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(24) A schematic diagram of the emergency power system.

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Subpart B—Tests, Drills, and Inspections

§ 109.201 Steering gear, whistles, general alarm, and means of communication.

The master or person in charge shall ensure that—

(a) Steering gear, whistles, general alarm bells, and means of communication between the bridge or control room and the engine room on self propelled units are inspected and tested—

(1) Within 12 hours before getting under way; and

(2) At least once each week if under way or on station; and

(b) Whistles and general alarm bells on all other units are inspected examined and tested at least once each week.

§ 109.203 Sanitation.

(a) The master or person in charge shall insure that the accommodation spaces are in a clean and sanitary condition.

(b) The chief engineer, or engineer in charge if no chief engineer is required, shall insure that the engineering spaces are in a clean and sanitary condition.

§ 109.205 Inspection of boilers and machinery.

The chief engineer or engineer in charge, before he assumes charge of the boilers and machinery of a unit shall inspect the boilers and machinery, other than industrial machinery, and report to the master or person in charge and the Officer in Charge, Marine Inspection, any parts that are not in operating condition.

§ 109.209 Appliances for watertight integrity.

(a) Before getting underway, the master or person in charge shall insure

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that each appliance for watertight integrity is closed and watertight.

(b) If existing conditions warrant, the master or person in charge may permit appliances for watertight integrity to be open while afloat.

§ 109.211 Testing of emergency lighting and power systems.

(a) The master or person in charge shall insure that—

(1) Each emergency lighting and each emergency power system is tested at least once each week;

(2) Each emergency generator is tested at least once each month by operating it under load for at least 2 hours; and

(3) Each storage battery for emergency lighting and power systems is tested every six months under actual connected load for a period of at least 2 hours.

(b) After the 2 hour test period required in paragraph (a)(3) of this section, the voltage values under load or specific gravity of electrolyte must be measured. Measured values must be extrapolated to approximate the values that would result following a 12 hour test period. The test must be extended if a trend cannot be determined to allow extrapolation. The capacity of the battery corresponding to the extrapolated values of voltage or specific gravity must be sufficient to supply the actual connected load.

§ 109.213 Emergency training and drills.

(a) *Training materials.* Abandonment training material must be on board each unit. The training material must consist either of a manual of one or more volumes, written in easily understood terms and illustrated wherever possible, or audiovisual training aids, or both as follows:

(1) If a training manual is used, a copy must be made available to each person on board the unit. If audiovisual training aids are used, they must be incorporated into the onboard training sessions described under paragraph (g) of this section.

(2) The training material must explain, in detail—

(i) The procedure for donning life-jackets, immersion suits, and anti-exposure suits carried on board;

(ii) The procedure for mustering at the assigned stations;

(iii) The procedure for boarding, launching, and clearing the survival craft and rescue boats;

(iv) The method of launching from within the survival craft;

(v) The procedure for releasing from launching appliances;

(vi) The method and use of water spray systems in launching areas when required for the protection of aluminum survival craft or launching appliances;

(vii) Illumination in launching area;

(viii) The use of all survival equipment;

(ix) The use of all detection equipment for the location of survivors or survival craft;

(x) With illustrations, the use of radio lifesaving appliances;

(xi) The use of sea anchors;

(xii) The use of engine and accessories;

(xiii) The recovery of survival craft and rescue boats, including stowage and securing;

(xiv) The hazards of exposure and the need for warm clothing;

(xv) The best use of the survival craft for survival;

(xvi) The methods of retrieval, including the use of helicopter rescue gear (slings, baskets, stretchers), and unit's line throwing apparatus;

(xvii) The other functions contained in the muster list and emergency instructions; and

(xviii) The instructions for emergency repair of the lifesaving appliances.

(b) *Familiarity with emergency procedures.* Each of the crew members and industrial personnel with assigned emergency duties on the muster list must be familiar with their assigned duties before working on the unit.

