

RECOMMENDATIONS

The National Transportation Safety Board concurs with the Commandant's decision to institute a program to define more meaningful criteria for the notch toughness of steel. This program, which need not involve costly original research, should evaluate one or more recently developed methods of measuring toughness.

The Safety Board also recommends that:

- M-73-10 1. The Coast Guard develop criteria for safe design which will establish margins of safety against brittle fracture. These criteria should then be used as a basis for design approval, steel selection, construction control, and vessel inspection. (Recommendation No. M-73-10)
- M-73-11 2. After the establishment of adequate safety margins, the Coast Guard determine and make known to the operators of Tank Barge I.O.S. 3301 the safe minimum temperature for the operation of this vessel. (Recommendation No. M-73-11)
- M-73-12 3. In view of the unexplained failure of the welded "special material" and some research evidence that such applications cannot be reliable, the Coast Guard reevaluate the practice of allowing use of welded "special material" in lieu of riveted seams as crack arrestors. (Recommendation No. M-73-12)
- M-73-13 4. The Coast Guard review the need for regulations concerning freeboard and determine to what extent they contribute to ship safety. (Recommendation No. M-73-13)
- M-73-14 5. The Coast Guard require that the structure of any ship which must meet certain minimum buoyancy and stability conditions under various degrees of flooding also be designed so that the ship can survive the additional stresses imposed by the flooding. (Recommendation No. M-73-14)

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