is used. Before work is started in a tank, in narrow confined spaces, tunnels, and other places where there might be a danger of gas concentrations, thorough ventilation shall be carried out, and in larger spaces mechanical ventilation equipment shall be applied. There shall be continuous ventilation while work is in progress.

(2) On board every ship of more than 200 gross tonnage fitted with tanks or enclosed spaces where the conditions make inspection etc. necessary, there shall be an approved self-contained breathing apparatus. Ships of more than 500 gross tonnage shall have at least two approved self-contained breathing apparatus on board. Breathing apparatus belonging to the fireman’s outfit may be included in the prescribed number of self-contained breathing apparatus. The ship shall have a sufficient number of spare air containers or a special air compressor for the compressed air containers. The air compressor shall have a water and oil separator, and shall have an arrangement for the fitting of a filter in the air inlet.

(3) Prior to any inspection of, or anyone staying in or commencing work in a tank or space where there is a danger that gas may have developed or of a lack of oxygen, and during cleaning of a tank containing cocoa nut oil, fish oil, tallow or similar, as well as removal of rust etc. from tanks or spaces, superiors shall be notified, and the oxygen content and gas concentration in the space/tank shall be checked, cf. Section 15, first paragraph.

(4) As long as the inspection and the work is in progress, the oxygen content and the gas concentration in the space/tank shall be checked at short intervals. The work shall be supervised by at least two persons, one of whom shall be equipped with a self-contained breathing apparatus and specially trained in its use, and the other shall be equipped with radio-communication equipment approved for use in gas-hazardous areas, so as to warn as quickly as possible the persons in charge, cf. the regulations currently in force regarding precautions to be taken in connection with welding or other use of open flames, etc. on board tankers in operation.

(5) For the lighting of tanks and spaces where very inflammable cargo is carried, or of spaces and tanks which are not gasfree, only approved lighting arrangement (safety lamps) must be used. Portable lamps shall be air powered or have a battery.
§ 18

Ventilation of cargo holds etc. where vehicles are used

(1) Fork lift trucks etc. powered by a combustion engine may only be used in cargo holds or other spaces when the space is provided with effective mechanical ventilation equipment as stated in the regulations concerning the construction of passenger ships, cargo ships and lighters. The ventilation shall be in operation as long as a truck or other machinery powered by a combustion engine is in use in the cargo holds or spaces. It must, moreover, be ensured that petrol, propane and diesel engines are correctly adjusted and properly maintained.

(2) Trucks shall never be left with the engine running.

(3) In cargo holds where trucks are used, signs shall be posted up pointing out the danger of exhaust poisoning.

(4) On ships where vehicles are to be used in cargo holds as mentioned under the first paragraph, there shall be instruments on board to measure the CO concentration. The measuring instruments shall be used during loading and discharging, and if there is otherwise reason to suspect that the spaces may contain exhaust gas.

§ 19

Driving of truck or crane

Members of the crew required to drive a truck or crane shall be adequately trained for this operation, and it must be ensured that they are over 18 years of age.

Chapter 5

Safety measures during helicopter operations on ships with helicopter deck/landing deck/landing area/emergency area/area for winching operations

§ 20

Safety measures etc.

(1) The following safety measures shall be fulfilled during helicopter operations:

a) Instructions and check lists shall be prepared, adopted to the type of helicopter operations (landing/emergency landing/winching operations) relevant to the ship in question. The instructions shall contain information about maximum helicopter size, permissive weight, and rotor diameter by landing/emergency landing on the ship in question, and shall correspond to the approval pursuant to the regulations currently in force concerning the construction of passenger ships, cargo ships and lighters.

b) All persons on board shall be instructed in accordance with the instructions. Notices prohibiting smoking, and notices stating that no unauthorized person shall be present in the area during helicopter operations, must be posted up in easily visible positions. The text of the notices shall be in Norwegian and English.

§ 21

Basis for helicopter operations

(1) Before a helicopter is permitted used in helicopter operations, to and from the ship, it must be confirmed that the following provisions have been complied with:

(2) The helicopter shall be registered in a company licensed by the national authorities in the country where the company is registered to operate a helicopter service in connection with ships.

