



16700  
CG-CVC  
Policy Letter 15-05  
DEC 18 2015

From:   
K. P. McAvoy, CAPT  
COMDT (CG-CVC)

To: Distribution

Subj: REQUIREMENTS FOR OUT OF WATER SURVIVAL CRAFT AND  
REPLACEMENT OF LIFE FLOATS AND RIGID BUOYANT APPARATUS

1. Purpose. This guidance is to assist owners and operators of certain small passenger vessels, offshore supply vessels, sailing school vessels, cargo vessels, commercial fishing vessels, and manned fixed offshore platforms, in replacing existing life floats and rigid buoyant apparatus with approved survival craft that ensures no part of an individual is immersed in water (hereinafter will be termed “out-of-water” survival craft) after February 26, 2016.

2. Background. By Congressional mandate, no life floats or rigid buoyant apparatus may be approved survival craft beyond February 26, 2016. The history of this legislation began with Section 609 of the 2010 Coast Guard Authorization Act ([Public Law No. 111-281 – OCT. 15, 2010](#)), when it added section 3104 to Part B of 46 U.S. Code (U.S.C.). This new section prohibited the approval of survival craft unless the craft “ensures that no part of an individual is immersed in water.” It also mandated that survival craft currently in service that did not meet this standard, were to be phased out by January 1, 2015. However, Section 303 of the 2012 Coast Guard and Maritime Transportation Act ([Public Law No. 112-213 – DEC. 20, 2012](#)), directed the Coast Guard to submit a report to Congress on the cost-benefit analysis of the Act based on a 20-year relevant casualty history. To allow time for the report to be developed and submitted, it also reset the implementation date of the out-of-water survival craft requirements until 30 months from the submission of the report. That report was submitted on August 26, 2013, which in turn made February 26, 2016 the compliance date when life floats and rigid buoyant apparatus would no longer be accepted as approved survival craft.

Separately, but within the same 2010 Coast Guard Authorization Act, Section 604 amended Title 46 U.S.C. §4502(b)(2)(B) to require out-of-water survival craft on all commercial fishing vessels operating beyond 3 nautical miles (NM) of the Baseline or beyond 3 NM of the coastline of the Great Lakes. Additionally, Section 609 of the 2010 Act and Section 303 of the 2012 Act, referenced in the above paragraph, will make the requirement for an out-of-water survival craft applicable on commercial fishing vessels operating inside 3 NM if that vessel is required to carry a survival craft, because life floats or rigid buoyant apparatus are no longer Coast Guard-approved equipment.

The applicability of the legislative requirement to replace life floats as survival craft on manned fixed offshore platforms in the Outer Continental Shelf (OCS) is less direct. However, because

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(1) the Coast Guard has a single type approval process for survival craft in 46 CFR Subchapter Q, (2) the Coast Guard is no longer approving life floats as survival craft based on the amended 46 U.S.C. § 3104, and (3) the platform regulations in 33 CFR 144.01-1 specifically state that the life float (or an alternative) must be approved, it is therefore appropriate to require out-of-water survival craft be placed on manned fixed offshore platforms after February 26, 2016, or, in accordance with the allowances of this policy letter.

The Coast Guard has initiated a rulemaking to conform our regulations to the legislative requirements contained in 46 U.S.C. §3104 and 46 U.S.C. §4502, but in advance of the rulemaking, the requirements for an out-of-water survival craft will take effect by law on February 26, 2016.

### 3. Discussion.

- a. Under the authority of 46 U.S.C. § 3306, the Coast Guard requires that certain vessels be outfitted with approved survival craft and specifies the type and number of survival craft based on factors including vessel type and construction, vessel route, water temperature, and carriage of additional lifesaving equipment. The hierarchy of survival craft, from most protective to least protective, is lifeboat, inflatable liferaft, inflatable buoyant apparatus (IBA), life float, and rigid buoyant apparatus.
- b. Within this hierarchy, the IBA is the lowest-ranked survival craft that provides out-of-water flotation and thus complies with the requirements of the amended 46 U.S.C. §3104. Therefore, as of February 26, 2016, to comply with 46 U.S.C. §3104, life floats and rigid buoyant apparatus must be replaced with a more protective survival craft. (Please note that small passenger vessels that did not previously require survival craft are not affected by this law and will not need to install IBAs or other survival craft as a result). Also, and unless otherwise specified, a one-for-one capacity replacement ratio shall be applied.
- c. The primary purpose of the statutory requirement for out-of-water survival craft has generally been considered to mitigate the effects of hypothermia by cold water. Therefore owners, operators, and the Coast Guard should prioritize, when possible, the installation of out-of-water survival craft on vessels and manned fixed offshore platforms operating in cold waters.
- d. Also, based on the amended 46 U.S.C. §3104, on April 6, 2011 and July 1, 2015, the Coast Guard announced to survival craft manufacturers that new type approvals, and extensions of existing life floats and buoyant apparatus type approvals, would not be issued beyond January 1, 2015.
- e. In advance of the above mentioned rulemaking, this guidance should aid industry in determining what type and number of survival craft will satisfy the survival craft requirements. It is generally divided into three groups for compliance: (1) inspected vessels, (2) manned fixed offshore platforms, and (3) commercial fishing vessels based on their distinct governing authorities.

