AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

§ 143.605 Demonstration of compliance on vessels that move tank barges carrying oil or hazardous material in bulk.

(a) The owner or managing operator of each towing vessel must devise test procedures that demonstrate compliance with the design and engineering requirements prescribed in this subpart.

(b) The tests required in paragraph (a) of this section must be satisfactorily conducted and witnessed by the cognizant OCMI or a TPO. A record of the tests must be retained by the owner or managing operator and be available upon request of the cognizant OCMI or TPO.

PART 144—CONSTRUCTION AND ARRANGEMENT

Subpart A—General

Sec.

144.100 Purpose.
144.105 Applicability and delayed implementation.
144.120 A classed vessel.
144.125 A vessel with a load line.
144.130 A vessel built to the International Convention for the Safety of Life at Sea, 1974, as amended, requirements.
144.135 Verification of compliance with design standards.
144.140 Qualifications.
144.145 Procedures for verification of compliance with design standards.
144.155 Verification of compliance with design standards for a sister vessel.
144.160 Marking.

Subpart B—Structure

144.200 Structural standards for an existing vessel.
144.205 Structural standards for a new vessel.
144.215 Special consideration.

Subpart C—Stability and Watertight Integrity

144.300 Stability standards for an existing vessel.
144.305 Stability standards for a new vessel.
144.310 Lifting requirements for a new vessel.
144.315 Weight and moment history requirements for a vessel with approved lightweight characteristics.
144.320 Watertight or weathertight integrity.
144.330 Review of a vessel's watertight and weathertight integrity.

Subpart D—Fire Protection

144.400 Applicability.
144.405 Fire hazards to be minimized.
144.410 Separation of machinery and fuel tank spaces from accommodation spaces.
144.415 Combustibles insulated from heated surfaces.
144.425 Waste receptacles.
144.430 Mattresses.

Subpart E—Emergency Escape

144.500 Means of escape.
144.505 Location of escapes.
144.510 Window as a means of escape.
144.515 One means of escape required.

Subpart F—Ventilation

144.600 Ventilation for accommodations.
144.605 Means to stop fans and close openings.
144.610 Ventilation in a vessel more than 65 feet in length.

Subpart G—Crew Spaces

144.700 General requirements.
144.710 Overnight accommodations.
144.720 Crew rest consideration.

Subpart H—Rails and Guards

144.800 Handrails and bulwarks.
144.810 Storm rails.
144.820 Guards in dangerous places.
144.830 Protection against hot piping.

Subpart I—Visibility

144.905 Operating station visibility.
144.920 Window or portlight strength in a new vessel.

AUTHORITY: 46 U.S.C. 3103, 3301, 3306, 3308, 3316, 8104, 8904; 33 CFR 1.05; DHS Delegation 00170.1, Revision No. 01.2.

SOURCE: USCG–2006–24412, 81 FR 40101, June 20, 2016, unless otherwise noted.

Subpart A—General

§ 144.100 Purpose.

This part details the requirements for design, construction and arrangement, and verification of compliance with this part, including document review.

§ 144.105 Applicability and delayed implementation.

This part applies to each towing vessel subject to this subchapter. Note that §§ 144.200 and 144.300 only apply to an existing vessel and that the following sections only apply to a new vessel: §§ 144.205, 144.305, 144.310, 144.405, 144.410, 144.420, 144.425, 144.430, and 144.920.

(a) An existing towing vessel must comply with § 144.320 starting July 20, 2016 and it must comply with the other applicable requirements in this part no later than either July 20, 2018 or the date the vessel obtains a Certificate of Inspection (COI), whichever date is earlier.

(b) The delayed implementation provisions in paragraph (a) of this section do not apply to a new towing vessel.

(c) Alterations or modifications made to the structure or arrangements of an existing vessel that are a major conversion, made on or after the July 20, 2017, must comply with the regulations applied to a new towing vessel of this part insofar as is reasonable and practicable. Repairs conducted on an existing vessel, resulting in no significant changes to the original structure or arrangement of the vessel, must comply with the standards applicable to the vessel at the time of construction or, as an alternative, with the regulations in this part.

[USCG–2006–24412, 81 FR 40101, June 20, 2016; 81 FR 47312, July 21, 2016; USCG–2021–0348, 87 FR 3224, Jan. 21, 2022]

§ 144.120 A classed vessel.

