

**DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD**

U.S. Coast Guard (G-MMT-4)
Washington, D.C. 20593
(202) 426-2197


NVC 9-81
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NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 9-81

Subj: Coast Guard Guidance Regarding Shipboard Helicopter Facilities

1. PURPOSE. The purpose of this Circular is to provide industry and Coast Guard personnel with uniform guidance regarding the design, construction, and equipage of helicopter facilities aboard Coast Guard certificated vessels.
2. APPLICATION. This guide applies to vessels designed with a facility for routine helicopter operations. It is not applicable to emergency helicopter facilities which should be rigged as necessary should helicopter assistance be required.
3. DISCUSSION.
 - a. Helicopter transport of goods and personnel to and from vessels can be an attractive means of logistic support while underway. For this reason, helicopter logistic support has become a common practice on many foreign flag vessels, especially tank vessels. In the United States, there has been an increasing number of requests by industry for guide-lines for the design and construction of shipboard helicopter facilities on Coast Guard certificated vessels. It is expected that the Coast Guard will continue to receive such requests.
 - b. Shipboard helicopter facilities incorporate many design features which concern vessel safety. Fire protection, structure, stability, and vessel arrangement are all addressed in existing vessel regulations. Heretofore, Mobile Offshore Drilling Unit (MODU) regulations have often been employed as guidance for Coast Guard review of helicopter facilities on certificated vessels other than MODUs. These regulations have proven to be very effective guide-lines for the construction of all types of shipboard helicopter facilities.
 - c. This Circular generally applies the MODU helicopter regulations to ships. Due to the nature of ship operations, it also includes guidance on facility location, hoisting, and special tankship requirements.
 - d. The Coast Guard encourages that an operations manual be provided for each shipboard helicopter facility. Such a manual could include a description of the facility and a checklist of safety precautions, procedures, and equipment requirements.
 - e. The International Chamber of Shipping publication, "Guide to Helicopter Ship Operations" contains excellent operational guidance including a general checklist which could be contained in the ship's operations manual. This guide may be obtained by writing to The Secretary General, International Chamber of Shipping, 30-32 St. Mary Axe, London EC3.

- f. The guidance of this NVC provides one acceptable standard for helicopter facilities. Military, classification society, or other standards which address the same topical areas outlined in enclosure (1) may also be accepted.
4. ACTION. The guidelines contained in enclosure (1) are for use in conducting Coast Guard review of helicopter facilities on all certificated vessels. This NVC is not applicable to MODU helicopter facilities which will continue to be reviewed using 46 CFR Part 108.



CLYDE J. LUSK, Jr.
Chief, Office of Merchant Marine Safety

End: (1) Shipboard Helicopter Facility Guide

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- Ce: Baltimore (75); San Francisco, Mobile, Pittsburgh, Providence, Norfolk (50); Galveston (30); Cleveland, Portland OR, Sturgeon Bay (25); San Diego, Savannah, Buffalo, Corpus Christi (20); Tampa, Valdez, Milwaukee, Louisville, Detroit, Toledo, Nashville, Anchorage (15); Portland ME, Duluth, Charleston, Huntington, Minneapolis-St Paul (Dubuque), San Juan, Guam (10); Juneau, Cincinnati, Memphis, Wilmington, Miami, Paducah, Albany (5) extra
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SHIPBOARD HELICOPTER FACILITY GUIDE

1. APPLICABLE REGULATIONS. The requirements of Subchapter I-A, Rules and Regulations for Mobile Offshore Drilling Units of Title 46, Code of Federal Regulations should be used, as applicable, for plan approval and inspection of helicopter facilities on Coast Guard certificated vessels. Subsections 108.233 through 108.241 and 108.486 through 108.489 specifically pertain to helicopter facilities.
2. ADDITIONAL GUIDELINES
 - a. Facility Location. Ship motions while underway and turbulent wind conditions, especially in the vicinity of deck houses, stacks and other structures, are of particular concern during shipboard helicopter operations. Facilities should be located and arranged to provide clear maneuvering zones and approach/departure paths.
 - (1) The maneuvering zone is an area in which the helicopter may maneuver during any part of the operation. The maneuvering zone should:
 - a. be free of projections in excess of four feet above the level of the helicopter deck, and
 - b. extend outward from the edge of the helicopter deck in all directions at least one blade length (rotor radius) plus three feet.
 - (2) Approach/departure paths should be provided which extend to the open air space outboard of the vessel. The following arrangement criteria apply:
 - a. Two paths should be provided, each path separated by at least a 90 degree angle.
 - b. Each path width should be at least the width of the maneuvering zone.
 - c. Each path should be free of projections in excess of four feet above the level of the helicopter deck.
 - b. Stability Analysis. Loading and stability for ships with landing facilities should be calculated using the weight and surface area characteristics of the largest helicopter which will land at the facility.
 - c. Hoisting Facilities. Deck space restrictions or ship configuration may limit helicopter logistics to hoisting from a hovering helicopter. Hoisting operations maybe as or more hazardous than landing, especially when single engine helicopters are used. Coordination between trained shipboard personnel and the helicopter crew is essential. The following design criteria should be applied:
 - (1) Hoisting should be conducted only over a predesignated area which is specifically marked and lighted (if conducting night operations) for the purpose (see 46 CFR 108.241, Visual Aids).

- (2) A maneuvering zone should be provided which is 100 feet in diameter and which is free of projections in excess of 10 feet above the deck of the hoisting area.
- (3) Two access routes should be provided (see 46 CFR '108.235(f)).
- (4) All fire and rescue equipment that would be required for landing operations should be provided (see 46 CFR 108.486, Helicopter Decks).

d. Tankships. Tankship helicopter decks should be located out of the cargo deck space if possible. 46 CFR 111.85-10(c)(6) requires that equipment located within the cargo deck space of tank vessels be explosion proof. Although a helicopter is an ignition source, the strong downdraft of the rotor rapidly dissipates explosive gases in its path. Therefore, helicopter landing and hoisting operations on tank vessel cargo decks may be permitted, with the following safety restrictions:

- (1) The rotor should never intentionally be stopped.
- (2) Ship's tanks should be inerted and tested below the explosive limit.

If refueling operations are to be conducted or if the helicopter engine will routinely be secured, the helicopter platform should not be located in the vicinity of the cargo deck.

e. Plan Submittal. Helicopter facility plans for new construction or conversion should be submitted in accordance with the applicable subchapter of the regulations. Characteristics of the largest helicopter that will use the facility should be included with the plans.