4. Action. Prior to operating, the expectation of the law, is that owners and operators fully meet the statutory requirements of 46 U.S.C. 3104 or 46 U.S.C. §4502 by February 26, 2016, which includes meeting the elements of the installation requirements of paragraph 5 below. However, since market demands are not totally known and new survival craft installations or replacements can introduce unexpected variables, this policy letter provides a “phased-in” compliance alternative. This alternative is the main discussion of this policy. This policy affects all vessels that fall under 46 U.S.C. Subtitle II, Part B and manned fixed offshore platforms that currently carry life floats or rigid buoyant apparatus.

5. Compliance.

- a. Compliance shall be met by adhering either to the statutory requirements of 46 U.S.C. §3104 or 46 U.S.C. §4502 (i.e., out-of-water survival craft properly installed per paragraph 5.b. not later than February 26, 2016), or, the guidance in this policy letter. A survival craft is properly installed when in compliance with the manufacturer’s recommendations so the survival craft can be deployed manually and will properly release in the float free mode; and for inspected vessels the installation arrangement is inspected and approved by the attending marine inspector.
- b. For owners and operators pursuing the phased-in approach of this policy letter, it is the Coast Guard’s intention to methodically implement the installation of out-of-water survival craft using key check points throughout the process. Overall, as this guidance cannot detail every situation, a key element to successful replacement and installation of survival craft is effective communications between the owner, operator, and the Coast Guard.

1) Inspected Vessels.

This section applies to certain small passenger vessels, offshore supply vessels, sailing school vessels, and cargo vessels. See paragraph 5.d., entitled “Approved Equipment By Vessel Type,” and enclosure (1), which provides survival craft tables for small passenger vessels, for survival craft requirements. These requirements specify vessel-specific capacity and quantity criteria, life float-to-IBA capacity percentage offsets, vessel route, and lifting appliances for launching survival crafts.

Repairs or alterations to equipment that affect the safety of a vessel must not be made without the approval of the cognizant Officer in Charge, Marine Inspection (OCMI), to include (1) alterations affecting stability and (2) repairs or alterations of lifesaving equipment. To facilitate this, owners or managing operators are often required to submit drawings, sketches, or written specifications describing the proposed alterations. Additionally, alterations fitting this category must be approved by the OCMI before work is started.

To ensure a methodical replacement program, the Coast Guard is adopting a three-phase approach. *Phase I* will be a “Survival Craft Replacement

Proposal” phase, *Phase II* will be a “Cognizant OCMI Review of Survival Craft Replacement Proposal” phase, and *Phase III* will be an “Installation and Inspection” phase.

Phase I is directed towards owners and operators; however, in preparing for this phase, the cognizant OCMI should survey their fleets of responsibility, as soon as practicable, to determine the composition of vessels that have life floats and buoyant apparatus that will require replacement. This will help gauge the level of effort needed for successful implementation of this policy.

A. *Phase I* – Survival Craft Replacement Proposal.

That the owner or operator should prepare a replacement proposal for Coast Guard review. The proposal should specify how the replacement will take place and should be submitted to the cognizant OCMI by February 26, 2016. Each inspected vessel should have its own proposal, unless the OCMI authorizes a proposal to cover a series of similar vessels, which addresses the following key points:

- i. The appropriate survival craft and/or lifting appliances per paragraph 5.d. entitled, “Approved Equipment By Vessel Type,” and Enclosure (1), is being sought.
- ii. The details of how and where out-of-water survival craft will be mounted and located so as not to block any of the crew or passenger egress routes.
- iii. How out-of-water survival craft can be deployed manually and crew and passengers can safely egress to the survival craft.
- iv. The effect of weight changes on vessel stability. Each proposal must be documented and evaluated in accordance with existing policy. For each installation, provide a detailed account of weight changes. This includes the weight of the survival craft removed and the weight of the craft added, weights of any structure added or removed, and location of the known or estimated center of gravity for all weights added and removed
- v. Details of what, if any, modifications are required and how they will be made. Pay significant attention to the stresses placed on the hull or superstructure beneath the installation. Details of the construction and placement of any associated bracketing or davits are also necessary.
- vi. Drawing(s), even hand-drawn lay-out sketch(es) of the vessel (plan and profile views), are encouraged with the replacement proposal.

