

MSC Guidelines for the Review of Liftboat General Arrangement Plans

Procedure Number: C1-35

Revision Date: February 13, 2014

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Purpose

To establish a process for reviewing general arrangement plans submitted for a U.S. flag liftboat.

References

- a. Navigation and Inspection Circular 8-91, "Initial and Subsequent Inspection of Existing, Un-certificated Supply Vessels, including Liftboats"
 - b. 46 CFR Subchapter I, Part 92
 - c. 46 CFR Subchapter L, Part 127
 - d. 46 CFR Subchapter T, Part 177
 - e. Eighth District Policy Letter "Persons Allowed on Liftboats," dated October 9, 1998
 - f. The International Convention for the Safety of Life at Sea (SOLAS), 1974, and its protocol of 1988, Consolidated Edition 2009
 - g. The International Convention for the Prevention of Pollution from Ships (MARPOL), 1973, as modified by the Protocol of 1978, Consolidated Edition 2006
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Contact Information

If you have any questions or comments concerning this document, please contact the Marine Safety Center (MSC) by email or phone. Please refer to the Procedure Number C1-35.

Email: MSC@uscg.mil

Phone: 703-872 6731

Website: <http://homeport.uscg.mil/msc>

Responsibilities

Using applicable portions of references (a) through (g), the submitter shall provide sufficient documentation and plans to indicate compliance with the applicable requirements. The submission shall be made electronically to the above email address or, if paper, in triplicate to the MSC's address found on the

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above website. To facilitate plan review and project management, all plans and information specified in these guidelines should be submitted as one complete package through a single point of contact for the project.

General Guidance

- If the vessel is new and not a sister vessel, has the Application for Inspection submitted? In general no plan review may occur until receipt of a copy of the Application of Inspection form.
 - Is it clearly stated what is desired from the MSC? Are all plans to be stamped/returned submitted in triplicate or submitted electronically? Are there any special or unusual requests involved?
 - Are there any special/unusual requests or a time critical element involved?
 - Determine applicability to NVIC 8-91 and Subchapters I or T or L.
 - Determine applicability to SOLAS.
 - Verify all spaces are identified and designated on the plans.
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- For Liftboats certificated under 46 CFR, **Subchapter I**, verify compliance with the following:
 - Means of Escape (46 CFR 92.10):
 - Two means of escape must be provided from all general areas where the crew may be quartered or normally employed
 - The two means of escape must be as remote as practicable
 - Vertical ladder to a deck scuttle may be a means of escape if installation of another stairway/passageway is not practicable
 - No dead-end corridors can be greater than 40 ft in length
 - Any public space with an area greater than 300 ft² must have 2 means of escape
 - There must be direct access/route to the lifeboats
 - Stairways width must be > 28", with an inclination < 50 deg
 - Persons Allowed (Reference (e) and page 4 of enclosure (3) to Reference (a)):
 - The number of persons allowed to be berthed is specified on the vessel's COI. The overall number of bunks cannot exceed this number.
 - Accommodations for Officers and Crew (46 CFR 92.20):
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- No crew quarters may be located forward of 5% length (46 CFR 92.20-10(a)).
 - No direct communication is permitted between crew spaces and chain lockers or machinery spaces (46 CFR 92.20-10(b)).
 - No crew spaces may be located below the deepest load WL
 - There are no more than 4 persons/room
 - 1 toilet, 1 washbasin, and 1 shower or bathtub must be provided for every 8 members or portion thereof in the crew who do not occupy rooms to which private or semi-private facilities are attached. The definitions for “private” and semi-private” are provided in 46 CFR 108.205(a).
 - A locker must be provided for each person accommodated in a room
 - If voyage > 3 days and carries a crew of 12+, a hospital space is required (46 CFR 92.20-35)
 - Mess room must be located as near the galley as practicable, unless it is equipped with a steam table
 - Verify there are no more than 2 tiers to a bunk
- Rails and Guards (46 CFR 92.25):
- Vessels contracted for prior to July 1, 1969, use 46 CFR 92.25-90
 - Rails are required for decks and bridges
 - The overall height must be greater than 39.5”
 - At exposed peripheries of freeboard and super structure deck, the rails shall be in at least three (3) courses, including the top
 - The opening below the lowest course shall not be > 9” and the other courses shall not be > 15” apart
- For Liftboats certificated under 46 CFR, **Subchapter L**, verify compliance with the following:
- Verify applicability of MARPOL Regulation 12A in reference (g).
 - Carriage of Offshore Workers (46 CFR 126.170 and reference (c)):
 - The maximum number of persons who may be berthed on the liftboat is the crew plus 36 or fewer offshore workers as specified on the vessel’s COI.
 - Means of Escape (46 CFR 127.240):
 - Two means of escape (other than windows or portholes) are required for each space accessible to offshore workers, crew

