

(2) As meeting IMO Resolution A.393(X) by a country that has ratified the MARPOL 73/78.

(c) Each monitor must be installed in accordance with Paragraphs 4, 5, and 6 of Appendix F to this part and be fitted with the control system prescribed by paragraphs 6.1.4.2 through 6.1.4.5.5 of that appendix.

[CGD 76-088b, 48 FR 45720, Oct. 6, 1983, as amended by USCG-1998-3799, 63 FR 35531, June 30, 1998; USCG-2000-7641, 66 FR 55573, Nov. 2, 2001]

§ 157.13 Designated observation area.

Each new vessel must have a designated observation area on the weather deck or above that is:

(a) Located where the effluent from each discharge point and manifold described in §157.11 can be visually observed; and

(b) Equipped with:

(1) A means to directly stop the discharge of effluent into the sea; or

(2) A positive communication system, such as a telephone or a radio, between the observation area and the discharge control position.

[CGD 74-32, 40 FR 48283, Oct. 14, 1975, as amended by CGD 76-088b, 48 FR 45720, Oct. 6, 1983]

§ 157.15 Slop tanks in tank vessels.

(a) *Number.* A tank vessel must have the following number of slop tanks that comply with the requirements of this section:

(1) A new vessel of less than 70,000 tons DWT and an existing vessel must have at least one slop tank.

(2) A new vessel of 70,000 tons DWT or more must have at least two slop tanks.

(b) *Capacity.* Slop tanks must have the total capacity to retain oily mixtures from cargo tank washings, oil residue, and ballast water containing an oily mixture of 3 percent or more of the oil carrying capacity. Two percent capacity is allowed if there are—

(1) Segregated ballast tanks that meet the requirements in §157.09, §157.10, §157.10a, or §157.10b; or

(2) No eductors arrangements that use water in addition to the washing water.

(c) *Design.* A slop tank required in this section:

(1) Must minimize turbulence, entrainment of oil, and the creation of an emulsion by the use of separate inlet and outlet connections; and

(2) May carry bulk oil when not being used as a slop tank.

[CGD 74-32, 40 FR 48283, Oct. 14, 1975]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §157.15, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

§ 157.17 Oil residue (sludge) tank.

(a) A tank vessel of 400 gross tons or more must have a tank that receives and holds oil residue resulting from purification of fuel and lubricating oil and from oil leakages in machinery spaces.

(b) Each oil residue (sludge) tank required in paragraph (a) of this section must have an adequate capacity that is determined by the:

(1) Type of machinery installed on the vessel; and

(2) Maximum fuel oil capacity.

(c) Each oil residue (sludge) tank on a new vessel must be designed to facilitate:

(1) Cleaning; and

(2) Discharging to a reception facility.

[CGD 74-32, 40 FR 48283, Oct. 14, 1975, as amended by CGD 80-78, 45 FR 43704, June 30, 1980; USCG-2000-7641, 66 FR 55573, Nov. 2, 2001]

§ 157.19 Cargo tank arrangement and size.

(a) This section applies to:

(1) A U.S. or foreign vessel that is delivered after January 1, 1977;

(2) A U.S. vessel that is delivered before January 1, 1977, for which the building contract is awarded after January 1, 1972, or, if there is no building contract, the keel is laid or the vessel is at a similar stage of construction after June 30, 1972; and

(3) A foreign vessel that is delivered before January 1, 1977, for which the building contract is awarded after January 1, 1974, or, if there is no building contract, the keel is laid or the vessel is at a similar stage of construction after June 30, 1974.

(b) As determined in accordance with the procedures contained in Appendix

§ 157.21

33 CFR Ch. I (7-1-05 Edition)

A of this part, each cargo tank must be of such size and arrangement that:

(1) The hypothetical outflow for side damage (O_s) or for bottom damage (O_b) anywhere within the length of the vessel must not exceed O_A (30,000 cubic meters or $(400) \times (3\sqrt{\text{DWT}})$ whichever is greater, limited to a maximum of 40,000 cubic meters);

(2) The volume of each wing tank and center tank is less than the allowable volume of a wing tank (VOL_w) and the allowable volume of a center tank (VOL_c) respectively; and

(3) The length of a tank is less than the allowable length of a tank (L_a).

(c) If a cargo transfer system interconnects two or more cargo tanks, the system must have valves to segregate the tanks from each other.

(d) If a line of piping that runs through a cargo tank in a position less than t_c from the vessel's side or less than v_s from the vessel's bottom as defined in Appendix A of this part, has a branch, that branch must have a stop valve:

(1) Within each cargo tank into which the branch opens; or

(2) Outside each tank into which the branch opens in a location that is immediately adjacent to the point at which the branch enters the tank.

(e) If piping that serves suction wells is installed within a double bottom, that piping must be:

(1) Fitted with valves located at the point of connection to the tank served to prevent oil outflow in the event of damage to the piping; and

(2) Designed to be installed as high from the bottom shell as possible.

[CGD 74-32, 40 FR 48283, Oct. 14, 1975, as amended by CGD 75-240, 41 FR 54180, Dec. 13, 1976; CGD 76-088b, 48 FR 45720, Oct. 6, 1983; USCG-2000-7223, 65 FR 40058, June 29, 2000]

§ 157.21 Subdivision and stability.

A new vessel that is a U.S. vessel must meet the following subdivision and damage stability criteria after assuming side and bottom damages, as defined in Appendix B of this Part. A U.S. vessel that meets the requirements in this section is considered by the Coast Guard as meeting 46 CFR 42.20-5.

(a) The final waterline, taking into account sinkage, heel, and trim, must

be below the lower edge of an opening through which progressive flooding may take place, such as an air pipe, or any opening that is closed by means of a weathertight door or hatch cover. This opening does not include an opening closed by a:

(1) Watertight manhole cover;

(2) Flush scuttle;

(3) Small watertight cargo tank hatch cover that maintains the high integrity of the deck;

(4) Remotely operated watertight sliding door; or

(5) Side scuttle of the non-opening type.

(b) In the final stage of flooding, the angle of heel due to unsymmetrical flooding must not exceed 25 degrees, except that this angle may be increased to 30 degrees if no deck edge immersion occurs.

(c) For acceptable stability in the final stage of flooding, the righting lever curve must have a range of at least 20 degrees beyond the position of equilibrium in association with a maximum residual righting lever of at least 0.1 meter. For the calculations required in this section, weathertight openings or openings fitted with automatic closures (e.g., a vent fitted with a ball check valve), need not be considered as points of downflooding within the range of residual stability, but other openings must be accounted for in the calculation.

[CGD 74-32, 40 FR 48283, Oct. 14, 1975, as amended by CGD 75-240, 41 FR 54180, Dec. 13, 1976]

§ 157.22 Intact stability requirements.

All tank ships of 5,000 DWT and above contracted after December 3, 2001 must comply with the intact stability requirements of Regulation 25A, Annex I MARPOL 73/78.

[USCG-2000-7641, 66 FR 55573, Nov. 2, 2001]

§ 157.23 Cargo and ballast system information.

(a) Each tank vessel to which this part applies must have an instruction manual that describes the automatic and manual operation of the cargo and ballast system in the vessel.

(b) The format and information contained in the instruction manual required in paragraph (a) of this section