(c) *Drills—general.* (1) Drills must, as far as practicable, be conducted as if there were an actual emergency.

(2) Each of the crew members and industrial personnel must participate in at least one abandonment drill and one fire drill every month. Drills must take place within 24 hours of a change in

crew or industrial personnel if more than 25 percent of the persons on board have not participated in an abandonment and fire drills on board the unit in the previous month.

(3) Drills must be held before the unit enters service for the first time after modification of a major character, or when a new crew is engaged.

(d) *Abandonment drills.* (1) Abandonment drills must include the following:

(i) Each drill must include summoning of industrial personnel and crew to muster stations with the general alarm, followed by drill announcements on the public address or other communication system, and ensuring that all on board are made aware of the order to abandon ship.

(ii) Each drill must include reporting to stations and preparing for the duties described in the muster list.

(iii) Each drill must include checking that industrial personnel and crew are suitably dressed.

(iv) Each drill must include checking that lifejackets or immersion suits are correctly donned.

(v) Each drill must include lowering of at least one lifeboat after any necessary preparation for launching.

(vi) Each drill must include starting and operating the lifeboat engine.

(vii) Each drill must include operating davits used for launching the lifeboats.

(2) Different lifeboats must, as far as practicable, be lowered in compliance with the requirements of paragraph (d)(1)(v) of this section at successive drills.

(3) Each lifeboat must be launched with its assigned operating crew aboard, and maneuvered in the water at least once every 3 months, during an abandonment drill.

(4) As far as is reasonable and practicable, rescue boats other than lifeboats which are also rescue boats, must be launched each month with their assigned crew aboard and maneuvered in the water. In all cases this requirement must be complied with at least once every 3 months.

(5) If a unit is fitted with marine evacuation systems, drills must include an exercising of the procedures required for the deployment of such a system up to the point immediately

preceding actual deployment of the system. This aspect of drills should be augmented by regular instruction using the on board training aids. Additionally, members of the crew or industrial personnel assigned to duties involving the marine evacuation system must be further trained by participation in a full deployment of a similar system into water, either on board a unit or ashore, at intervals normally not longer than 2 years, but in no case longer than 3 years.

(6) Emergency lighting for mustering and abandonment must be tested at each abandonment drill.

(7) On a unit carrying immersion suits or anti-exposure suits, immersion suits or anti-exposure suits must be worn by crew members and industrial personnel in at least one abandonment drill in any three-month period. If wearing the suit is impracticable due to warm weather, the crew members must be instructed on its donning and use.

(e) *Line-throwing appliance.* A drill must be conducted on the use of the line-throwing appliance at least once every 3 months. The actual firing of the appliance is at the discretion of the person in charge.

(f) *Fire drills.* (1) Fire drills must, as far as practicable, be planned in such a way that due consideration is given to regular practice in the various emergencies that may occur depending on the type of unit.

(2) Each fire drill must include—

(i) Reporting to stations, and preparing for the duties described in the muster list for the particular fire emergency being simulated;

(ii) Starting of fire pumps and the use of two jets of water to determine that the system is in proper working order;

(iii) Checking the fireman's outfits and other personal rescue equipment;

(iv) Checking the relevant communication equipment;

(v) Checking the operation of watertight doors, fire doors, and fire dampers and main inlets and outlets of ventilation systems in the drill area;

(vi) Checking the necessary arrangements for subsequent abandonment of the unit; and

(vii) Simulated operation of remote controls for stopping ventilation and fuel supplies to machinery spaces.

(3) The equipment used during drills must immediately be brought back to its fully operational condition, and any faults and defects discovered during the drills must be remedied as soon as possible.

(g) *Onboard training and instruction.*

(1) Except as provided in paragraph (g)(2) of this section, onboard training in the use of the unit's lifesaving appliances, including survival craft equipment, and in the use of the unit's fire-extinguishing appliances must be given to each member of the crew and industrial personnel as soon as possible but not later than 2 weeks after they join the unit.