A vessel currently classed by a recognized classification society is deemed to be in compliance with the requirements of subparts B and C of this part.

§ 144.125 A vessel with a load line.

A vessel with a valid load line certificate issued in accordance with subchapter E of this chapter may be deemed in compliance with the requirements of subparts B and C of this part.

§ 144.130 A vessel built to the International Convention for the Safety of Life at Sea, 1974, as amended, requirements.

A vessel built to the International Convention for the Safety of Life at Sea, 1974, as amended, is considered to be in compliance with this part.

§ 144.135 Verification of compliance with design standards.

Verification of compliance with the construction and arrangement design standards of this part must be performed according to the following table:

TABLE 144.135—VERIFICATION OF COMPLIANCE WITH DESIGN STANDARDS

If the vessel is—	Then the applicable requirements must be met—
(a) A new vessel,	Before the COI is issued.
(b) A vessel to undergo a major conversion or alteration to the hull, machinery, or equipment that may affect the vessel's safety,	Before the major conversion or alteration is performed.
(c) A vessel on which a new installation that is not a "replacement in kind",	Before the new installation is performed.

[USCG–2006–24412, 81 FR 40101, June 20, 2016; 81 FR 47312, July 21, 2016]

§ 144.140 Qualifications.

Use the following table to determine the individual or entity that may conduct a verification of compliance with design standards required by § 144.135.

TABLE 144.140

Verification of compliance with design standards may be performed by—	Provided that—
(a) A registered professional engineer (P.E.) licensed by one of the states of the United States or the District of Columbia;	The PE ensures he or she does not exceed the scope of his or her P.E. license.
(b) An authorized classification society that has been delegated the authority to issue the SOLAS Cargo Ship Safety Construction Certificate under 46 CFR 8.320;	The authorized classification society ensures that the employees that perform the verification of compliance holds proper qualifications for the type of verification performed.
(c) The Coast Guard	

§ 144.145 Procedures for verification of compliance with design standards.

(a) Verification of compliance with design standards, when required by § 144.135, must be performed by an individual or entity who meets the requirements of § 144.140.

(b) Verification of compliance with design standards must be based on objective evidence of compliance with the applicable requirements and include:

(1) A description of the vessel's intended service and route;

(2) The standards used for the vessel's design and construction;

(3) Deviations from the standards used, if any;

(4) A statement that the vessel is suitable for the intended service and route; and

(5) The identification of the individual or entity in Table 144.140 of §144.140 who conducted the verification of compliance.

(c) Verification of compliance with design standards must include review and analyses of sufficient plans, drawings, schematics, calculations, and other documents to ensure the vessel complies with the standards used. The plans must be stamped with the seal authorized for use by the individual or entity performing the verification of compliance, or otherwise indicate that they have been reviewed and determined to meet the applicable standards by an individual or entity who meets the requirements of §144.140.

(d) A copy of the verified plan must be provided to the cognizant Officer in Charge, Marine Inspection (OCMI) and the third-party organization (TPO) conducting the surveys, if applicable, except as provided in paragraph (e) of this section.

(e) Plans verified by an authorized classification society need only be provided to the Coast Guard upon request.

(f) If the vessel is a new vessel, a copy of the verified plan must be available at the construction site.

(g) As referred to in this section, the term plan may include, but is not limited to drawings, documents, or diagrams of the following:

(1) Outboard profile.

(2) Inboard profile.

(3) Arrangement of decks.

(4) Midship section and scantling plans.

(5) Survival craft embarkation stations.

(6) Machinery installation, including, but not limited to:

(i) Propulsion and propulsion control, including shaft details;

(ii) Steering and steering control, including rudder details;

(iii) Ventilation diagrams;

(iv) Fuel transfer and service system, including tanks;

(v) Piping systems including: bilge, ballast, hydraulic, combustible and flammable liquids, vents, and overflows; and

(vi) Hull penetrations and shell connections;

(7) Electrical installation including, but not limited to:

(i) Elementary one-line diagram of the power system;

(ii) Cable lists;

(iii) Type and size of generators and prime movers;

(iv) Type and size of generator cables, bus-tie cables, feeders, and branch circuit cables;

(v) Power and lighting panelboards with number of circuits and rating of energy consuming devices;

(vi) Capacity of storage batteries;

(vii) Rating of circuit breakers and switches, interrupting capacity of circuit breakers, and rating and setting of overcurrent devices; and

(viii) Electrical plant load analysis as required by §143.555 of this subchapter.