(3) Documentation (arrangement drawing), or information in some other way, regarding the position and size (diameter) of the helicopter deck/landing area/winching area inside marked areas, the maximum weight for which the helicopter deck is approved (as regards strength), distance from centre to nearby hindrances, heights, and the type of such hindrances, marking, lighting, etc. shall be submitted to the helicopters/ helicopter service companies/national aviation authorities.

(4) Immediately prior to landing or winching operations it must be possible, if necessary, to inform the helicopter pilot about the ship’s rolling and pitching, the wind force, and relative wind direction, to enable the pilot, based on the information mentioned in the third paragraph above, and considering the course and manoeuvring, etc. of the ship, to evaluate whether the intended helicopter operations can be safely performed.

(5) For helicopter landing in strict emergency situations, the same procedures as in the third and fourth paragraphs above apply, in principle, but particular emphasis shall be put on the specification of the size of free deck area, etc. which is available for an emergency. Likewise, adequate fire equipment shall be easily accessible and ready for use.
The helicopter must be fitted with communication equipment suitable for safe communication with the ship. Regarding transmission/communication equipment in connection with helicopter operations, reference is made to the regulations currently in force relating to radiotelegraphy and radiotelephony for ships.

§ 22

Communication etc. during helicopter operations

(1) In preparation for helicopter operations such as landing/winching operations, the following shall be observed:

(2) The ship’s radio station shall be ready for immediate use when a helicopter is in flight to or from the ship and during landing/winching operations. The ship’s radio operator is under an obligation to acquaint himself with the local communication instructions and to relay messages to and from given coast stations. In the case of helicopter arrivals in darkness and in conditions of poor visibility in areas with heavy ship traffic, other ships should, whenever it is considered necessary, be informed by transmission of the safety signal on the frequency which is in each case most appropriate.

(3) For transmission of radio direction-finding signals for navigational assistance during helicopter transport the ship station shall use the frequency in accordance with the provisions of the International Radio Regulations, either by manual keying of the main or the reserve transmitter, or by automatic transmission from a radio beacon. The ship shall always inform the helicopter of the frequency, class of emission, and the ship’s signal letters. The radio operator shall from the position where the VHF radio equipment is operated, have full visual control of the helicopter area and its immediate surroundings, or be in direct communication with the guard on the helicopter deck who has full visual control as mentioned above.

(4) In the case of failure of radio contact, a satisfactory arrangement shall be agreed upon for communication between ship and helicopter, for example by use of a signal lamp, as follows:

- Constant light – ship ready to receive helicopter.
- A series of short flashes – ship cannot receive helicopter, but waiting time will not exceed 15 minutes.
- Prolonged series of «No» (.) – ship cannot receive helicopter, and waiting time will exceed 15 minutes.
- Flashing red light – helicopter must get clear of the ship.

(5) Moreover, the signals at any time established in the International Code of Signals shall apply.

§ 23

Other special requirements during helicopter operations

(1) Prior to and during helicopter operations the necessary safety measures shall be established on board, and a man-overboard-boat shall be ready for immediate launching. For supply vessels and auxiliary vessels the provisions about safety measures on board may be limited if the ship master finds this to be adequately safe.

(2) Prior to helicopter operations the area shall be free from obstructions. It shall be checked that rigging, ventilation cowls, railings, etc. have been removed and secured in accordance with an approved plan.

(3) If a net is used for sliding safety at the helicopter deck, etc. it must be ascertained that the net is securely tightened and fastened at all fastening points, ensuring an even tightness.

(4) Prior to helicopter operations there shall be pressure on the fire main on deck. Fire hoses and equipment shall be ready for use, but not loose on the deck.

(5) Two lifebuoys shall be equipped with self-igniting lights, smoke signals and lifelines of adequate length, be stowed and ready for use in their proper place in the immediate vicinity of the helicopter deck.

(6) Personnel taking part in the helicopter operation shall be equipped with work vests/life-jackets and approved safety helmets.

(7) Prior to helicopter operations at night it must be checked that all lighting around the deck and flood-lighting of the deck is in order.

