## Coast Guard, DHS

permanently marked on the indicating device; and

(3) Is visible from all cargo control areas on the tank barge.

## § 39.20-7 Tankship liquid overfill protection—T/ALL.

(a) Each cargo tank of a tankship must be equipped with an intrinsically safe high level alarm and a tank overfill alarm.

(b) The high level alarm and tank overfill alarm required by paragraph (a) of this section, if installed after July 23, 1990 must:

(1) Be independent of each other;

(2) Alarm in the event of loss of power to the alarm system or failure of electrical circuitry to the tank level sensor; and

(3) Be able to be checked at the tank for proper operation prior to each transfer or contain an electronic selftesting feature which monitors the condition of the alarm circuitry and sensor.

(c) The high level alarm required by paragraph (a) of this section must:

(1) Alarm before the tank overfill alarm, but no lower than 95 percent of tank capacity;

(2) Be identified with the legend "High Level Alarm" in black letters at least 50 millimeters (2 inches) high on a white background; and

(3) Have audible and visible alarm indications that can be seen and heard on the vessel where cargo transfer is controlled.

(d) The tank overfill alarm required by paragraph (a) of this section must:

(1) Be independent of the cargo gauging system;

(2) Have audible and visible alarm indications that can be seen and heard on the vessel where cargo transfer is controlled and in the cargo deck area;

(3) Be identified with the legend "TANK OVERFILL ALARM" in black letters at least 50 millimeters (2 inches) high on a white background; and

(4) Alarm early enough to allow the person in charge of transfer operations to stop the transfer operation before the cargo tank overflows.

(e) If a spill valve is installed on a cargo tank fitted with a vapor collec-

tion system, it must meet the requirements of 39.20-9(c) of this part.

(f) If a rupture disk is installed on a cargo tank fitted with a vapor collection system, it must meet the requirements of §39.20-9(d) of this part.

## § 39.20–9 Tank barge liquid overfill protection—B/ALL.

Each cargo tank of a tank barge must have one of the following liquid overfill protection arrangements.

(a) A system meeting the requirements of § 39.20-7 of this part which:

(1) Includes a self-contained power supply;

(2) Is powered by generators installed on the barge; or

(3) Receives power from a facility and is fitted with a shore tie cable and a 120 volt 20 amp explosion-proof plug which meets:

(i) ANSI/NEMA WD6;

(ii) NFPA 70, Articles 410-57 and 501-12; and

(iii) §111.105-9 of this chapter.

(b) An intrinsically safe overfill control system which:

(1) Is independent of the cargo gauging device required by §39.20-3(a) of this part;

(2) Actuates an alarm and automatic shutdown system at the facility overfill control panel, or on the vessel to be lightered if a lightering operation, 60 seconds before the tank becomes 100 percent liquid full;

(3) Is able to be checked at the tank for proper operation prior to each load-ing;

(4) Consists of components which, individually or in series, will not generate or store a total of more than 1.2 V, 0.1 A, 25 mW, or 20 microjoules;

(5) Has at least one tank overfill sensor switch with normally closed contacts per cargo tank;

(6) Has all tank overfill sensor switches connected in series;

(7) Has interconnecting cabling that meets 111.105-15(b) of this chapter; and

(8) Has a male plug with a 5 wire, 16 amp connector body meeting IEC 309-1/ 309-2 which is:

(i) Configured with pins S2 and R1 for the tank overfill sensor circuit, pin G connected to the cabling shield, and pins N and T3 reserved for an optional