(2) If crew or industrial personnel are on a regularly scheduled rotating assignment to the unit, onboard training in the use of the unit's lifesaving appliances, including survival craft equipment, and in the use of the unit's fire-extinguishing appliances must be given not later than 2 weeks after the time of first joining the unit.

(3) The crew and industrial personnel must be instructed in the use of the unit's fire-extinguishing appliances, lifesaving appliances, and in survival at sea at the same interval as the drills. Individual instruction may cover different parts of the unit's lifesaving and fire-extinguishing appliances, but all the unit's lifesaving and fire-extinguishing appliances, must be covered within any period of 2 months.

(4) Crew and industrial personnel must be given instructions which include, but are not limited to—

(i) The operation and use of the unit's inflatable liferafts;

(ii) The problems of hypothermia, first aid treatment for hypothermia and other appropriate first aid procedures;

(iii) The special instructions necessary for use of the unit's lifesaving appliances in severe weather and severe sea conditions; and

(iv) The operation and use of fire-extinguishing appliances.

(5) Onboard training in the use of davit-launched liferafts must take place at intervals of not more than 4 months on each unit with davit-

launched liferafts. Whenever practicable this must include the inflation and lowering of a liferaft. If this liferaft is a special liferaft intended for training purposes only, and is not part of the unit's lifesaving equipment, this liferaft must be conspicuously marked.

(6) Each of the industrial personnel without designated responsibility for the survival of others on board, must be instructed in at least—

- (i) The emergencies which might occur on that particular type of unit;
- (ii) The consequences of panic;
- (iii) The location and actuation of fire alarm controls;
- (iv) The location and proper method of use of firefighting equipment;
- (v) Fire precautions;
- (vi) The types of all lifesaving appliances carried on the unit and proper methods of using them, including—
 - (A) The correct method of donning and wearing a lifejacket, and if provided an immersion suit;
 - (B) Jumping into the water from a height while wearing a lifejacket and, if provided, an immersion suit;
 - (C) How to board survival craft from the unit and from the water;
 - (D) Operation and use of the unit's inflatable liferafts;
 - (E) Special instructions necessary for use of the unit's lifesaving appliances in severe weather and severe sea conditions;
 - (F) Swimming while wearing a lifejacket; and
 - (G) Keeping afloat without a lifejacket.
- (vii) Where appropriate, how to survive in the water—
 - (A) In the presence of fire or oil on the water;
 - (B) In cold conditions; and
 - (C) If sharks may be present.
- (viii) Problems of hypothermia, first aid treatment for hypothermia and other appropriate first aid procedures;
- (ix) The need to adhere to the principles of survival; and
- (x) The basic methods of boarding helicopters.

(7) Each member of the crew and each of the industrial personnel with designated responsibility for the survival of others on board must be instructed in at least the items covered in paragraph (g)(6) of this section, and—

- (i) Methods of detection, isolation, control, and extinguishing of fire;
- (ii) Checking and maintaining fire fighting equipment;
- (iii) Marshaling of personnel; and
- (iv) Abandonment of the unit, including—
 - (A) Launching survival craft;
 - (B) Getting survival craft quickly and safely clear of the unit; and
 - (C) Righting a capsized survival craft.
- (v) Handling all survival craft and their equipment, including—
 - (A) Checking and maintaining their readiness for immediate use;
 - (B) Using equipment to the best advantage;
 - (C) Using the sea anchor;
 - (D) Remaining, as far as practicable, in the general vicinity of the unit, well clear of but not downwind of any hydrocarbons or fire;
 - (E) Recovering and, as far as practicable, caring for other survivors;
 - (F) Keeping a lookout;
 - (G) Operating equipment provided to aid in the detection of the survival craft by others, including radio distress alerting and radio emergency procedures; and
 - (H) Making proper use of food and drinking water and using protective measures in survival craft such as those for preventing exposure to cold, sun, wind, rain, and sea, and for preventing seasickness.
- (vi) Cautioning on the preservation of body fluids and the dangers of drinking seawater;
- (vii) Transferring personnel from survival craft to helicopters or to work boats;
- (viii) Maintaining morale; and
- (ix) Methods of helicopter rescue.
- (h) *Records.* (1) When musters are held, details of abandonment drills, fire drills, other lifesaving appliances, and onboard training must be recorded in the unit's official logbook. Logbook entries must include the following:
 - (i) Logbook entries must identify the date and time of the drill, muster, or training session.
 - (ii) Logbook entries must identify the survival craft and fire-extinguishing equipment used in the drills.
 - (iii) Logbook entries must identify the inoperative or malfunctioning