§ 24

Special requirements for tankers and OBO ships

At landing/winching operations on tankers and OBO ships which are not gas free, the following measures shall be observed in addition to the provisions of Section 21:

- Immediately prior to landing or winching operations helicopters shall discharge into the sea any build-up of static electricity in the helicopters.
- Only twin-engined helicopters shall be used.
- Pressure/vacuum valves to cargo tanks shall be lifted and closed less than half an hour before helicopter operations.
- All openings in cargo tanks shall be closed before landing.
- All electrical equipment shall be switched off and
batteries disconnected. Restarting is not permitted until it has been checked that there is no dangerous
gas/air mixture around the helicopter. Prior to starting, the ship must be so manoeuvred that the wind will
blow any gas that may be present away from the helicopter’s starting area.

§ 25
Inspection

(1) On board the ship it must be ascertained that the provisions of this chapter are complied with, and also that
relevant requirements mentioned in the regulations concerning the construction of passenger ships and cargo ships
currently in force are satisfied and maintained. This may be done in cooperation/consultation with a helicopter service
company.
(2) The Norwegian Maritime Directorate’s station (local office) may perform necessary surveys and inspections to
ascertain that the provisions of this chapter at any time have been complied with.

Chapter 6
(Repealed by regulation of 1 January 2005 no. 8.)

Chapter 7
Other safety measures

§ 30
Special operational conditions for vessels with passenger certificate,
or with permission for restricted carriage of passengers

(1) The following provisions apply to all vessels using sails:
   a) Sails may be used only when there is sufficient manning on board to handle sails and rigging, and when the
      master otherwise finds this safe and secure, taking the safety of the passengers and the vessel into
      consideration.
   b) Master and crew must be experienced in the use of sails and rigging.
   c) If there is reason to assume that the use of sails and rigging may jeopardize the vessel and its passengers,
      the sails shall be dismantled and the engine shall be used.
(2) To vessels with permission only for restricted carriage of passengers, particular emphasis must be put on the
vessel operating only under the sea and weather conditions which are well within the safety margin for which the
vessel is suited in relation to size, type, speed, trade area, etc. This applies especially to operation beyond sheltered
waters.
(3) The master of the vessel shall ensure that the provisions of this Section are complied with.

§ 31
Safety/evacuation plan for lighters
For manned lighters a safety and evacuation plan shall be prepared. The plan shall be posted up on board, in such a
manner that those on board may readily be acquainted with it.

§ 32
Signs and notices

(1) The required signs and notices in all ships engaged in foreign trade, and in passenger ships in domestic trade
shall be in Norwegian and English. For other ships in domestic trade, the text shall be in Norwegian.
(2) The text of signs and notices shall be clearly legible at all times and if necessary lighted.
(3) Warning signs shall have letters at least 20 millimetres in height, and prohibition signs shall have letters at least
30 millimetres in height.
(4) Unless otherwise provided, the colours shall be in accordance with Norwegian Standard NS 6033 or NS 4210.
§ 33

*Storage and use of fuel, explosives and certain poisonous products*

(1) If it is required to store engine fuel on board other than permanently installed tanks, such fuel shall be stored in suitable containers placed in a locker/room which is easily accessible and properly ventilated, with door opening only towards open deck. Bulkhead and door into this room/locker shall have a fire insulation corresponding to A60.

(2) When explosives are stored on board, they must be kept in their original packages in steel boxes, and stored in separate lockable locker/room, separate from fire hazardous and poisonous products. Explosives and percussion caps shall be stored separately, and the amount of explosives shall be limited to a minimum.

(3) For each assignment where explosives, gunpowder, detonation means, etc. are to be used, the Directorate for Fire and Electrical Safety shall be contacted in order to prepare instructions for their use.

(4) Storage and use of poisonous materials and prohibition on procurement, storage and use of methanol, as well as procurement, storage and use of absolute alcohol on board ships, shall be carried out in accordance with the provisions of the regulations on this matter currently in force laid down by the Norwegian Maritime Directorate.

