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for a temperature that is colder than the calculated temperature of the hull structure assuming the:

- (i) Temperature of the secondary barrier is the design temperature; and
- (ii) Ambient cold conditions of still air at 5 °C (41 °F) and still sea water at 0 °C (32 °F).

[CGD 74-289, 44 FR 26009, May 3, 1979, as amended by CGD 77-069, 52 FR 31630, Aug. 21, 1987]

§ 154.178 Contiguous hull structure: Heating system.

The heating system for transverse and longitudinal contiguous hull structure must:

- (a) Be shown by a heat load calculation to have the heating capacity to meet § 154.174(b)(2) or § 154.176(b)(2);
- (b) Have stand-by heating to provide 100% of the required heat load and distribution determined under paragraph (a); and
- (c) Meet Parts 52, 53, and 54 of this chapter.

§ 154.180 Contiguous hull structure: Welding procedure.

Welding procedure tests for contiguous hull structure designed for a temperature colder than -18 °C (0 °F) must meet § 54.05-15 and subpart 57.03 of this chapter.

§ 154.182 Contiguous hull structure: Production weld test.

If a portion of the contiguous hull structure is designed for a temperature colder than -34 °C (-30 °F) and is not part of the secondary barrier, each 100m (328 ft.) of full penetration butt welded joints in that portion of the contiguous hull structure must pass the following production weld tests in the position that the joint is welded:

- (a) Bend tests under § 57.06-4 of this chapter.
- (b) A Charpy V-notch toughness test under § 57.06-5 of this chapter on one set of 3 specimens alternating the notch location on successive tests between the center of the weld and the most critical location in the heat affected zone.²

²The most critical location in the heat affected zone of the weld is based on procedure qualification results, except austenitic stain-

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(c) If the contiguous hull structure does not pass the test under paragraph (b) of this section, the retest procedures under § 54.05-5(c) must be met.

§ 154.188 Membrane tank: Inner hull steel.

For a vessel with membrane tanks, the inner hull plating thickness must meet the deep tank requirements of the American Bureau of Shipping published in "Rules for Building and Classing Steel Vessels", 1981.

[CGD 74-289, 44 FR 26009, May 3, 1979, as amended by CGD 77-069, 52 FR 31630, Aug. 21, 1987]

§ 154.195 Aluminum cargo tank: Steel enclosure.

- (a) An aluminum cargo tank and its dome must be enclosed by the vessel's hull structure or a separate steel cover.
- (b) The steel cover for the aluminum cargo tank must meet the steel structural standards of the American Bureau of Shipping published in "Rules for Building and Classing Steel Vessels", 1981.
- (c) The steel cover for the aluminum tank dome must be:

- (1) At least 3.2 mm (1/8 in.) thick;
- (2) Separated from the tank dome, except at the support points; and
- (3) Thermally isolated from the dome.

[CGD 74-289, 44 FR 26009, May 3, 1979, as amended by CGD 77-069, 52 FR 31630, Aug. 21, 1987]

SHIP SURVIVAL CAPABILITY AND CARGO TANK LOCATION

§ 154.200 Stability requirements: General.

Each vessel must meet the applicable requirements in subchapter S of this chapter.

[CGD 79-023, 48 FR 51009, Nov. 4, 1983]

§ 154.235 Cargo tank location.

- (a) For type IG hulls, cargo tanks must be located inboard of:
 - (1) The transverse extent of damage for collision penetration specified in Table 172.180 of this chapter;

less steel need have notches only in the center of the weld.