

- a. Compliance with the Clean Air Act (4(c)(6)).
- b. Compliance with the Federal Water Pollution Control Act (4(c)(6)).
- c. Compliance with the Marine Protection, Research and Sanctuaries Act (4(c)(6)).
- d. Effect on the marine environment (6(a)(1)).
- e. Effect on oceanographic currents and wave patterns (6(a)(2)).
- f. Effect on alternate uses of the oceans and navigable water, such as scientific study, fishing, and exploitation of other living and nonliving resources (6(a)(3)).
- g. The potential dangers to a deepwater port from waves, wind, weather and geological conditions, and the steps which can be taken to protect against or minimize such dangers (6(a)(4)).
- h. Effects of land-based developments related to deepwater port development (6(a)(5)).
- i. Effect on human health and welfare (6(a)(6)).
- j. Consistency with adjacent coastal States' programs relating to environmental protection, land and water use, and coastal zone management (9(b)).
- k. Development of an approved coastal zone management program pursuant to the Coastal Zone Management Act of 1972 in the area to be directly and primarily impacted by deepwater port land and water development in the coastal zone of that State directly connected by pipeline to the proposed deepwater port (9(c)).
- l. Pursuant to section 102(c)(2) of the National Environmental Policy Act, prepare a single, detailed environmental impact statement for each application area (5(f)).

[CGD 75–002, 40 FR 52553, Nov. 10, 1975; 40 FR 58143, Dec. 15, 1975]

## PART 149—DESIGN, CONSTRUCTION, AND EQUIPMENT

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AUTHORITY: 33 U.S.C. 1504; 49 CFR 1.46.

SOURCE: CGD 75-002, 40 FR 52565, Nov. 10, 1975, unless otherwise noted.

### Subpart A—General

#### § 149.101 Purpose.

This part describes design, construction, and equipment requirements for each deepwater port.

#### § 149.105 Licensee.

The licensee of a deepwater port shall ensure that the port meets the design and construction requirements in this part.

### Subpart B—Design and Equipment; General

#### § 149.201 Applicability.

This subpart prescribes requirements for design and equipment that apply to each deepwater port.

#### § 149.203 Engineering drawings and specifications.

(a) The licensee of a deepwater port must submit to the Commandant (G-M) three copies of each construction drawing and specification necessary to show compliance with the requirements of the Act and the regulations in this subchapter, a list of all drawings, and each revision to a construction drawing and specification of each:

- (1) Fixed marine component; and
- (2) Floating marine component.

(b) Each construction drawing and specification, and each revision required to be submitted by paragraph (a) of this section must bear the seal, or a facsimile imprint of the seal of the

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registered professional engineer responsible for the accuracy and adequacy thereof.

(c) The Coast Guard reviews and evaluates construction drawings and specifications to ensure compliance with the Act and Subchapter NN. The licensee of a deepwater port may not begin construction, or installation of prefabricated components, until the applicable drawings and specifications are approved by the Commandant (G-M). The Coast Guard makes periodic inspections at the construction site and at component construction sites to ensure compliance with approved drawings and specifications. As used in this paragraph, the term "approved" means that each drawing or specification meets the requirements of the Act and the regulations in this subchapter.

(d) When construction or installation of each component is complete, the licensee of a deepwater port must submit two complete sets of record drawings and specifications on 105 mm negatives to the Commandant (G-M). Each negative must be:

- (1) Placed in a separate envelope, and
- (2) Identified and indexed.

[CGD 75-002, 40 FR 52565, Nov. 10, 1975, as amended by CGD 88-052, 53 FR 25121, July 1, 1988]

### § 149.205 Design standards.

(a) Each fixed marine and floating component of a deepwater port, except hoses, mooring lines, and aids to navigation buoys, must be designed to withstand at least the combined wind, wave, and current forces of the most severe storm that can be expected to occur in any period of 100 years at the port.

NOTE: "Recommended Procedure for Developing Deepwater Ports Design Criteria" describes a method to prepare the wind, wave, and current criteria for use in determining the forces of the storm described by this paragraph. This guide may be obtained from the Commandant (G-M).

(b) Each platform must be designed in accordance with the American Petroleum Institute "Recommended Practice for Planning, Designing, and Constructing Fixed Offshore Platforms" (API RP 2A), and the codes and standards in API RP 2A, to the extent that the recommended practice, codes,

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and standards are consistent with this subchapter.

(c) Each electrical installation on a platform must be designed, to the extent practicable, in accordance with 46 CFR 110-113.

(d) Each boiler and pressure vessel on a platform must be designed in accordance with Sections I, IV, and VIII of the American Society of Mechanical Engineers "ASME Boiler and Pressure Vessel Code" to the extent that the code is consistent with this subchapter.

(e) Main oil transfer piping on a platform must be designed in accordance with the American National Standards Institute (ANSI B 31.4) Liquid Petroleum Transportation Piping Systems.

[CGD 75-002, 40 FR 52565, Nov. 10, 1975, as amended by CGD 88-052, 53 FR 25121, July 1, 1988]

### § 149.206 Construction.

(a) The following walls or decks on a platform must meet the requirements in 46 CFR 92.07-5(b) for "A" class bulkheads, except that each wall or deck must be made of steel:

(1) Each wall or deck that separates a galley, a paint and lamp locker, a space housing emergency power generating equipment, or a machinery space from any other space.

(2) Each wall or deck of an interior stairway connecting enclosed spaces on three or more decks.

(3) Each wall or deck of an elevator shaft, of a dumbwaiter shaft, and of any other shaft connecting two or more enclosed spaces.