§ 34

*Warning signs at radar scanners*

While work in the radar mast is in progress, radar apparatus shall be switched off. A clearly visible sign shall be affixed at each radar apparatus with the following warning: Work in progress in the radar mast.

Chapter 8

Concluding provisions

§ 35

*Entry into force, etc.*

(1) These Regulations enter into force on 1 July 1987.

(2) As from the same date the following regulations are repealed:

a) Regulations of 13 August 1970 concerning Deck Cargo.

b) Regulations of 13 December 1976 concerning Arrangements on and below Deck, and concerning the Ship’s Protection Equipment.

c) Regulations of 1 March 1978 concerning the Prohibition on the use of asbestos on board ships.

Annex

1

*Provisions regarding pilot hoists, platforms (accommodation ladders), suspension arrangements and gangways*

The appendix is amended by regulation 25 January 2000 No. 166 (in force 1 April 2000)

1. Pilot hoists, platforms (accommodation ladders), suspension arrangements and gangways shall comply with the provisions below:

2. Requirements for pilot hoists

2.1. Pilot hoists shall be constructed for a static load equal to the weight of the suspension arrangement and ladder section as well as the load of the maximum permitted number of persons of 150 kp for which the hoist is to be approved.

2.2. That the ship may have a list of 5° shall be taken into account in the calculations.

2.3. For steel and aluminium constructions, a safety factor of 2.5 against the yield point of the material, shall be included in the calculations. For aluminium, the yield point shall be calculated at 0.2% permanent elongation. Ropes shall have a safety factor of 8 against breaking, steel wire 6, and chain, shackles, rings, etc. a safety factor of 5 against breaking.
2.4. A winch may be electrically, hydraulically or pneumatically driven and shall be self locking from full speed. In addition, it shall be possible to operate the winch manually. Crank handle for manual hoisting shall be incapable of rotating during use of motor.

2.4.1. A winch shall be fitted with a safety device which automatically cuts off the power supply, to prevent overloading if the pilot hoist catches fast to anything or is hoisted too far upwards. If the maximum torque of the motor is such as to exclude overloading of the suspension ropes beyond what is mentioned in paragraph 3, the above safety arrangement may be omitted.

2.4.2. At the winch operating position, an emergency stopping device shall be fitted, by means of which it shall be possible to cut off the power supply to the motor.

2.4.3. The winch controls shall be conspicuously marked with «Hoist» («Opp»), «Lower» («Ned») and «Stop» («Stopp»). The winch controls shall return to neutral position when released.

2.5. Any electric device attached to the pilot hoist’s ladder section, must be operated at a voltage not exceeding 25 volts.

2.6. The ladder section shall be of minimum 2.5 metres in length and equipped so as to provide a secure handhold for the pilot. The steps shall have a rough/non-slip surface or similar, and shall be provided with:

2.6.1. A safety hoop which should be well lined and so sited as to provide a good support for the pilot (without hampering his movements).

2.6.2. A batten at the lower end, with minimum total breadth of 1.8 metres. At either end of the batten, rollers shall be fitted, capable of rolling freely on the ship’s side during operation.

2.6.3. A flexible lower part consisting of a short pilot ladder, at least 8 steps, to be used by the pilot during embarking and disembarking the pilot boat, which shall satisfy requirements of a usual pilot ladder.

3. Tests of pilot hoists.

3.1. Any pilot hoist shall be tested with a load corresponding to 2.2 times the working load. During this testing, the test load must be lowered at maximum speed for a distance of not less than 5 metres and then as quickly as possible be stopped in order to demonstrate the self-locking arrangement. The pilot hoist shall be delivered with a workshop certificate indicating that it has been tested in accordance with the above-mentioned requirements.

3.2. After installation on board, a function test shall be carried out.

4. Requirements for platforms (accommodation ladders)

4.1. The upper platform and the inbetween platforms, if any, shall be calculated for a static load of 500 kp/m², plus the load from accommodation ladder or gangway suspended in the most adverse position with a load as stated in NS 6249, subparagraph 6.1.4.

