cargo must not create static arcing as the inert gas is injected into the tank.

§ 153.463 Vent system discharges.

The discharge of a venting system must be at least 10 m (approx. 32.8 ft) from an ignition source if:

(a) The cargo tank is endorsed to carry a flammable or combustible cargo; and

(b) Table 1 requires the cargo to have a PV venting system.

§ 153.465 Flammable vapor detector.

(a) A tankship that carries a flammable cargo must have two vapor detectors that meet §35.30–15(b) of this chapter.

(b) At least one of the vapor detectors in paragraph (a) of this section must be portable.

§ 153.466 Electrical equipment.

A tankship carrying a flammable or combustible cargo under this part must meet subchapter J of this chapter.

DESIGN AND EQUIPMENT FOR POLLUTION CONTROL

SOURCE: Sections 153.470 through 153.491 appear at CGD 81–101, 52 FR 7781, Mar. 12, 1987, unless otherwise noted.

§ 153.470 System for discharge of NLS residue to the sea: Categories A, B, C, and D.

Unless waived under §153.491, each ship that discharges Category A, B, or C NLS residue, or Category D NLS residue not diluted to 1/10th of its original concentration, into the sea under §§153.1126 and 153.1128 must have an NLS residue discharge system meeting the following:

(a) *Minimum diameter of an NLS residue discharge outlet.* The outlet of each NLS residue discharge system must have a diameter at least as great as that given by the following formula:

$$D = \frac{(Q_d)(\text{cosine } \phi)}{5L}$$

where:

D=Minimum diameter of the discharge outlet in meters.

Q_d=Maximum rate in cubic meters per hour at which the ship operator wishes to discharge slops (note: Q_d affects the discharge rate allowed under §153.1126(b)(2)).

L=Distance from the forward perpendicular to the discharge outlet in meters.

φ=The acute angle between a perpendicular to the shell plating at the discharge location and the direction of the average velocity of the discharged liquid.

(b) *Location of an NLS residue discharge outlet.* Each NLS residue discharge outlet must be located—

(1) At the turn of the bilge beneath the cargo area; and

(2) Where the discharge from the outlet is not drawn into the ship's seawater intakes.

(c) *Location of dual NLS residue discharge outlets.* If the value of 6.45 for K is used in §153.1126(b)(2), the NLS residue discharge system must have two outlets located on opposite sides of the ship.

[CGD 81–101, 52 FR 7781, Mar. 12, 1987, as amended by CGD 81–101, 53 FR 28974, Aug. 1, 1988 and 54 FR 12629, Mar. 28, 1989; CGD 95–028, 62 FR 51209, Sept. 30, 1997]

§ 153.480 Stripping quantity for Category B and C NLS tanks on ships built after June 30, 1986: Categories B and C.

Unless waived under §153.491, Category B and C NLS cargo tanks on each ship built after June 30, 1986 must have stripping quantities determined under §153.1604 that are less than—

(a) 0.15 m^3 if Category B; and

(b) 0.35 m^3 if Category C.

§ 153.481 Stripping quantities and interim standards for Category B NLS tanks on ships built before July 1, 1986: Category B.

Unless waived under §153.483 or §153.491, each Category B NLS cargo tank on ships built before July 1, 1986 must meet the following:

(a) Unless the tank meets the interim standard provided by paragraph (b) of this section and is prewashed in accordance with §153.1118, the tank must have a stripping quantity determined under §153.1604 that is less than 0.35m^3.

(b) Before October 3, 1994, the tank may have a total NLS residue determined under §153.1608 that is less than 1.0 m^3 or 1/3000th of the tank's capacity and an NLS residue discharge system meeting the following:

(1) The system must be capable of discharging at a rate equal to or less than Q in the following formula:

$Q=K\ U^{1.4}\ L^{1.6}\times 10^{-5}\ m^3/hr$

where:

K=4.3, except K=6.45 if the discharge is equally distributed between two NLS residue discharge outlets on opposite sides of the ship (see §§153.470(c) and 153.1126(b)).

L=ship's length in meters.

U=for a ship that is self-propelled, the minimum speed in knots specified in the approved Procedures and Arrangements Manual for discharging Category B NLS residue, but at least 7;

U=for a ship that is not self-propelled, the minimum speed in knots specified in the approved Procedures and Arrangements Manual for discharging Category B NLS residue, but at least 4.

(2) The system must have equipment capable of automatically recording—

(i) The time of day that discharge of NLS residue through the residue discharge system starts and ends; and

(ii) The dates on which discharge begins and ends unless the equipment allows a person to enter these dates on the record manually.

(3) Each system that has the capacity to exceed Q calculated in paragraph (b)(1) of this section must have equipment that—

(i) Records the NLS residue flow through the system; and

(ii) Is sufficiently accurate that its recorded values averaged over any 30 second period differ no more than 15% from the actual flow averaged over the same 30 second period.

(4) Each system that has the capacity to exceed Q calculated under paragraph (b)(1) of this section and does not automatically control the flow rate must have—

(i) Manual controls that enable the flow to be adjusted to the value of Q calculated in paragraph (b)(1) of this section and that must be moved through at least 25% of their total range of movement for the discharge rate to change from 0.5Q to 1.5Q; and

(ii) A flow rate meter located where the flow is manually controlled.

[CGD 81–101, 52 FR 7781, Mar. 12, 1987, as amended by CGD 81–101, 53 FR 28974, Aug. 1, 1988 and 54 FR 12629, Mar. 28, 1989]

§ 153.482 Stripping quantities and interim standards for Category C NLS tanks on ships built before July 1, 1986: Category C.

Unless waived under §153.483 or §153.491, each Category C NLS cargo tank on ships built before July 1, 1986 must meet the following:

(a) Unless the tank meets the interim standard provided by paragraph (b) of this section, the tank must have a stripping quantity determined under 153.1604 that is less than 0.95 m^3.

(b) Before October 3, 1994, the tank may have a total NLS residue determined under §153.1608 that is less than 3.0 m^3 or 1/1000th of the tank's capacity.

§ 153.483 Restricted voyage waiver for Category B and C NLS tanks on ships built before July 1, 1986: Category B and C.

At its discretion the Coast Guard waives §§153.481 and 153.482 under this section and allows a ship to carry Category B and C NLS cargoes between ports or terminals in one or more countries signatory to MARPOL 73/78 if the ship's owner requests a waiver following the procedures in §153.10 and includes—

(a) A written pledge to—

(1) Limit the loading and discharge of Category B and C NLS cargoes in a foreign port to those ports and terminals in countries signatory to MARPOL 73/78 and listed in accordance with paragraph (b) of this section; and

(2) Prewash the cargo tank as required under §153.1118 after each Category B or C NLS is unloaded unless the prewash is allowed to be omitted under §153.1114;

(b) A list of—

(1) All foreign ports or terminals at which the ship is expected to load or discharge Category B or C NLS cargo, and

(2) All foreign ports or terminals at which the ship is expected to discharge Category B or C NLS residue from the tank;

(c) An estimate of the quantity of NLS residue to be discharged to each foreign port or terminal listed under paragraph (b)(2) of this section;

(d) Written statements from the owners of adequate reception facilities in