(b) The following walls or decks on a platform must meet the requirements in 46 CFR 92.07-5 (b) or (c) for "A" or "B" class bulkheads:

(1) Each corridor wall or deck of a personal accommodation space.

(2) Each wall or deck of a stairway that connects two decks or each wall or deck of a structure enclosing an opening to the stairway.

(c) A platform wall or deck that is not described in paragraph (a) or (b) of this section must meet the requirements in 46 CFR 92.07-5 (b), (c), or (d) for "A", "B", or "C" class bulkheads.

(d) Each deck and stairway on a platform must be made of steel and may have a deck covering.

(e) A space that is described in paragraphs (a)(2) or (a)(3) of this section must be enclosed by walls and decks.

(f) Each interior stairway that connects two enclosed spaces on a platform must be enclosed by walls and decks or an opening to the stairway must be enclosed by a structure.

(g) Each interior stairway that connects three or more decks on a platform must have access to each deck.

(h) Each opening in a wall or deck on a platform must have a closure that meets the requirements in this section for the wall or deck. Each door must:

(1) Be a self-closing type;

(2) Not have holdback hooks or other means of permanently holding the door open, except for magnetic holdbacks operated from a suitable remote control position; and

(3) Not have a louver or other opening, except that a door to a sleeping space may have a louver in the lower half of the door.

(i) Internal deck coverings, except those in washrooms and toilet spaces, must be of a type approved under 46 CFR Subpart 164.006. Overlays for leveling or finishing purposes which do not meet the requirements in 46 CFR Subpart 164.006 may be used in thicknesses not exceeding  $\frac{3}{8}$  of an inch.

(j) Each ceiling, sheathing, furring, and insulation on a platform, must be a noncombustible material of a type that is approved under 46 CFR 164.009.

(k) The interior finish on each wall and ceiling in a corridor or hidden space on a platform must be a type that is approved under 46 CFR 164.012. Walls within a room may have a combustible veneer not to exceed  $\frac{2}{8}$  inches in thickness.

(l) Nitrocellulose or other highly flammable or noxious fume-producing paints or lacquers may not be used.

#### § 149.209 SPM's.

Each SPM must meet the "Rules for Building and Classing Single Point Moorings 1975" of the American Bureau of Shipping, to the extent that these Rules are consistent with this subchapter.

#### § 149.211 Emergency equipment.

Each platform must have installed mountings for each item of:

(a) Lifesaving equipment; and

(b) Portable and semiportable fire fighting equipment.

#### § 149.213 Helicopter fueling facilities.

Helicopter fueling facilities must comply with the requirements of the National Fire Protection Association, National Fire Code No. 407, Part VI "Fueling on Elevated Heliports". For the purpose of this section, "ground level" as used in the National Fire Code means "below the lowest platform working level".

#### § 149.215 Interference with helicopter operations.

Aids to navigation, communication, or radar equipment must be installed so as not to interfere with helicopter operations.

#### § 149.217 First aid station.

Each PPC must have a first aid station that has an adjoining space for two beds.

### Subpart C—Pollution Prevention Equipment

#### § 149.301 Applicability.

This subpart prescribes requirements for pollution equipment that apply to each deepwater port.

#### § 149.303 Overflow and relief valve.

(a) Each oil transfer system must include a relief valve, that, when activated, prevents pressure on any components of the OTS from exceeding maximum rated pressure.

(b) No oil transfer system overflow or relief valve may be installed so as to allow an oil discharge into the sea.

#### § 149.305 Pipeline end manifold (PLEM) shutoff valve.

(a) Each pipeline end manifold (PLEM) at a single point mooring must have a shutoff valve.

(b) Each shutoff valve required by this section must be capable of operation from the Cargo Transfer Supervisor's normal place of duty.

(c) Each shutoff valve required by this section must be capable of manual operation.

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**§ 149.307 Blank flange and shutoff valve.**

Each floating hose string must have a blank flange and a shutoff valve at the vessel manifold end.

**§ 149.309 Manually operated shutoff valve.**

Each oil transfer line passing through the SPM buoy must have a manual shutoff valve on the buoy.

**§ 149.311 Malfunction detection system.**

Each oil transfer system must have a system that can:

- (a) Detect and locate all leaks and other malfunctions, between the PPC and the shore; and
- (b) Be monitored at the Cargo Transfer Supervisor's normal place of duty.

**§ 149.313 Oil transfer system alarm.**

Each oil transfer system must have an alarm system to signal a malfunction or failure of the system that is—

- (a) Capable of being activated at the Cargo Transfer Supervisor's normal place of duty;
- (b) Audible in all parts of the PPC except in areas of high ambient noise levels where hearing protection is required under §150.509(d) of this subchapter;
- (c) Visible in areas of the PPC where hearing protection is required under §150.509(d) of this subchapter by use of a high intensity flashing light; and
- (d) Distinguishable from the general alarm.

**§ 149.315 Marking of oil transfer system alarm.**

(a) Each oil transfer alarm switch must be identified by the words "OIL TRANSFER ALARM" in red letters at least one inch high on a yellow background.

(b) Each audio and each visual oil transfer alarm signalling device under §149.313 must have a sign with the words "OIL TRANSFER ALARM" in red letters at least one inch high on a yellow background.