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- accommodations, or where crew normally employed (if area > 300 ft², or max. dimension > 20 ft.
 - 1 of the 2 means must be independent of WT doors and lead directly to open deck
 - The two means of escape must be as remote as practicable
 - Vertical ladder to a deck scuttle may be a means of escape if the primary escape is a stairway/passageway, and installation of another stairway/passageway is not practicable, and scuttle can't be covered with deck cargo
 - No dead-end passageways can be greater than 40 ft in length
 - Each vertical ladder must have an angle of inclination angle between 70 to 90 deg
 - Interior passageway/stairway must have a width > 28" and an inclination angle < 50 deg
 - Exterior ladders must have an inclination angle < 70 deg, except to house tops used only for weather protection
- Location of Accommodations and Pilothouse (46 CFR 127.270):
 - No crew quarters or pilot house may be located forward of collision bulkhead
 - No direct communication is permitted between crew spaces and chain lockers, cargo spaces or machinery spaces
 - No sounding tubes, vents, or access openings from fuel-oil or cargo-oil tanks may open into any accommodation spaces
 - There are no more than 4 persons/room
 - Quarters for crew and offshore workers must be separate, unless OCMI authorizes
 - Construction and Arrangement of Quarters for Crew Members and Accommodations for Offshore Workers (46 CFR 127.280):
 - Vessels >100 GT
 - Crew quarters max 4 berths/room
 - Crew Quarters: 6.25 ft of head room is required
 - Crew Quarters: 30 sq ft of deck area and 210 cubic ft of volume is required per person accommodated in a room.
 - Fixed seating for offshore workers:
 - Width of each seat should be 18"
 - Aisles <15' must be at least 24" wide
 - Aisles >15' must be at least 30" wide

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- Where the seating is in rows, the distance from seat front to seat front must be at least 30"
- If carrying offshore workers for more than 24 hours, quarters must be provided with a max. 6 berths/room
- Offshore Workers: 20 sq ft of deck area and 140 cubic ft of volume is required per person accommodated in a room
- 1 toilet, 1 washbasin, and 1 shower or bathtub must be provided for every 8 members or portion thereof in the crew or offshore workers who do not occupy rooms to which private or semi-private facilities are attached

- Vessels <100 GT (46 CFR 127.280(c))
 - Accommodations of adequate size and construction must be provided, with equipment for his or her protection and convenience suitable to size, facilities, and service of the vessel

- Rails and Guards (46 CFR 127.310):
 - Rails are required for decks and bridges
 - The overall height must be greater than 39.5"
 - At exposed peripheries of freeboard and super structure deck, the rails shall be in at least three (3) courses, including the top
 - The opening below the lowest course shall not be > 9" and the other courses shall not be > 15" apart

- Damaged Stability (46 CFR 174.200):
 - There must be 30" side protection around the engine room

- For Liftboats certificated under 46 CFR, **Subchapter T**, verify compliance with the following:
 - Watertight Doors (§170.255-265)
 - Class 1 WTDs within passenger, crew and working spaces, wherever located, if in the judgment of the OCMI, the door is in a location where it will be closed at all times except when actually in use; and the vessel will not proceed more than 20 nautical miles from shore; or the vessel is in rivers or lakes, bays and sounds service.

