

**DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD**

COMMANDANT (MMT-4)
U.S. COAST GUARD
WASHINGTON, D.C. 20591

17 May 1967

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO.3-67

Subject: Alteration of ship's structure which may affect the adequacy of installed safety devices.

1. Purpose. The purpose of this instruction is to emphasize the importance of considering all possible effects on a vessel's safety when contemplating alteration of a ship's structure.
2. Background. In recent months, numerous seemingly minor vessel alterations have been considered which, if carried out as intended, would have reduced the effectiveness of installed firefighting equipment. For example:
 - a. One proposal relating to automation of a vessel contemplated cutting a permanent opening in a bulkhead originally built but no longer required to be watertight. The effect of such a change was to make one common space out of two individual spaces which were originally protected by the same bank of carbon dioxide cylinders. This necessitated considerable changes in extinguishing system design requiring more than twice the quantity of carbon dioxide originally provided.
 - b. Another proposal contemplated removing a door no longer required for watertight subdivision of machinery spaces. Such a change would have violated the requirement that the fire pumps and their sources of power be segregated so that one fire will not put all fire pumps out of operation.
3. Discussion.
 - a. In contemplating changes to a vessel design which involve providing permanent openings in bulkheads or decks, all potential functions of the bulkhead or deck must be considered. In addition to possibly being required to be watertight, the following functions are often required of bulkheads and decks. The number in parentheses at the end of each item is a typical example of the applicable regulation.
 - (1) They may separate spaces required to be protected by installed fire extinguishing systems (46 CFR 95.15-5(b)).
 - (2) They may provide required separation of fire pumps (46 CFR 95.10-5(h)).
 - (3) They may provide required separation of the emergency source of power (46 CFR 112.05-5(b), (d) and (e)).
 - (4) They may serve as a necessary structural fire barrier such as the barrier required between machinery and accommodation spaces (46 CFR 92.07-10(c)).

- b. Additional more specialized functions might also be served particularly by bulkheads on tank vessels. These bulkheads might form a portion of required voids or cofferdams, separation from sources of ignition, separation because of ventilating capacity, etc.

4. Action.

- a. Before undertaking any vessel alteration which involves opening a bulkhead or deck) an owner, designer or operator should determine that such an alteration will not affect any of the required safety features of the vessel. This determination should be verified with the cognizant Officer in Charge, Marine Inspection before any work is undertaken. In event that a proposed alteration would adversely affect the required safety devices, the cognizant Officer in Charge, Marine Inspection will determine what changes to installed safety equipment are necessary. This determination must necessarily be made for each vessel and each alteration proposed.
- b. If only minor changes to existing installations are required, such as addition of ventilation pressure switch or relocation of alarm, it is reasonable to permit such alterations under the standards in existence at the time the installation was made. If major changes to a system capacity would be necessary, the system should be brought into compliance with the rules and regulations for new installations. However, existing equipment such as directional valves and outlet nozzles not meeting current standards may be reused if they would insure an effective system and specific permission is granted for their re-use.
- c. Updating existing safety devices in accordance with this instruction is in addition to any updating contemplated in the scope of Navigation and Vessel Inspection Circular No. 12-65 due to the overall nature of the work which is being undertaken.



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Dist: (SDL No. 84)
A: None
B: n(45); c(10); eg(3); q(6); b d p(1)
C: in(4); o(2)
D: i(2); k(1)
F: None
List 112-155