**§ 149.317 Communications equipment.**

- (a) Each deepwater port must have:
  - (1) A means that enables two-way voice communication among:

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- (i) The Cargo Transfer Supervisor;
  - (ii) The vessel's officer in charge of cargo transfer;
  - (iii) The Cargo Transfer Assistant;
  - (iv) The Port Superintendent;
  - (v) The master or person in charge of service craft operating at the deepwater port; and
  - (vi) The person in charge on the PPC;
- (2) A means, which may be the communications system itself, that enables each of the persons listed in paragraph (a)(1) of this section to indicate his desire to communicate with another of those persons; and
- (3) Communications equipment and facilities that must meet the requirements of 47 CFR 81 and 83.\*
- (b) Each portable means of communication used to meet the requirements of this section must be:
- (1) Certified under 46 CFR 111.80-5 to be operated in a Group D, Class 1, Division 1, Atmosphere; and
  - (2) Permanently marked with the certification required in paragraph (b)(1) of this section.

**§ 149.319 Discharge containment and removal material, and equipment.**

(a) Each deepwater port must have stored, on the pumping platform or a service craft operating at the deepwater port, oil discharge containment and removal material and equipment that, to the extent best available technology allows, can contain and remove an oil discharge of at least 10,000 U.S. gallons for offload-only ports, or 40,000 U.S. gallons for ports where onloading operations are permitted pursuant to section 4(a)(3) of the Act.

(b) Each deepwater port must have readily accessible additional containment and removal material and equipment for containing and removing oil discharges larger than those specified in paragraph (a) of this section. For the purpose of this paragraph, access may be by direct ownership, joint ownership, cooperative venture, or contractual agreement.

(c) The type of discharge containment and removal material and equipment that best meets the requirements

\*EDITORIAL NOTE: At 51 FR 31213, Sept. 2, 1986, 47 CFR 81 and 83 were removed.

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of paragraphs (a) and (b) of this section must be determined on the basis of:

- (1) Oil handling rates of the deepwater port;
- (2) Volume of oil susceptible to being spilled;
- (3) Frequency of oil transfer operations at the deepwater port;
- (4) Prevailing wind and sea state condition at the deepwater port;
- (5) Age, capability, arrangement of, and the licensee's experience with the oil transfer system equipment at the deepwater port; and
- (6) Whether the discharge containment and removal material and equipment is shared, and the expected frequency of use and probability of availability.

### § 149.321 Special requirement for onloading ports.

Each deepwater port at which onloading operations are permitted, under section 4(a)(3) of the Act, must have a means for receiving oily residues from vessels.

## Subpart D—Safety Equipment

### § 149.401 Applicability.

This subpart prescribes requirements for safety equipment that apply to each deepwater port.

### § 149.402 Equipment not required on a PPC.

Each item of lifesaving and fire fighting equipment on a PPC that is not required by this subpart must be approved under 46 CFR Part 160 or Part 162.

#### CURBS, GUTTERS, DRAINS, AND RESERVOIRS

### § 149.403 Curbs, gutters, drains, and reservoirs.

Each platform must have enough curbs, gutters, drains, and reservoirs to collect all of the following discharges and wastes in the reservoirs:

- (a) All discharges from equipment, maintenance shops, and refueling facilities.
- (b) All laboratory, sanitary, galley, and deck cleansing wastes, and similar wastes. Sanitary waste includes the

waste from baths, showers, sinks, wash bowls, laundry, toilets and urinals.

#### EMERGENCY POWER

### § 149.411 Emergency power.

- (a) Each PPC must have emergency power equipment to provide power to operate all of the following simultaneously for a continuous period of eight hours:
  - (1) Emergency lighting circuits.
  - (2) Aids to navigation equipment.
  - (3) Communications equipment.
  - (4) Radar equipment.
  - (5) Alarm systems.
  - (6) Electrically operated fire pumps.
  - (7) Other electrical equipment designated in the Operations Manual by the licensee.
- (b) No emergency power generating equipment may be located in any enclosed space on a platform that contains oil transfer pumping equipment or other power generating equipment.

#### MEANS OF ESCAPE

### § 149.421 Means of escape from platform.

- (a) Each platform must have at least one fixed and one unfixed means of escape from the highest working level to the water level with an entry at each working level.
- (b) Each platform with living spaces must have at least two fixed means of escape from the highest level with living spaces to the water with an entry at each level below. If the highest level of the PPC contains living spaces, the two fixed means of escape required by this paragraph satisfy the requirements in paragraph (a) of this section.
- (c) Each platform must have at least one fixed or unfixed means of escape for every ten persons on board the platform, including the means of escape required under paragraphs (a) and (b) of this section.
- (d) When two or more fixed means of escape are installed, at least two must be as far from each other as practicable.
- (e) Each fixed means of escape required under this section must be a steel ladder or steel stairway.
- (f) Each unfixed means of escape required under this section must be:
  - (1) A portable ladder;

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- (2) A flexible ladder; or
- (3) A knotted man rope.
- (g) Two exits must be provided from each space having over 300 square feet of floor area. Where practicable, the exits must give egress to different corridors, rooms, or spaces.
- (h) Exits must provide egress to the external means of escape required in this section. Dead end corridors may not be longer than 40 feet.

**§ 149.423 Means of escape from helicopter landing pad.**

Each helicopter landing pad on the PPC must have at least two fixed means of escape that are independent of those required by § 149.421:

- (a) From the pad to the first working level below the pad or the water; and
- (b) As far from each other as practicable.

PERSONNEL LANDINGS

**§ 149.431 Personnel landings.**

Each PPC must have at least two personnel landings for access to the platform from the water unless:

- (a) Personnel landings are not possible because of the PPC design; and
- (b) The PPC has a personnel basket transfer system.

**§ 149.433 Personnel landing illumination.**

Each personnel landing must have at least 1 foot-candle of artificial illumination on its guard rails or fence and on its deck.