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equipment and the corrective action taken.

(iv) Logbook entries must identify crew members and industrial personnel participating in drills or training sessions.

(v) Logbook entries must identify the subject of the onboard training session.

(2) If a full muster, drill, or training session is not held at the appointed time, an entry must be made in the logbook stating the circumstances and the extent of the muster, drill, or training session held.

[CGD 84-069, 61 FR 25299, May 20, 1996, as amended at 63 FR 52815, Oct. 1, 1998]

§ 109.223 Fire fighting equipment.

The master or person in charge shall insure that each hand portable fire extinguisher, semi-portable fire extinguisher, and fixed fire-extinguishing system is tested and inspected at least once each twelve months.

§ 109.227 Verification of vessel compliance with applicable stability requirements.

(a) The master or person-in-charge shall determine that the vessel complies with all applicable stability requirements in the vessel's trim and stability book, operating manual, stability letter, Certificate of Inspection, and Load Line Certificate, as the case may be, and then enter an attestation statement of the verification in the log book, at the following times:

(1) Prior to transitioning from the transit condition to the operating condition;

(2) Prior to transitioning from the operating condition to the transit condition;

(3) Prior to significant changes in deck load or ballast;

(4) At other times as required by the vessel's trim and stability book or operating manual; and

(5) At all other times necessary to assure the safety of the vessel.

(b) When determining compliance with applicable stability requirements the vessel's draft, trim, and stability must be determined as necessary and any stability calculations made in support of the determination must be retained on board the vessel for a one

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month period or until a change of location, if shorter.

[CGD 89-037, 57 FR 41823, Sept. 11, 1992]

Subpart C—Operation and Stowage of Safety Equipment

§ 109.301 Operational readiness, maintenance, and inspection of life-saving equipment.

(a) *Operational readiness.* Except as provided in § 109.301(b)(3), each life-saving appliance must be in good working order and ready for immediate use at all times when the unit is in operation.

(b) *Maintenance.* (1) The manufacturer's instructions for onboard maintenance of lifesaving appliances must be onboard and must include the following for each appliance—

(i) Checklists for use when carrying out the inspections required under § 109.301(e);

(ii) Maintenance and repair instructions;

(iii) A schedule of periodic maintenance;

(iv) A diagram of lubrication points with the recommended lubricants;

(v) A list of replaceable parts;

(vi) A list of sources of spare parts; and

(vii) A log for records of inspections and maintenance.

(2) In lieu of compliance with paragraph (b)(1) of this section, The OCMI may accept a planned maintenance program that includes the items listed in that paragraph.

(3) If lifeboats, rescue boats or rigid liferafts are maintained and repaired while the unit is in operation, there must be a sufficient number of lifeboats and liferafts remaining available for use to accommodate all persons on board.

(c) *Spare parts and repair equipment.* Spare parts and repair equipment must be provided for each lifesaving appliance and component subject to excessive wear or consumption and that needs to be replaced regularly.

(d) *Weekly inspections and tests.* (1) Each survival craft, rescue boat, and launching appliance must be visually inspected to ensure its readiness for use.