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MAINTENANCE

§ 153.1500 Venting system rupture disks.

The master shall ensure that a relief valve exposed to a cargo after the failure of a rupture disk or breaking pin is cleaned and operates properly before the next cargo is loaded into the tank.

§ 153.1502 Fixed ballast relocation.

No person may remove or relocate fixed ballast unless:

(a) The change is approved by the Commandant (G–MSO); or

(b) The ballast is temporarily moved under the supervision of a Coast Guard Marine Inspector for examination or repair of the tankship.

[CGD 73–96, 42 FR 49027, Sept. 26, 1977, as amended by CGD 82–063b, 48 FR 4782, Feb. 3, 1983]

§ 153.1504 Inspection of personnel emergency and safety equipment.

The master shall ensure that the personnel emergency and safety equipment required by § 153.214 is inspected each 30 days and found to be in good condition and operating properly.

Subpart D—Test and Calculation Procedures for Determining Stripping Quantity, Clingage NLS Residue, and Total NLS Residue

SOURCE: CGD 81–101, 52 FR 7788, Mar. 12, 1987, unless otherwise noted.

§ 153.1600 Equipment required for conducting the stripping quantity test.

The operator shall ensure the stripping quantity test is conducted with—

(a) Equipment that maintains a backpressure of at least 100 kPa (1 atm) (gauge) at the connection of the discharge line of the tank to be tested to the cargo transfer hose, including, but not limited to, piping whose discharge is 10 m above the manifold or a constant pressure valve in the discharge line and set at 100 kPa;

(b) A container for measuring the volume of water remaining in the tank to an accuracy of ± 5%;

(c) A squeegee or broom to collect standing water on the tank floor;

(d) One or more containers for collecting and transferring water; and

(e) One of the following for transferring the water remaining in the tank to the measuring container:

(1) A wet vacuum.

(2) A positive displacement pump.

(3) An eductor with an air/water separator in line.

§ 153.1602 Test procedure for determining the strippinq quantity.

(a) The stripping quantity of a tank must be determined by testing the tank under the procedures in paragraph (b) of this section unless the Coast Guard agrees under the provisions of § 153.10 to accept the stripping quantity, previously determined under paragraph (b) of this section, of a tank having similar geometry, internal structure, and piping system.

(b) When testing a tank for stripping quantity, the owner or operator of the ship shall proceed as follows:

(1) Make arrangements with the Officer in Charge, Marine Inspection, for a Coast Guard Marine Inspector to witness the stripping test.

(2) Clean and gas free the tanks to be tested.

(3) Determine the least favorable values of list and trim for drainage within the range allowed by the approved Procedures and Arrangements Manual.

(4) Maintain the ship's list and trim during the test to that determined under paragraph (b)(3) of this section.

(5) Load the tank with enough water so that unloading the water simulates the final stages of unloading a full tank of cargo.

(6) Pump out the water and strip the tank using the procedures specified in the approved Procedures and Arrangements Manual.

(7) After shutting the manifold valve, open any cargo pump foot valve to allow water trapped in the cargo pump to drain into the tank.

(8) Open all valves in the piping system except the manifold valve and allow the water to drain into the tank.

(9) Squeegee or sweep the water drained under paragraphs (b)(7) and (b)(8) of this section and any water that stands in puddles on the tank floor to the tank's low point or sump and collect in the container required

by §153.1600(b) using the equipment required in §153.1600(e).

(10) With the manifold valve still closed, drain any water remaining in the piping system on the ship's side of the cargo transfer manifold valve into containers, and add this water to that collected from the tank under paragraph (b)(9) of this section. Water collected from a cargo line serving a block of tanks may be prorated between all the tanks it serves if—

(i) The ship owner requests, under the provisions of §153.10, that the water be prorated; and

(ii) The ship's approved Procedures and Arrangements Manual specifies that no tank in the block be washed until all the tanks in the block have been discharged.

(c) Include any water that is trapped in dead end pipe sections, either by—

(1) Draining the pipe sections and adding the water to that collected in the container under paragraphs (b)(9) and (b)(10) of this section; or

(2) Adding an estimate of the water's volume to the sum calculated in paragraph (d) of this section using the pipe's dimensions, the ship's list and trim, and the geometry of the piping system.

(d) Measure the volume of water collected in the container under paragraphs (b)(9), (b)(10), and (c)(1) of this section and add to that volume the volume, if any, estimated under paragraph (c)(2) of this section.

§153.1604 Determining the stripping quantity from the test results.

(a) For a single test, the stripping quantity is the volume of water calculated under §153.1602(d).

(b) If multiple tests are made on a tank without modifications to the tank, pumping system, or stripping procedure between the tests, the stripping quantity must be taken as the average of the stripping quantities for all of the tests.

(c) If multiple tests are made on a tank with modifications to the tank, pumping system, or stripping procedure between the tests, the stripping quantity is the stripping quantity determined under paragraph (b) of this section using only those tests performed after the last modification.

§153.1608 Calculation of total NLS residue and clingage NLS residue.

(a) The total NLS residue for each tank is calculated by adding the stripping quantity and the clingage NLS residue.

(b) The clingage NLS residue for each tank is calculated using the following formula:

$$Q_{clingage} = 1.1\times10^{-4}\ A_d + 1.5\times10^{-5}\ A_w + 4.5\times10^{-4}\ L^{1/2}\ A_b$$

where:

A_b = Area of the tank bottom added to the area in square meters of tank structural components projected on a horizontal surface

A_d = Area of the tank underdecks added to the area in square meters of tank structural components projected on a horizontal surface

A_w = Area of the tank walls added to the area in square meters of tank structural components projected on a vertical surface

L = Length of tank in meters from fore to aft

$Q_{clingage}$ = volume of clingage in cubic meters

When using the formula in this paragraph, areas that are inclined more than 30° from the horizontal may be assumed to be vertical.

NOTE: The Commandant (G–MSO) (tel num;202–267–1217) has information that may be useful in approximating surface areas of typical structural members for the projected area calculations under §153.1608(b).