GUARDRAILS, FENCES, NETS, AND TOEBOARDS

**§ 149.441 Open sided deck, deck opening, catwalk, and helicopter pad protection.**

(a) Each open sided deck, deck opening, and catwalk on each PPC must have protection that meets the "Safety Requirements for Floor and Wall Openings, Railings, and Toeboards" of the American National Standards Institute (ANSI A12.1), except each must have toeboards.

- (b) Each open side of each helicopter landing pad on the PPC must have:
  - (1) Safety net; or
  - (2) A lowered walkway that is 48 inches wide, is not more than 42 inches

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below the level of the pad, and has guard rails that meet the requirements of ANSI A12.1, except each must have toeboards.

FIXED FIRE MAIN SYSTEM FOR WATER

**§ 149.451 Fixed fire main system for water.**

Each PPC must have a fixed fire main system for water.

**§ 149.453 Fire pumps.**

(a) Each PPC must have at least two independently driven fire pumps that can deliver two streams of water at a continuous pitot tube pressure of at least 75 p.s.i. at each fire hose nozzle.

(b) Each fire pump must have:

- (1) A relief valve on its discharge side that is set to relieve at 25 p.s.i. in excess of the pressure necessary to meet the requirement in paragraph (a) of this section;
  - (2) A pressure gauge on its discharge side; and
  - (3) Its own water source.
- (c) Fire pumps may only be connected to the fire main system.

**§ 149.455 Fire pump location.**

The fire pumps required by § 149.453(a) may not be located in the same space.

**§ 149.457 Fire hydrants.**

(a) Each part of the PPC that is accessible to any person, except machinery spaces, must have enough fire hydrants so that it can be sprayed with at least two spray patterns of water. At least one spray pattern of water must be from one length of hose.

(b) Each PPC must have enough fire hydrants so that each machinery space can be sprayed with at least two spray patterns of water from separate hydrants. Each spray pattern of water must be from one length of hose.

(c) A single length of fire hose, with nozzle attached, must be connected to each fire hydrant at all times.

**§ 149.459 Fire hydrant outlet.**

The outlet on each fire hydrant must not point above the horizontal.

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**§ 149.461 Fire hydrant and control valve shutoff valve.**

Each fire hydrant and control valve must have a shutoff valve.

**§ 149.463 Fire hydrant access.**

Any equipment that is in the same space as a fire hydrant must not interfere with access to that hydrant.

**§ 149.465 Spanner.**

Each fire hydrant must have at least one spanner at the fire hydrant.

**§ 149.467 Fire hose rack.**

(a) Each PPC must have a hose rack at each hydrant.

(b) Each fire hose rack must be visible.

(c) Each fire hose rack in an exposed location must be protected from weather.

**§ 149.469 Fire hose size.**

Each length of fire hose must be:

(a) 1½ or 2½ inch nominal hose size diameter;

(b) 50 foot nominal hose size length; and

(c) Lined commercial fire hose that conforms to Underwriters Laboratories, Inc. Standard 19 or Federal specification ZZ-H-451D.

**§ 149.471 Fire hose coupling.**

Each fire hose coupling must:

(a) Be made of brass, bronze, or material that has strength and corrosion resistant properties at least equal to those of brass or bronze; and

(b) Have 9 threads per inch for 1½ inch hose or 7½ threads per inch for 2½ inch hose.

**§ 149.473 Fire hose nozzle.**

Each fire hose nozzle must be a combination solid stream and water spray fire hose nozzle that is approved under 46 CFR 162.027.

**§ 149.477 Spray applicator.**

Each PPC must have a low velocity spray applicator that is approved under 46 CFR 162.027 at each fire hydrant.

**§ 149.479 International shore connection.**

(a) The fixed fire main system of a PPC must have:

(1) At least two risers;

(2) A cutoff valve and check valve for each riser; and

(3) At least two international shore connections that meet the requirements in 46 CFR 162.034.

(b) Each riser must be in an accessible location to vessels alongside the PPC, and two of the risers must be on opposite sides of the PPC.

**OTHER FIRE EXTINGUISHING SYSTEMS**

**§ 149.481 Other fire extinguishing systems.**

(a) Each PPC must have a manually or automatically operated fire extinguishing system in addition to the fire main system required under § 149.451 that is approved by the Commandant and meets the National Fire Protection Association standards listed in paragraph (e) of this section in the following locations:

(1) Storerooms.

(2) Workrooms containing flammable liquids.

(3) Pump rooms.

(4) Machinery spaces.

(b) Each halogenated agent or CO<sub>2</sub> system in a compartment smaller than 6,000 cubic feet, and each sprinkler system, must be automatic.

(c) Each halogenated agent or CO<sub>2</sub> system in a compartment larger than 6,000 cubic feet, and each foam system, must be manual.

(d) The systems selected must match the hazard to be protected as follows:

(1) Storerooms must use water sprinklers or CO<sub>2</sub>.

(2) Workrooms containing flammable liquids, pumprooms, and machinery spaces must use CO<sub>2</sub>, halogenated agents, or high expansion foam.

(e) Each system required under paragraph (a) of this section must meet one of the following performance standards:

(1) Water sprinkler system—NFPA No. 13.

(2) Carbon dioxide system—NFPA No. 12.

(3) Halogenated agent system—NFPA No. 12A.

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(4) Foam system—NFPA No. 11A.

(f) Arrangement requirements contained in 46 CFR 95.15-10, 15 and 20 must be complied with.

(g) Each system required under paragraph (a) of this section must activate the general alarm system when it operates.