4.2. The lower platform shall be calculated for a static load of 500 kp/m². (The platforms shall be horizontal when the accommodation ladder is in use.) If a hatch is provided in the lower platform with access to/from the pilot ladder through the hatch, the opening shall not be less than 750 x 750 mm.

4.3. The platforms shall have a free surface of minimum 600 x 600 mm and a 1000 mm high railing.

4.3.1. The railing shall be calculated for a load of 50 kp per stanchion, or 50 kp per metre of rail evenly distributed on the stanchions if this gives a greater load. The force is assumed to work horizontally on the top of the stanchions.

4.3.2. The rail stanchions shall be secured so that they cannot loosen. Collapsible or adjustable railing shall be secured against falling together/collapsing.

4.4. Rails shall be fixed between the stanchions, or a connection by means of rail, rope, wire rope, chain or similar. The maximum distance permitted between the rail ropes is 330 mm. In addition, there shall be an arrangement for a rope-net or canvas for the whole height of the railing. Rope-net or canvas shall be delivered by the manufacturer.

4.5. The lower platform shall have a hoop or an extra strong railing designed for use during embarkation and disembarkation of a boat.

4.6. Lugs, lashing fastenings, rings and suspension arrangement shall be of ageing-resistant steel, or be made of a material equally resistant to wear and tear.

4.7. Detailed drawings and calculations of the platforms shall be available together with drawings of the relevant types of accommodation ladders and/or gangways which are to be used in conjunction with the platform.

4.7.1. Platforms which are to be used together with accommodation ladders and/or gangways, shall be test-loaded together with the relevant type of accommodation ladders and/or gangways.

4.8. For the upper platform and the in-between platforms, if any, the test load shall be 600 kp/m² plus 50% of the total weight of accommodation ladder or gangway according to NS 6249, subparagraph 6.1.4., for the in-between platforms 50% of the part suspended below the platform. During the test, the platform shall be suspended in a normal position as on board, and the test load from accommodation ladder or gangway shall be suspended in the fastening device for these purposes.

The lower platform shall be suspended in a normal way on accommodation ladder and/or gangway and shall be test loaded with 600 kp/m².

5. Requirements for suspension arrangements, etc.

5.1. Where an accommodation ladder is required, a davit or similar shall be arranged for the accommodation ladder on either side of the ship.
The davit shall be designed and constructed with a safety factor of not less than 2.5 in relation to the guaranteed yield point of the material and for the loads from the means of access suspended in the most adverse position as stated in NS 6249, subparagraph 6.1.4 (for aluminium the yield point shall be calculated at 0.2% permanent elongation).

5.2. Accommodation ladder winches shall be designed and constructed for the forces transferred from the accommodation ladder in the most adverse position and with a load as mentioned in NS 6249, subparagraph 6.1.3. The forces shall be designed to work in the outermost steel wire layer.

5.2.1. In all cases, the winch shall be self-locking for the forces transferred from the accommodation ladder in the most adverse position with a load 1.5 times the load mentioned in NS 6249 subparagraph 6.1.3.

5.2.2. A crank for manual operation of a winch must be so arranged that it will not rotate if the winch is driven by a motor.

5.3. Accommodation ladder winches or a prototype must be tested with a static load and moment of 1.5 times the load mentioned in NS 6249, subparagraph 6.1.3. During this test, the strength of the wire fastening to the drum and to the self-locking shall be checked.

5.4. All winches shall be fitted with signs which clearly state designation and maximum load permitted in the outermost steel wire layer.

5.5. Chains, wire rope, shackles, rings, etc. which are used for suspension/heaving of accommodation ladders/gangways, shall be certified. All loose parts shall be listed on the arrangement plan with position number, S.W.L., and breaking load. Position number shall be stamped on the part, so that it is possible to check that each separate part has been placed in its correct position. The arrangement plan shall show the whole installation and shall be sent on board together with each delivery. The certificates for chain, shackles, rings, wire rope, cordage, etc. shall be kept on board together with the arrangement plan.

6. Requirements for gangways

6.1. Gangways to be used by persons shall be calculated for a static load of 300 kp/m² plus the weight of the gangway. The area subjected to the load is calculated as the length of the gangway multiplied by the light opening between the bearers.