(8) Lifesaving equipment locations and installation;

(9) Fire protection equipment installation including, but not limited to:

(i) Fire main system plans and calculations;

(ii) Fixed gas fire extinguishing system plans and calculations;

(iii) Fire detecting system and smoke detecting system plans;

(iv) Sprinkler system diagram and calculations; and

(v) Portable fire extinguisher types, sizes, and locations;

(10) Lines and offsets, curves of form, cross curves of stability, tank capacities including size and location on vessel, and other stability documents needed to show compliance; and

(11) Towing arrangements.

§144.155 Verification of compliance with design standards for a sister vessel.

(a) Verification of compliance required by §144.135 is not required for a sister vessel, provided that:

(1) The original vessel has been verified as complying with this part;

(2) The owner authorizes the use of the plans for the original vessels for the new construction of the sister vessel;

(3) The standards used in the design and construction of the original vessel have not changed since the original verification of compliance;

(4) The sister vessel is built to the same verified plans, drawings, schematics, calculations, and other documents and equipped with machinery of the same make and model as the original vessel, and has not been subsequently modified;

(5) The sister vessel is built in the same shipyard facility as the original vessel; and

(6) For a sister vessel subject to a stability standard, that the conditions in Table 144.155 of this section are met:

TABLE 144.155

If—	Then—
(i) The delivery date of the sister vessel is not more than 2 years after a previous stability test date of either the original vessel or an earlier sister vessel,	The approved lightweight characteristics of that earlier vessel are adopted by the sister vessel;
(ii) Paragraph (a)(6)(i) of this section does not apply, and the lightweight characteristics determined from a deadweight survey of the sister vessel are shown to meet both the following criteria: (A) the lightweight displacement differs by not more than 3 percent of the earlier vessel's lightweight displacement, and (B) the longitudinal center of gravity (LCG) differs by not more than 1 percent of the length between perpendiculars (LBP) of the earlier vessel's LCG,	The vertical center of gravity (VCG) of the earlier vessel is adopted by the sister vessel and used with the lightweight displacement and LCG determined from the deadweight survey of the sister vessel;
(iii) Neither paragraph (a)(6)(i) nor (ii) of this section apply because both the criteria in paragraphs (a)(6)(ii)(A) and (B) of this section are not met and lightweight characteristics were determined from a stability test on either the original vessel or a sister vessel,	The vessel must undergo a stability test in accordance with 46 CFR part 170, subpart F;
(iv) No vessel of the class of sister vessels previously underwent a stability test,	One vessel of the class must undergo a stability test in accordance with 46 CFR part 170, subpart F, and each sister vessel to which a stability standard applies must meet either paragraph (a)(6)(ii) or (iii) of this section.

(b) A statement that verifies sister vessel status for each element of paragraph (a) of this section from an individual or entity meeting the requirements of §144.140 must be retained and produced upon request.

§144.160 Marking.

(a) The hull of each documented vessel must be marked as required by part 67 of this chapter.

(b) The hull of each undocumented vessel must be marked with its name and hailing port.

(c) A vessel complying with either §144.300(a) or §144.305 must have draft marks that meet the requirements of §97.40–10 of this chapter.

(d) Each vessel assigned a load line must have the load line marks and the deck line permanently scribed or embossed as required by subchapter E of this chapter.

(e) Each watertight door and watertight hatch must be marked on both sides in clearly legible letters at least 25 millimeters (1 inch) high: ''WATERTIGHT DOOR—KEEP CLOSED'' or ''WATERTIGHT HATCH—KEEP CLOSED''.

(f) Each escape hatch and emergency exit used as means of escape must be marked on both sides in clearly legible letters at least 50 millimeters (2 inches) high: ''EMERGENCY EXIT, KEEP CLEAR''.

Subpart B—Structure

§144.200 Structural standards for an existing vessel.