(h) Spaces that are protected by a carbon dioxide system or halogenated agent system and are normally accessible to persons on board must be fitted with an approved audible alarm that sounds automatically 20 seconds before the extinguishing agent is admitted to the space. The alarm must be conspicuously and centrally located.

(i) To the extent practicable, materials in each item of equipment required by paragraph (a) of this section must have resistance to the adverse effects of the marine environment.

**§ 149.483 Fire fighting system for helicopter pads.**

(a) Each PPC helicopter landing pad must have the following:

(1) A fire extinguishing system designed to:

(i) Deliver a minimum of 200 g.p.m. of water at the pressure required to overcome friction in the piping and hose lines, and produce the nozzle discharge requirements in paragraph (a)(2)(ii) of this section for 15 minutes; and

(ii) Not interfere with the simultaneous operation of the fire main.

(2) Shutoff type nozzles designed:

(i) For use with a foam concentrate listed or approved by a recognized testing agency for fire extinguishing agents;

(ii) To discharge water-foam concentrate solution or water fog at a rate of 100 g.p.m. at a pressure that will provide a foam discharge pattern at a 20 foot range with 15 foot width variable to a solid stream of foam with a minimum 50 foot range; and

(iii) To produce foam having a minimum expansion of eight, with a 25 percent drainage time of at least 5 minutes when protein base foam is used.

(3) Nozzles located so as to provide complete coverage of the helicopter landing area.

(4) A means of activating the general alarm system required by § 149.541.

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(b) Aqueous film forming foam (AFFF) may be substituted for protein base foam. Generally, the quantity of water may be reduced by 30 percent from that specified for use with protein base foam. This reduction will be authorized by the Commandant on a case-by-case basis.

(c) Other extinguishing agents that would provide an equivalent fire fighting capability may be substituted with the approval of the Commandant.

**FIRE DETECTION AND ALARM SYSTEMS**

**§ 149.491 Fire detection and alarm systems.**

(a) Each PPC must have the following fire detection systems that activate the general alarm system:

(1) An ionization type automatic smoke detection system in each sleeping space.

(2) A combination fixed-temperature and rate-of-rise heat detector system in each non-sleeping space that does not have an automatic fire extinguishing system unless the space is subject to a 15 °F or greater per minute rate of rise.

(3) A fixed-temperature detector system in each nonsleeping space that does not have an automatic fire extinguishing system and that is subject to a 15 °F or greater per minute rate of rise.

(b) To the extent practicable, materials in each item of equipment required by this section must have resistance to the adverse effects of the marine environment.

**PORTABLE AND SEMI-PORTABLE FIRE FIGHTING EQUIPMENT**

**§ 149.501 Portable and semiportable fire extinguishers.**

(a) Each PPC must have portable or semiportable fire extinguishers that are approved by the Coast Guard under 46 CFR 162.028 or 162.039.

(b) Each semiportable fire extinguisher must be fitted with hose and nozzle or other apparatus so that the entire space in which the extinguisher is located may be protected.

**§ 149.503 Location of extinguishers.**

(a) Fire extinguishers must be installed in accordance with Table 145.10(a) in § 145.10 of this chapter.

(b) Each fire extinguisher must be located so it can easily be seen.

**§ 149.505 Spare charges.**

(a) Spare charges must be carried for at least 50 percent of each size and variety of hand portable fire extinguisher required in § 149.503. If an extinguisher is of such variety that it cannot be readily recharged by PPC personnel, one spare extinguisher of the same classification must be carried in lieu of a spare charge.

(b) Spare charges must be packed to minimize the hazards to personnel while recharging extinguishers. Acid must be contained in a crown stopper type of bottle.

**§ 149.507 Marking.**

Each hand portable extinguisher and its station must be numbered in accordance with 46 CFR 97.37-23.

**§ 149.511 Landing area with no fueling facility.**

In addition to the requirements in § 149.483 of this subchapter each helicopter landing area on a PPC with no fueling facility must have at least two USCG type B:C, size IV dry chemical extinguishers.

**§ 149.513 Landing area with a fueling facility.**

In addition to the requirements in § 149.483 each helicopter landing area on the PPC with a fueling facility must have:

(a) At least two USCG Type B:C, size II dry chemical extinguishers and at least one USCG Type B:C, size V dry chemical extinguisher; and

(b) A USCG Type B:C, size II dry chemical extinguisher at the emergency control station.

**§ 149.515 Fire axes.**

(a) Each PPC must have at least 8 fire axes.

(b) Fire axes must be distributed so as to be readily available in an emergency.

(c) Each fire axe must be located:

(1) In the open;

(2) Behind glass; or

(3) In an enclosure with a fire hose.

**§ 149.517 Fireman's outfits.**

(a) Each platform must have at least 2 fireman's outfits.

(b) Each fireman's outfit must consist of:

(1) A self-contained breathing apparatus approved under 49 CFR 160.011 with a complete recharge.

(2) A three-cell, intrinsically safe flashlight with the Underwriters' Laboratories, Inc., label and a set of spare batteries for the flashlight.

(3) An oxygen and combustible gas indicator with the Underwriters' Laboratories, Inc., label, or Factory Mutual Testing Laboratories, Inc., label.

(4) Boots and gloves that are made of rubber or other electrically nonconductive material.

(5) A helmet that meets the requirements in Section 5 of the United States of America Standard Safety Code (Z2.1).

(6) Clothing that protects the skin from scalding steam and the heat of fire and that has a water resistant outer surface.

(c) Equipment must be stowed in a convenient, readily accessible location.