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- Class 1 and 2 WTD locations shall be in accordance with §170.255-260
- Collision Bulkhead (§171.085)
 - Each portion of the collision bulkhead must be at least 5% of the LBP from the forward perpendicular
 - The collision bulkhead must be no more than 10 ft plus 5% of the LBP from the forward perpendicular
 - The collision bulkhead may not have any watertight doors in it
- Passengers Permitted (§176.113): The max number of passengers must be ≤ greatest number permitted by length of rail criterion, deck area criterion, or fixed seating criterion. Exceptions in §176.113(d).
- Passenger Accommodations (§177.800, 820)
 - Ceilings in passenger accommodation spaces must be ≥ 1880 mm (74 in)
 - Decks above passenger accommodation spaces must be above the deepest load waterline.
 - Each berth must be immediately adjacent to an aisle leading to a means of escape.
 - An aisle alongside a berth must be ≥ 610 mm (24 in). An aisle joining two or more aisles in an overnight accommodation space must be ≥ 1060 mm (42 in).
 - Berths must be provided for each overnight passenger
 - Seats must be provided for each passenger where fixed seating criterion in §176.113 (b)(3) is used.
- Machinery and fuel tank spaces must be separated from accommodation spaces so as to prevent the passage of vapors. (46 CFR 177.405(c))
- Paint and flammable liquid lockers must be constructed of steel or equivalent material, or wholly lined with steel or equivalent material. (46 CFR 177.405(d))
- The resin for composite vessels must be fire retardant. General-purpose resin may be used if additional requirements of §177.410(c) are met.
- Escape Requirements (§177.500)
 - Each space must have two widely separated means of escape, at least one of which is not dependent on a watertight door.

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- A ladder leading to a deck scuttle is not counted as a means of escape, except ladders from crew spaces or on vessels ≤ 19.8 m (65 ft).
 - When deck scuttles are counted they must be ≥ 455 mm (18 in) in diameter. The minimum clear opening of a door or passageway must be ≥ 810 mm (32 in) in width.
 - Doors or passageways for crew members must be ≥ 710 mm (28 in)
 - Dead end passageways must be ≤ 6.1 m (20 ft).
 - The sum of the width of all doors and passageways used as means of escape from a space must be ≥ 8.4 m (27.6 ft) multiplied by number of passengers for which the space is designed.
- Crew Spaces (§177.700, 710):
 - Decks above crew accommodation spaces must be above the deepest load waterline. Ceilings in passenger accommodation spaces must be ≥ 1880 mm (74 in)
 - Overnight accommodations must be provided for crewmembers if the vessel is operated more than 12 hours in a 24-hour period with the same crew.
 - Rails and Guards (§177.900 - 970):
 - Rails must be installed around decks accessible to passengers or crew.
 - Deck rails must be designed to withstand point load of 91 kg (200 lbs) at any point in any direction and uniform load of 74 kg/m (50 lb/ft) applied to top rail in any direction. The point and uniform loads need not be applied simultaneously.
 - Rail courses must be installed so no open space exceeds 305 mm (12 in).
 - Temporary rails or equivalent must be installed in way of vehicle ramps.
 - Rails must be installed around decks accessible to passengers or crew.
 - Rails must be permanently installed with exceptions listed in §177.900 (h).
 - Suitable chains, cables, or other barriers must be installed at ends of vehicle runways.
 - Windows Construction and Visibility (§177.1010 - 1030)
 - Glass and other glazing material used in windows must not break into dangerous fragments if fractured.

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- Windows and portholes must be capable of withstanding max load expected.
 - Windows and other openings at operating station must be of sufficient size and in proper location.
 - Glass or other glazing material used in windows at operating station must meet light transmission and other testing requirements of ANSI Z 26.1.
- For Liftboats certificated under **SOLAS**, reference (f) verify compliance with the following:
- SOLAS applies to new and existing vessels if:
 - The vessel engages in an international voyage; and
 - The vessel carries more than 12 passengers; and
 - The vessel has an International (ITC) tonnage greater than 500 gross tons.
 - Verify means of egress from the Engine Room is in compliance with Chapter II-2, Regulation 13/4.2.1.
 - The protected enclosure requirement is applicable to the vessel regardless of the number of levels in the engine room. The SOLAS regulation does not make a distinction between a single level and multi-level engine room. Therefore the subject vessel should have a protected enclosure around one of the escape ladders in each engine room.
 - Verify a double bottom is installed in compliance with Chapter II-1 Regulation 9
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Disclaimer

This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is not intended to nor does it impose legally-binding requirements on any party. It represents the Coast Guard's current thinking on this topic and may assist industry, mariners, the general public, and the Coast Guard, as well as other federal and state regulators, in applying statutory and regulatory requirements. You can use an alternative approach for complying with these requirements if the approach satisfies the requirements of the applicable statutes and regulations. If you want to discuss an alternative, you may contact the MSC, the unit responsible for implementing this guidance.