An existing vessel may be deemed by the OCMI, or TPO, to be in compliance with this subpart provided that either:

(a) The vessel is built, equipped, and maintained to conform to the rules of a recognized classification society appropriate for the intended service and routes, but not classed; or

(b) The vessel has been both in satisfactory service insofar as structural adequacy is concerned and does not cause the structure of the vessel to be questioned by either the OCMI, or TPO engaged to perform an audit or survey.

§ 144.205 Structural standards for a new vessel.

(a) Except as provided in paragraphs (b) and (c) of this section, a new vessels must comply with the standards established by the American Bureau of Shipping (ABS) as provided in the following table.

TABLE 144.205(a)—STRUCTURAL STANDARDS FOR A NEW VESSEL

For a new vessel to be certificated for service on—	ABS Rules for Building and Classing—
(1) Lakes, bays, and sounds, limited coastwise, coastwise, and oceans routes;	Steel Vessels Under 90 Meters (295 Feet) in Length (incorporated by reference, see § 136.112 of this subchapter) apply; or
(2) Rivers or intracoastal waterways routes.	Steel Vessels for Service on Rivers and Intracoastal Waterways (incorporated by reference, see § 136.112 of this subchapter) apply.

(b) Alternate design standards to comply with this subpart may be approved in accordance with §136.115 of this subchapter.

(c) The current standards of a recognized classification society, other than ABS, may be used provided they are accepted by the Coast Guard as providing an equivalent level of safety.

(d) The structural standard selected must be applied throughout the vessel including design, construction, installation, maintenance, alteration, and repair. Deviations are subject to approval by the Commanding Officer, Marine Safety Center.

§ 144.215 Special consideration.

The cognizant OCMI may give special consideration to the structural requirements for a vessel if that vessel is:

(a) Not greater than 65 feet in length;

(b) Operating exclusively within a limited geographic area; or

(c) Of an unusual design not contemplated by the rules of the American Bureau of Shipping or other recognized classification society.

Subpart C—Stability and Watertight Integrity

§ 144.300 Stability standards for an existing vessel.

(a) The owner or managing operator of an existing vessel operating under a stability document must be able to readily produce a copy of such document.

(b) The owner or managing operator of an existing vessel not operating under a stability document must be able to show at least one of the following:

(1) The vessel's operation or a history of satisfactory service does not cause the stability of the vessel to be questioned by either the Coast Guard or a TPO engaged to perform an audit or survey.

(2) The vessel performs successfully on operational tests to determine whether the vessel has adequate stability and handling characteristics.

(3) The vessel has a satisfactory stability assessment by means of giving due consideration to each item that impacts a vessel's stability characteristics which include, but are not limited to, the form, arrangement, construction, number of decks, route, and operating restrictions of the vessel.

§ 144.305 Stability standards for a new vessel.

Each new vessel must meet the applicable stability requirements of part 170 and, if applicable, of part 173, subpart E, of this chapter in addition to the requirements in the following table:

TABLE 144.305—STABILITY STANDARDS FOR A NEW VESSEL

Each new vessel certificated to operate on—	Must meet the requirements of—
(a) Protected waters	§ 170.173(e)(2) of this chapter.
(b) Partially protected waters	§§ 170.170 and 170.173(e)(1) of this chapter.
(c) Exposed waters or that is assigned a load line.	§§ 170.170 and 174.145 of this chapter.

§ 144.310 Lifting requirements for a new vessel.

Each new vessel equipped for lifting must meet the requirements of part 173, subpart B, of this chapter.

§ 144.315 Weight and moment history requirements for a vessel with approved lightweight characteristics.

(a) A weight and moment history of changes to the vessel since approval of its lightweight characteristics (displacement, Longitudinal Center of

Gravity (LCG) and Vertical Center of Gravity (VCG)) must be maintained. All weight modifications to the vessel (additions, removals, and relocations) including a calculation of the aggregate weight change (absolute total of all additions, removals, and relocations) must be recorded in the history, along with a description of the change(s), when and where accomplished, moment arms, etc. After each modification, the lightweight characteristics must be recalculated.