## LIFESAVING EQUIPMENT

**§ 149.521 Lifeboats and inflatable life rafts: general.**

(a) Each PPC must have enough lifeboats or inflatable life rafts, or a combination of both, for 200% of the maximum number of personnel to be quartered or employed on the PPC, except that each PPC must have at least two lifeboats. The Commandant may reduce this requirement to a minimum of 150% under § 148.607 when it can be shown that the specific arrangements and separation of equipment provides sufficient redundancy.

(b) Each lifeboat and launching equipment for an inflatable life raft on a platform must be mounted on the outboard side of the platform in a location that is easily accessible to persons on board and that is as far apart as practicable from each other lifeboat.

(c) No lifeboat and no launching equipment for an inflatable life raft may be mounted next to a discharge

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opening on a platform unless the opening has a baffle or a remotely controlled device to close the opening.

(d) Each lifeboat and life raft launching station must be provided with emergency lighting to illuminate the entire launching process from the stowed position until the craft is waterborne.

**§ 149.522 Lifeboats.**

(a) Each lifeboat on a platform must be approved under 46 CFR 160.035 and have the equipment required by 46 CFR 94.20-10 for a lifeboat on lakes, bays, sounds, and rivers. Except for boathooks, the equipment must be securely attached to the lifeboat.

(b) Each life boat on a platform must be motor propelled and have an installed cover that provides protection from exposure and from fire during operation of the lifeboat.

**§ 149.523 Inflatable life rafts.**

Each inflatable life raft on a platform must be approved under 46 CFR 160.051 as an inflatable life raft intended for an ocean service vessel.

**§ 149.524 Launching equipment for lifeboats.**

(a) Each PPC must have the following launching equipment for each lifeboat required by § 149.521:

(1) A winch that is approved under 46 CFR 160.015 and that has a grooved drum with only one layer of wire.

(2) Mechanical disengaging apparatus that is approved under 46 CFR 160.033.

(3) Davits that are approved under 46 CFR 160.032.

(4) Load bearing components that meet the requirements in 46 CFR 94.33-5 (a), (c), (d), and (e) and 46 CFR 94.33-10.

(b) If a lifeboat is mounted more than 30 feet above mean low water, the launching equipment for the lifeboat must be capable of operation from the lifeboat and from the PPC.

**§ 149.525 Launching equipment for inflatable life rafts.**

(a) Each PPC must have enough of the following inflatable life raft launching equipment to launch all of the life rafts required by § 149.521 within 20 minutes:

(1) Winches that are approved by the Commandant.

(2) Mechanical disengaging apparatus that is approved by the Commandant.

(3) Davits that are approved by the Commandant.

(4) Load bearing components that meet the requirements in 46 CFR 94.33-5 (a), (c), (d), and (e) and 46 CFR 94.33-10.

(b) Launching equipment for an inflatable life raft must be capable of being operated from the life raft and from the PPC.

(c) No more than two rafts may be launched from each launching station.

**§ 149.526 Approved ring life buoys (Type IV personal flotation devices).**

(a) Each PPC must have at least 8 approved ring life buoys (Type IV PFDs) and mounting racks distributed about the perimeter of the platform.

(b) Each ring life buoy must be constructed in accordance with 46 CFR Subpart 160.050 except a ring life buoy that was approved under former 46 CFR Subpart 160.009 may be used as long as it is in good and serviceable condition. Each ring life buoy must be of the 30-inch size, international orange, and easily accessible to persons on board.

(c) At least fifty percent of the ring life buoys required by this section must have an electric water light approved under 46 CFR 161.010.

(d) At least one ring life buoy on each side of the platform must have a buoyant line attached to it that is 1½ times the distance from the buoy to the mean low water line of the platform, or 15 fathoms in length, whichever is greater.

[CGD 80-155b, 47 FR 10533, Mar. 11, 1982]

**§ 149.527 Portable radio apparatus.**

Each PPC must have portable radio apparatus that meets the requirements in 46 CFR 94.55-1.

**§ 149.529 Type I personal flotation devices (PFD's).**

(a) Each PPC must have enough adult Type I PFD's for 100 percent of the port personnel. Each PFD must be stowed in the living spaces.

(b) Enough additional Type I PFD's for 50 percent of the port personnel must be stowed near working spaces in

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well ventilated and accessible lockers marked "life preservers."

### § 149.533 Litters.

Each platform must be equipped with at least one Stokes litter that is placed in a location that is accessible to persons on board.

### § 149.535 Markings on lifeboats, life rafts, paddles, and oars.

(a) Each lifeboat, and life raft must be marked in letters and numbers at least 1½ inch high with:

(1) The identification of the deepwater port; and

(2) The personnel capacity.

(b) Each inflatable life raft must be marked as required under 46 CFR 160.051.

(c) Each paddle and each oar must be marked with the identification of the deepwater port.

### § 149.537 Markings for personal flotation devices (PFD's).

Each PFD must be marked with the identification of the deepwater port.

## MISCELLANEOUS

### § 149.539 Portable lights.

(a) Each portable light on a PPC must be listed by Underwriters' Laboratories, Inc., as suitable for Class I, Group D hazardous locations.

(b) Each supply cord of the portable lighting units must have receptacles with plugs, or receptacles with plugs interlocked with snap switches, that are listed by Underwriters' Laboratories, Inc., as suitable for Class I, Group D hazardous locations.

### § 149.541 General alarm system.

(a) Each PPC must have a general alarm system.

