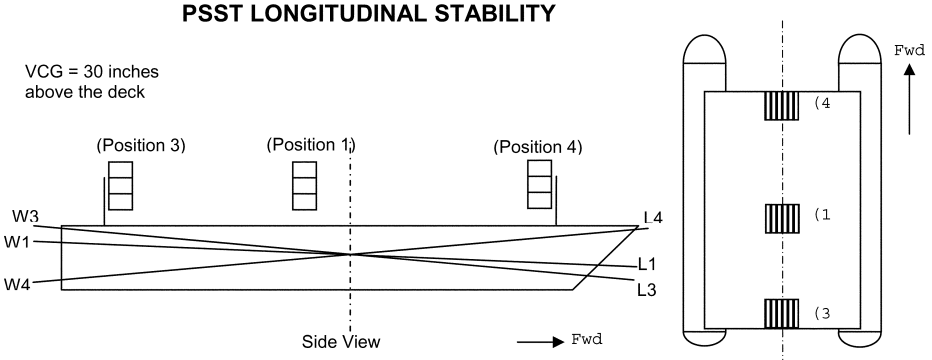
Figure 178.340(d)

PSST LONGITUDINAL STABILITY



W1L1 = Waterline for test load on C.L. and distributed to reproduce operating trim of the vessel. (Position 1)
W3L3 = Test weight moved to the extreme aft position from Position 1. (Position 3)
W4L4 = Test weight moved to the extreme forward position from Position 1. (Position 4)

With the test load at the extreme aft position (Position 3) and at the extreme forward position (Position 4), the top of the pontoon must not be submerged.

[USCG–2007–0030, 75 FR 78089, Dec. 14, 2010]

Subpart D—Drainage of Weather Decks

§ 178.410 Drainage of flush deck vessels.

(a) Except as provided in paragraph (b) of this section, the weather deck on a flush deck vessel must be watertight and have no obstruction to overboard drainage.

(b) Each flush deck vessel may have solid bulwarks in the forward one-third length of the vessel if:

(1) The bulwarks do not form a well enclosed on all sides; and

(2) The foredeck of the vessel has sufficient sheer to ensure drainage aft.

[CGD 85–080, 61 FR 966, Jan. 10, 1996, as amended at 62 FR 51357, Sept. 30, 1997]

§ 178.420 Drainage of cockpit vessels.

(a) Except as follows, the cockpit on a cockpit vessel may be watertight:

(1) A cockpit may have companionways if the companionway openings have watertight doors, or weathertight doors and coamings which meet § 179.360 of this subchapter.

(2) A cockpit may have ventilation openings along its inner periphery if the vessel operates only on protected or partially protected waters.

(b) The cockpit deck of a cockpit vessel that operates on exposed or partially protected waters must be at least 255 millimeters (10 inches) above the deepest load waterline unless the vessel complies with:

(1) The intact stability requirements of §§ 170.170, 170.173, 171.050, 171.055, and 171.057 in subchapter S of this chapter;

(2) The Type II subdivision requirements in §§ 171.070, 171.072, and 171.073 in subchapter S of this chapter; and

(3) The damage stability requirements in § 171.080 in subchapter S of this chapter.

(c) The cockpit deck of a cockpit vessel that does not operate on exposed or partially protected waters must be located as high above the deepest load waterline as practicable.

(d) The cockpit must be self-bailing. Scuppers or freeing ports for the cockpit deck of a cockpit vessel must:

(1) Be located to allow rapid clearing of water in all probable conditions of list and trim;

(2) Have a combined drainage area of at least the area required by §178.450 of this part; and

(3) If the deck is less than 255 millimeters (10 inches) above the deepest load waterline of the vessel, be fitted with non-return devices.

§178.430 Drainage of well deck vessels.

(a) The weather deck on a well deck vessel must be watertight.

(b) The area required on a well deck vessel for drainage of well formed by the bulwarks shall be determined by §178.450.

(c) The freeing ports or scuppers on a well deck vessel must be located to allow rapid clearing of water in all probable conditions of list and trim.

(d) The deck of well deck vessel that operates on exposed or partially protected waters must be at least 255 millimeters (10 inches) above the deepest load waterline unless the vessel complies with:

(1) The intact stability requirements of §§170.170, 170.173, 171.050, 171.055, and 171.057 in subchapter S of this chapter;

(2) The Type II subdivision requirements in §§171.070, 171.072, and 171.073 in subchapter S of this chapter; and

(3) The damage stability requirements in §171.080 in subchapter S of this chapter.

§178.440 Drainage of open boats.

The deck within the hull of an open boat must drain to the bilge. Overboard drainage of the deck is not permitted.

§178.450 Calculation of drainage area for cockpit and well deck vessels.

(a) The drainage area required on a vessel must be computed using the following formula:

For protected waters required drainage = .1 × Basic Drainage

For partially protected waters required drainage = .5 × Basis Drainage

For exposed waters required drainage = Basic Drainage

where:

Basic Drainage area in centimeters^2 = 4389.12 × [(Recess Volume × Recess Ratio) + (Weather Deck Volume × Weather Deck Ratio)]; or

Basic Drainage area in inch^2 = (Recess Volume × Recess Ratio) + (Weather Deck Volume × Weather Deck Ratio)

$$\text{Recess Volume} = (B_R \times D_R) - V_R$$

B_R=average height in centimeters (feet) of the bulwark above the well deck or cockpit deck;

D_R=total deck area of the cockpit or well deck in the after ⅔ of the vessel length (LOD) measured in centimeters^2 (feet^2).

V_R=volume of any weather tight structure below the bulwark of the well deck or cockpit deck.

$$\text{Recess Ratio} = L_R / L_C$$

L_R=the length of the recess in the after ⅔ vessel length (LOD).

L_C=⅔ vessel length (LOD).

$$\text{Weather Deck Volume} = (B_D \times D_D) - V_S$$

B_D=average height in centimeters (feet) of the bulwark above the weather deck;

D_D=total deck area of the weather deck adjacent to bulwarks but not in way of the cockpit or well deck in the after ⅔ of the vessel length (LOD) measured in centimenters^2 (feet^2).

V_S=volume of any weather tight superstructure below the bulwark on the weather deck located within D_D.

$$\text{Weather Deck Ratio} = L_D / L_C$$

L_D=the length of the weather deck bulwark in the after ⅔ of the vessel length (LOD).

L_C=⅔ vessel length (LOD).

(b) Vessels with bulwarks in the forward part of the vessel shall not form a well with the deckhouse which retains water.

[CGD 85–080, 61 FR 966, Jan. 10, 1996; 61 FR 20557, May 7, 1996]

Subpart E—Special Installations

§178.510 Ballast.

(a) Any solid fixed ballast used to comply with the requirements of parts 170, 171, 178, and 179 of this chapter must be:

(1) Stowed in a manner that prevents shifting of the ballast; and

(2) Installed to the satisfaction of the cognizant OCMI.