(b) When the aggregate weight change is more than 2 percent of the vessel's approved lightweight displacement, or the recalculated change in the vessel's lightweight LCG is more than 1 percent of the LBP, a deadweight survey must be performed to determine the vessel's current lightweight displacement and LCG. Use the following table to determine when the deadweight survey results or the vessel's aggregate weight change requires the vessel to undergo a specified stability test:

TABLE 144.315

If—	Then—
(1) The deadweight survey results are both within 1 percent of the recalculated lightweight displacement and within 1 percent LBP of the recalculated lightweight LCG,	the recalculated lightweight VCG can be accepted as accurate;
(2) The deadweight survey results do not meet the criteria of paragraph (b)(1) of this section,	the vessel must undergo a stability test in accordance with 46 CFR 170, subpart F;
(3) The aggregate weight change is more than 10 percent of the vessel's approved lightweight displacement,	the vessel must undergo a stability test in accordance with 46 CFR 170, subpart F.

§ 144.320 Watertight or weathertight integrity.

(a) Each vessel fitted with installed bulwarks around the exterior of the main deck must have sufficient freeing ports or scuppers or a combination of freeing ports and scuppers to allow water to run off the deck quickly without adversely affecting the stability of the vessel.

(b) Closure devices must be provided for deckhouse or hull penetrations, which open to the exterior of the vessel and which may allow water to enter the vessel. These devices must be suitable for the expected route.

§ 144.330 Review of a vessel's watertight and weathertight integrity.

The cognizant OCMI may require review of a vessel's watertight and weathertight integrity. This review may be performed by an individual who meets the requirements of § 144.140. The review may include an examination of a plan that shows the original placement of decks and bulkheads.

Subpart D—Fire Protection

§ 144.400 Applicability.

Except for § 144.415, which applies to each new and existing vessel, this subpart applies to each new towing vessel.

§ 144.405 Fire hazards to be minimized.

Each vessel must be designed and constructed to minimize fire hazards insofar as reasonable and practicable.

§ 144.410 Separation of machinery and fuel tank spaces from accommodation spaces.

Machinery and fuel tank spaces must be separated from accommodation spaces by bulkheads. Doors may be installed provided they are the self-closing type.

§ 144.415 Combustibles insulated from heated surfaces.

Internal combustion engine exhaust ducts, galley exhaust ducts and similar ignition sources must be insulated with noncombustible insulation if less than 450 mm (18 inches) away from combustible material. Installations in accordance with ABYC P–1 or NFPA 302 (incorporated by reference, see § 136.112 of this subchapter) will be considered as meeting the requirements of this section.

§ 144.425 Waste receptacles.

Unless other means are provided to ensure that a potential waste receptacle fire would be limited to the receptacle, waste receptacles must be constructed of noncombustible materials with no openings in the sides or bottom.

§ 144.430 Mattresses.

Each mattress must comply with either:

(a) The Consumer Product Safety Commission Standard for Mattress Flammability (FF 4–72, Amended), 16 CFR part 1632, subpart A, and not contain polyurethane foam; or

(b) IMO Resolution A.688(17) (incorporated by reference, see § 136.112 of this subchapter) in which case the mattress may contain polyurethane foam.

Subpart E—Emergency Escape

§ 144.500 Means of escape.

Where practicable and except as provided in § 144.515, each space where crew may be quartered or normally employed must have at least two means of escape. Arrangements on an existing vessel may be retained if it is impracticable or unreasonable to provide two means of escape.

§ 144.505 Location of escapes.

The two required means of escape must be widely separated and, if possible, at opposite ends or sides of the space. Means may include normal and emergency exits, passageways, stairways, ladders, deck scuttles, doors, and windows.

§ 144.510 Window as a means of escape.

On a vessel of 65 feet (19.8 meters) or less in length, a window or windshield of sufficient size and proper accessibility may be used as one of the required means of escape from an enclosed space, provided it:

(a) Does not lead directly overboard;

(b) Is suitably marked; and

(c) Has a means to open the window or break the glass.

§ 144.515 One means of escape required.

Only one means of escape is required from a space where:

(a) The space has a deck area less than 30 square meters (322 square feet);

(b) There is no stove, heater, or other source of fire in the space;

(c) The means of escape is located as far as possible from a machinery space or fuel tank; and

(d) If an accommodation space, the single means of escape does not include a deck scuttle or a ladder.