6.2. Gangways to be used for cargo and by persons where the load will exceed what corresponds to 300 kp/m², as well as special gangways for passenger ships, shall be assessed and approved in each individual case. The desired permissible load must be stated.

6.3. Gangways shall have a free breadth between the rails of minimum 600 mm and, on either side, a railing of minimum 1000 mm in height. Gangways which are to be used on passenger ships in regular traffic, shall have a clear breadth between the rails of no less than 850 mm or adjusted for use of wheel chairs.

6.4. Railings shall be calculated for a load of 50 kp per stanchion, or of 50 kp per metre of rail evenly distributed on the stanchions if this will result in a greater load. The force is assumed to be working horizontally on the top of the stanchions. Maximum distance permitted between the stanchions is 1.5 metres. The stanchions shall be secured against collapsing or folding.

A fixed railing shall be fitted between the stanchions, or these shall be connected with railing, rope, wire rope, chain or similar. Maximum distance permitted between the rail ropes is 330 mm. In addition, a rope-net, canvas or the like shall be fitted throughout the height of the railing to prevent persons from falling down. The rope-net or canvas shall be delivered by the manufacturer, together with the gangway. If the distance between the rail ropes not exceed 250 mm, the rope-net may be omitted.

6.5. The gangway shall be fitted with steps providing a good foothold when the gangway is placed in an inclined position. The maximum angle of inclination permitted for gangways is 35°. Gangways fitted with such steps as used on accommodation ladders, may be approved for use at an angle of inclination of up to 55°. The gangway shall be fitted with signs which clearly state the maximum angle of inclination permitted.

Amended by regulation 25 January 2000 No. 169 (in force 1 April 2000)

Annex 2

Provisions on the use of work equipment for temporary work at a height

1. General provisions

1.1. If, pursuant to Article 6 of Directive 89/391/EEC and Article 3 of Directive 2001/45/EEC, temporary work at a height cannot be carried out safely and under appropriate ergonomic conditions from a suitable surface, the work equipment most suitable to ensure and maintain safe working conditions must be selected. Collective protection measures shall be given priority over personal protection measures. The dimensions of the work equipment shall be appropriate to the nature of the work to be performed and to the foreseeable stresses and allow passage without danger.
The most appropriate means of access to temporary workplaces at a height must be selected according to the frequency of passage, the height to be negotiated and the duration of use. The choice made shall permit evacuation in the event of imminent danger. Passage in either direction between a means of access and platforms, decks or gangways must not give rise to any additional risks of falling.

1.2. Ladders may be used as work stations for work at a height only under circumstances in which, given paragraph 4.1., the use of other, safer work equipment is not justified because of the low level of risk and either the short duration of use or existing features on site that the employer cannot alter.

1.3. Rope access and positioning techniques may be used only under circumstances where the risk assessment indicates that the work can be performed safely and where the use of other, safer work equipment is not justified.

Taking the risk assessment into account and depending in particular on the duration of the job and the ergonomic constraints, provision shall be made for a seat with appropriate accessories.

1.4. Depending on the type of work equipment selected on the basis of the foregoing, the appropriate measures for minimising the risks to workers inherent in this type of equipment shall be determined. If necessary, provision shall be made for the installation of safeguards to prevent falls. These must be of suitable configuration and sufficient strength to prevent or arrest falls from a height and, as far as possible, to preclude injury to workers. Collective safeguards to prevent falls may be interrupted only at points of ladder or stairway access.

1.5. When the performance of a particular task requires a collective safeguard to prevent falls to be temporarily removed, effective compensatory safety measures shall be taken. The task may not be performed until such measures have been taken. Once the particular task has been finished, either definitively or temporarily, the collective safeguards to prevent falls shall be reinstated.

1.6. Temporary work at a height may be carried out only when the weather conditions do not jeopardise the safety and health of workers.

2. Specific provisions regarding the use of ladders.

2.1. Ladders shall be so positioned as to ensure their stability during use. Portable ladders shall rest on a stable, strong, suitably-sized, immobile footing so that the rungs remain horizontal. Suspended ladders shall be attached in a secure manner and, with the exception of rope ladders, so that they cannot be displaced and so that swinging is prevented.