(b) Each general alarm system must be:

(1) Capable of being activated by the automatic fire detection systems required under §149.491 and manually by use of alarm boxes located in accordance with the National Fire Protection Association Standard No. 72A;

(2) Audible in all parts of the PPC except in areas of high ambient noise levels where hearing protection is re-

quired under §150.509(d) of this subchapter; and

(3) Visible in areas of the PPC where hearing protection is required under §150.509(d) of this subchapter by use of a high intensity flashing light.

### § 149.543 Marking of general alarm system.

(a) Each general alarm box must be marked with the words "GENERAL ALARM" in red letters at least one inch high on a yellow background.

(b) Each audio and each visual general alarm signalling device under §149.541 must have a sign with the words "GENERAL ALARM" in red letters at least one inch high on a yellow background.

### § 149.545 Public address system.

Each PPC must have a public address system operable from two locations on the PPC to allow an announcement of fires, oil transfer system failure or malfunction, and other emergencies.

## Subpart E—Aids to Navigation at Deepwater Ports

### GENERAL

### § 149.701 Applicability.

This subpart prescribes the minimum requirements for aids to navigation at the marine site.

### § 149.703 Effective intensity: Definition.

For the purpose of this subpart, "effective intensity" is the intensity of a flashing light calculated by using equation [3-27] for effective intensity in the Illumination Engineering Society Lighting Handbook, p. 3-36.

### § 149.705 Applicability of other regulations.

Sections 66.01-5, 66.01-25 (a) and (c), 66.01-50, and 66.01-55 of this chapter also apply to aids to navigation at a deepwater port. For the purpose of §66.01-25 (a) and (c) of this chapter, aids to navigation at a deepwater port are Class I aids to navigation.

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**§ 149.707 Applications for aids to navigation.**

(a) 180 days before the installation of any structure at the deepwater port site the licensee must submit applications for obstruction lights and such other private aids to navigation appropriate for the particular construction site.

(b) 180 days before the commencement of oil transfer operations or changing the mooring facilities at the deepwater port the licensee must submit applications for private aids to navigation.

(c) Applications for private aids to navigation for deepwater ports must be submitted in accordance with § 66.01-5 of this chapter except that the applications must be submitted to the Commandant (G-M).

[CGD 75-002, 40 FR 52565, Nov. 10, 1975, as amended by CGD 88-052, 53 FR 25121, July 1, 1988]

**SPECIFICATIONS FOR LIGHTS**

**§ 149.721 Light source.**

Each light must have a tungsten-incandescent light source.

**§ 149.723 Intensity.**

(a) Each light on a buoy, hose string, and SPM must:

(1) Have at least the effective intensity required by this subpart for the light at all angles, the origin of which is the focal point of the light, that are included within  $\pm 1^\circ$  from the focal plane of the light; and

(2) Have at least 50% of the effective intensity required by this subpart for the light at all angles, the origin of which is the focal point of the light, that are included within  $\pm 2^\circ$  from the focal plane of the light.

(b) Each light on a platform, including the rotating lighted beacon, must:

(1) Have at least the effective intensity required by this subpart at all angles within  $\pm 0.5^\circ$  of the horizontal plane that includes the focal point of the lens; and

(2) Have at least 50% of the effective intensity required by this subpart for the light at angles within  $\pm 1^\circ$  of the horizontal plane that includes the focal point of the lens.

**§ 149.724 Focus.**

Each light using a lens must have a means to verify that the light source is at the focal point of the lens.

**§ 149.725 Color.**

The transparent cover of each light, including, where applicable, the top of the cover, must be uniform in color.

**§ 149.727 Chromaticity.**

The color emitted by a light at all angles, within the 50% effective intensity angle under § 149.723 must have chromaticity coordinates lying within the boundary defined by the corner coordinates in Table 149.727 when plotted on the International Commission on Illumination (CIE) Standard Observer Diagram.

TABLE 149.727—CHROMATICITY COORDINATES

Color	Chromaticity coordinates	
	x axis	y axis
White .....	0.285	0.332
	.453	.440
	.500	.440
	.500	.382
	.440	.382
	.285	.264
Green .....	.009	.720
	.284	.520
	.207	.397
	.013	.494
Red .....	.665	.335
	.645	.335
	.680	.300
	.700	.300
Yellow .....	.560	.440
	.555	.435
	.612	.382
	.618	.382

**§ 149.729 Display of information.**

(a) The following information must be displayed on each light:

(1) The manufacturer's name and date of manufacture.

(2) The model designation.

(3) The name of the manufacturer of the lamp to be used, and the manufacturer's ordering code for the lamp.

(4) The minimum voltage, measured at the input terminals of the lighting apparatus with the lamp burning, needed to operate the light in compliance with the intensity requirements of this subpart.

(b) The following information must be displayed on each rotating lighted beacon:

(1) The information prescribed in paragraph (a) of this section.

(2) The operating speed of the rotating apparatus.

(3) The type and level of electrical input required to maintain the operating speed.

#### OBSTRUCTION LIGHTS

##### § 149.751 Number and location on a platform and SPM.

(a) A platform that is 30 feet or less on any side, or in diameter, must have at least one obstruction light.

(b) An SPM must have at least one obstruction light.

(c) A platform that is more than 30 feet but less than 50 feet on any side, or in diameter, must have at least two obstruction lights that are installed as far apart from each other on the platform as possible.

(d) A platform that is more than 50 feet on any one side must have one obstruction light installed on each corner.

(e) A circular platform that has a diameter of more than 50 feet must have at least 4 obstruction lights that are installed as far apart from each other on the platform as possible.