Subpart F—Ventilation

§ 144.600 Ventilation for accommodations.

Each accommodation space on a vessel must be ventilated in a manner suitable for the purpose of the space.

§ 144.605 Means to stop fans and close openings.

Means must be provided for stopping each fan in a ventilation system serving machinery spaces and for closing, in case of fire, each doorway, ventilator, and annular space around funnels and other openings into such spaces.

§ 144.610 Ventilation in a vessel more than 65 feet in length.

A vessel of more than 65 feet (19.8 meters) in length with overnight accommodations must have a mechanical ventilation system unless a natural system, such as opening windows, portholes, or doors, will provide adequate ventilation in ordinary weather.

Subpart G—Crew Spaces

§ 144.700 General requirements.

(a) A crew accommodation space and a work space must be of sufficient size, adequate construction, and with suitable equipment to provide for the safe operation of the vessel and the protection and accommodation of the crew in a manner practicable for the size, facilities, service, route, and modes of operation of the vessel.

(b) The deck above a crew accommodation space must be located above the deepest load waterline.

§ 144.710 Overnight accommodations.

Overnight accommodations must be provided for crewmembers if it is operated more than 12 hours in a 24-hour period, unless the crew is put ashore and the vessel is provided with a new crew.

§ 144.720 Crew rest consideration.

The condition of the crew accommodations must consider the importance of crew rest. Factors to consider include vibrations, ambient light, noise levels, and general comfort. Every effort must be made to ensure that quarters help provide a suitable environment for sleep and off-duty rest.

Subpart H—Rails and Guards

§ 144.800 Handrails and bulwarks.

(a) Rails or equivalent protection must be installed near the periphery of all decks accessible to crew. Equivalent protection may include lifelines, wire rope, chains, and bulwarks that provide strength and support equivalent to fixed rails.

(b) In areas where space limitations make deck rails impractical, such as at narrow catwalks in way of deckhouse sides, hand grabs may be substituted.

§ 144.810 Storm rails.

On a vessel in oceans or coastwise service, suitable storm rails or hand grabs must be installed in all passageways and at the deckhouse sides where persons onboard might have normal access.

§ 144.820 Guards in dangerous places.

An exposed hazard such as gears and rotating machinery, must be protected by a cover, guard or rail. This is not meant to restrict access to towing equipment such as winches, drums, towing gear or steering compartment equipment necessary for the operation of the vessel.

§ 144.830 Protection against hot piping.

Each exhaust pipe from an internal combustion engine which is within reach of personnel must be insulated or otherwise guarded to prevent burns. On a new vessel, each pipe that contains vapor, gas, or liquid that has a temperature exceeding 150 °F (65.5 °C) which is within reach of personnel must be insulated where necessary or otherwise guarded to prevent injury.

Subpart I—Visibility

§ 144.905 Operating station visibility.

(a) Windows and other openings at the operating station must be of sufficient size and properly located to provide a clear field of vision for safe operation in any condition.

(b) Means must be provided to ensure that windows immediately forward of the operating station in the pilothouse allow for adequate visibility to ensure safe navigation regardless of weather conditions. This may include mechanical means such as windshield wipers, defoggers, clear-view screens, or other such means, taking into consideration the intended route of the vessel.

(c) The field of vision from the operating station on a new vessel must extend over an arc from dead ahead to at least 60 degrees on either side of the vessel.

(d) If a new vessel is towing astern, the operating station must be provided with a view aft.

(e) In a new vessel, glass or other glazing material used in windows at the operating station must have a light transmission of not less than 70 percent according to Test 2 of ANSI/SAE Z 26.1–1996 (incorporated by reference, see §136.112 of this subchapter) and must comply with Test 15 of ANSI/SAE Z 26.1–1996 for Class I Optical Deviation.

§ 144.920 Window or portlight strength in a new vessel.

(a) Each window or portlight, and its means of attachment to the hull or the deckhouse, must be capable of withstanding the maximum expected load from wind and waves, due to its location on the vessel and the vessel's authorized route.

(b) Any covering or protection placed over a window or porthole that could be used as a means of escape must be able to be readily removed or opened from within the space.

(c) Glass and other glazing materials used in windows of a new towing vessel must be materials that will not break into dangerous fragments if fractured.