2.2. The feet of portable ladders shall be prevented from slipping during use by securing the stiles at or near their upper or lower ends, by any anti-slip device or by any other arrangement of equivalent effectiveness. Ladders used for access shall be long enough to protrude sufficiently beyond the access platform, unless other measures have been taken to ensure a firm handhold. Interlocking ladders and extension ladders shall be used so that the different sections are prevented from moving relative to one another. Mobile ladders shall be prevented from moving before they are stepped on.

2.3. Ladders shall be used in such a way that a secure handhold and secure support are available to workers at all times. In particular, if a load has to be carried by hand on a ladder, it must not preclude the maintenance of a safe handhold.

3. Specific provisions regarding the use of scaffolding

3.1. When a note of the calculations for the scaffolding selected is not available or the note does not cover the structural arrangements contemplated, strength and stability calculations shall be carried out unless the scaffolding is assembled in conformity with a generally recognized standard configuration.

3.2. Depending on the complexity of the scaffolding chosen, an assembly, use and dismantling plan shall be drawn up by a competent person. This may be in the form of a standard plan, supplemented by items relating to specific details of the scaffolding in question.

3.3. The bearing components of scaffolding shall be prevented from slipping, whether by attachment to the bearing surface, provision of an anti-slip device or any other means of equivalent effectiveness, and the load-bearing surface shall have a sufficient capacity. It shall be ensured that the scaffolding is stable. Wheeled scaffolding shall be prevented by appropriate devices from moving accidentally during work at a height.

3.4. The dimensions, form and layout of scaffolding decks shall be appropriate to the nature of the work to be performed and suitable for the loads to be carried and permit work and passage in safety. Scaffolding decks shall be assembled in such a way that their components cannot move in normal use. There shall be no dangerous gap between the deck components and the vertical collective safeguards to prevent falls.

3.5. When parts of a scaffolding are not ready for use, for example during assembly, dismantling or alteration, they shall be marked with general warning signs in accordance with the national provisions transposing Directive 92/58/EEC and be suitably delimited by physical means preventing access to the danger zone.

3.6. Scaffolding shall be assembled, dismantled or significantly altered only under the supervision of a competent person and by workers who shall have received appropriate and specific training in the operations envisaged, addressing specific risks in accordance with Article 7 of Directive 89/655/EEC, and more particularly in:
   a) understanding of the plan for the assembly, dismantling or alteration of the scaffolding concerned;
   b) safety during the assembly, dismantling or alteration of the scaffolding concerned;
   c) measures to prevent the risk of persons or objects falling;
d) safety measures in the event of changing weather conditions which could adversely affect the safety of the scaffolding concerned;

e) permissible loads;

f) any other risks which the abovementioned assembly, dismantling or alteration operations may entail.

The person supervising and the workers concerned shall have available the assembly and dismantling plan referred to in paragraph 3.2., including any instructions it may contain.

4. **Specific provisions regarding the use of rope access and positioning techniques**

4.1. The use of rope access and positioning techniques shall comply with the following conditions:

a) The system shall comprise at least two separately anchored ropes. One as a means of access, descent and support (work rope) and the other as backup (security rope).

b) Workers shall be provided with and use an appropriate harness and be connected by it to the security rope.

c) The work rope shall be equipped with safe means of ascent and descent and have a self-locking system to prevent the user falling should he or she lose control of his or her movements. The security rope shall be equipped with a mobile fall prevention system which follows the movements of the worker.

d) The tools and other accessories to be used by a worker shall be secured to the worker's harness or seat or by some other appropriate means.

e) The work shall be properly planned and supervised, so that a worker can be rescued immediately in an emergency.

f) In accordance with Article 7 of Directive 89/655/EEC, the workers concerned shall receive adequate training specific to the operations envisaged, in particular rescue procedures.

In exceptional circumstances where, in view of the assessment of risks, the use of a second rope would make the work more dangerous, the use of a single rope may be permitted, provided that appropriate measures have been taken to ensure safety in accordance with national legislation and/or practice.