(f) At least one of the obstruction lights on each platform and SPM must be visible from the water regardless of the angle of approach to the structure.

(g) If a platform or SPM has more than one obstruction light, the lights must all be installed in the same horizontal plane.

(h) Each obstruction light on a platform must be installed at least 20 feet above mean high water.

(i) Each obstruction light on an SPM must be installed at least 10 feet above the water.

##### § 149.753 Number and location on a floating hose string.

A floating hose string must have omnidirectional obstruction lights that are:

(a) Installed at equally spaced intervals of not more than 70 feet along the length of the hose string, except that the two sections of hose furthest from the SPM need not have lights; and

(b) Installed all at the same height and at no less than 2 nor more than 5 feet above the surface of the water.

##### § 149.755 Characteristics.

(a) Each obstruction light on a platform or SPM must:

(1) Be white; and

(2) Flash 50 to 70 times per minute.

(b) If a platform or SPM has more than one obstruction light, the lights must flash simultaneously.

(c) Each obstruction light on a hose string must:

(1) Be yellow; and

(2) Flash 50 to 70 times per minute.

##### § 149.757 Intensity.

(a) Each obstruction light on a platform must have an effective intensity of at least 75 candela.

(b) Each obstruction light on an SPM must have an effective intensity of at least 15 candela.

(c) Each obstruction light on a hose string must have an effective intensity of at least 1 candela.

##### § 149.759 Leveling.

Each obstruction light installed on a platform must have:

(a) Mounting hardware incorporating devices that facilitate horizontal leveling of the light; and

(b) A leveling indicator, or indicators, each with an accuracy of  $\pm 0.25$  degrees, permanently attached to the light.

#### BUOYS

##### § 149.771 Number and location.

Each lateral boundary of a traffic lane at a deepwater port must be marked with buoys that are no more than 5 miles apart.

##### § 149.773 Characteristics.

(a) Each buoy at a deepwater port must:

(1) Meet the requirements in § 62.25 of this chapter for buoys in United States waters; and

(2) Have:

(i) A radar reflector; and

(ii) A light installed at least 8 feet above the water.

(b) For each traffic lane, the buoy that is furthest from the safety zone

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must have a fog signal of a type described in Subpart 62.45 of Part 62 of this chapter.

**§ 149.775 Intensity of lights.**

- (a) Each fixed light on a buoy must have an intensity of at least 75 candela.
- (b) Each flashing light on a buoy must have an effective intensity of at least 75 candela.

MISCELLANEOUS

**§ 149.791 Identification of a platform and SPM.**

(a) Each platform and SPM must display the name of the port, and the name or number or both identifying the structure, so that the information is visible:

- (1) From the water at all angles of approach to the structure; and
  - (2) If the structure is equipped with a helicopter pad, from aircraft on approach to the structure.
- (b) The information required in paragraph (a) of this section must be displayed in numbers and letters that are:
- (1) At least 12 inches high;
  - (2) In vertical block style; and
  - (3) Displayed against a contrasting background.

**§ 149.793 Markings for piles and pile clusters.**

- (a) Each pile and pile cluster that is within 100 yards of a platform or SPM must be marked with white reflective tape.
- (b) Each pile and pile cluster that is more than 100 yards from a platform or SPM must meet the obstruction lighting requirements in this subpart for a platform.

**§ 149.795 Radar beacon.**

The tallest platform must have an FCC type accepted radar beacon (RACON) that:

- (a) Transmits in—
  - (1) Both the 2900–3100 MHz and 9300–9500 MHz frequency bands, or
  - (2) The 9320–9500 MHz frequency band if installed prior to July 8, 1991.
- (b) Transmits a signal of a least 250 milliwatts radiated power that is omnidirectional and polarized in the horizontal plane;

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(c) Transmits a 2 or more element Morse code character, the length of which does not exceed 25% of the radar range expected to be used by vessels operating in the area;

(d) If of the frequency agile type, is programmed so that it will respond at least 40% of the time but not more than 90% of the time, with a response time duration of at least 15 seconds; and

(e) Is installed at a minimum height of 15 feet above the highest deck of the platform and where the structure of the platform, or equipment mounted thereon, does not obstruct the signal propagation in any direction.

[CGD-90-016, 56 FR 21082, May 7, 1991]

**§ 149.797 Rotating lighted beacon.**

The tallest platform must have a rotating lighted beacon that:

- (a) Has an effective intensity of at least 15,000 candela;
- (b) Flashes at least once every 20 seconds;
- (c) Has a white light;
- (d) Is installed:
  - (1) At least 60 feet above mean high water;
  - (2) Where the structure of the platform, or equipment mounted thereon, does not obstruct the propagation of the light in any direction; and
  - (3) So as to be visible all around the horizon;
- (e) Operates in wind up to 100 knots at a speed that is within 6% of the operating speed displayed on the beacon.
- (f) [Reserved]
- (g) Has a leveling indicator, or indicators, each with an accuracy of  $\pm 0.25$  degrees, permanently attached to the light.

**§ 149.799 Fog signal.**

(a) Each PPC must have a Coast Guard approved fog signal that has a 2 mile range.

NOTE: A list of Coast Guard approved fog signals may be obtained from the Commandant (G-M).

- (b) Each fog signal on a PPC must:
  - (1) Be installed at least 10 feet but not more than 150 feet above mean high water; and
  - (2) Be installed where the structure of the platform, or equipment mounted

thereon, does not obstruct the propagation of sound in any direction.

[CGD 75-002, 40 FR 52565, Nov. 10, 1975, as amended by CGD 88-052, 53 FR 25121, July 1, 1988]

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