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After February 26, 2016, OCMI should identify all vessels without a submitted replacement proposal. If the vessel is operating in violation of 46 U.S.C. §3104 or the operator has not submitted their proposal by February 26, 2016, that vessel should be issued a Form CG-835, Notice of Merchant Marine Inspection Requirement, to restrict the vessels operating conditions to only routes in which a survival craft is not needed.

B. *Phase II* – Cognizant OCMI Review of Survival Craft Replacement Proposals.

Cognizant OCMI should review the submitted survival craft replacement proposals by October 1, 2016, to ensure compliance with applicable regulations and policy, including float free and manual launching capabilities, egress of crew and passengers, vessel stability and sufficient structural modifications. When practical, OCMI should prioritize their initial effort on vessels operating in cold waters, which is defined in Navigation and Vessel Inspection Circular (NVIC) No. 7-91, Determination of Cold Water Areas as water temperature at or below 15° C (59° F).

- i. For vessels with an assigned lightship value, consult enclosure (2) to determine the extent to which it is necessary to re-evaluate the vessel's stability. The owner or the managing operator, through the OCMI, should comply with the weight change reporting requirements and convey this information to Coast Guard Marine Safety Center (MSC).
- ii. For vessels where stability has been assessed by a simplified stability proof test (SST) as detailed in 46 CFR 178.330, the OCMI must assess the need to re-test the vessel. Enclosure (3) provides a general discussion of the factors related to re-test determinations. As with all weight changes on vessels that have undergone SSTs, OCMI must make an individual judgment on the need to re-test. See also "*Stability*" of the Additional Considerations section below.
- iii. OCMI can use discretion when evaluating structural aspects of proposals. Place special attention to the mounting cradle. OCMI may need to defer final assessment to Phase III through visual inspection. If additional structural review is needed, OCMI should contact the MSC Hull Division for technical support.
- iv. OCMI should notify the owners, managing operators, or designated parties acting on their behalf, in writing, when either the plan is approved or when the submitted plan falls short of the required criteria. Additionally, the approval response shall address

either the acceptance of satisfactory calculations to verify compliance with stability requirements, or the proposed timeline for a renewed simplified stability test. Once the plan is approved, owners or managing operator are expected to carry out the modifications described in the proposal within the timeframe detailed in Phase III.

C. *Phase III* – Installation and Inspection:

- i. To minimize disruption to vessel operations, owners and managing operators should maintain their existing survival craft onboard until the replacement out-of-water survival craft(s) are delivered, installed, and inspected by the OCMI.
- ii. Owners or managing operators shall notify cognizant OCMI's when the survival craft(s) are installed in order to coordinate the final installation inspection.
- iii. The owner, managing operator, or designated party should not operate the vessel on routes requiring survival craft until the OCMI completes the inspection to verify the new survival craft(s) are properly installed and fully functional.
- iv. OCMI's should inspect survival craft as soon as possible upon notification of installation and availability for inspection. Ensure any areas of concern noted in Phase II and deferred to Phase III are examined visually (e.g., for structural concerns, any significant flexing of deck and/or overhead structures).
- v. If survival craft supply prevents an owner or operator from installing survival craft as planned and approved by the OCMI in a timely manner, the OCMI may, with proof of purchase and validation, issue a CG-835 allowing the vessel to continue to operate while waiting for delivery and installation of the replacement survival craft.
- vi. For all inspected vessels, Phase III should be completed no later than February 1, 2017, OCMI's may extend Phase III beyond this date on a case by case basis.

D. The Cognizant OCMI's may impose operational controls on vessels at any point when owners or operators fail to comply with the out-of-water survival craft mandates of 46 U.S.C. § 3104 or this policy letter. Operational controls may include restricting vessel routes to where no survival craft are required; however, nothing in this guidance shall limit OCMI discretion in ensuring compliance with all applicable laws and regulations.

2) Manned Fixed Offshore Platforms.

Survival craft requirements for these platforms are identified in 33 CFR Part 144.01, which will be updated to conform to the legislative requirement. Strict adherence to manufacturer's recommendations regarding maximum stowage height, installation, testing, and maintenance must be followed.

Manned fixed offshore platforms (hereafter referred to as "platforms"), which are currently allowed to carry at least two life floats with the capacity to accommodate all persons on board, will be required to install at least two approved lifeboats or two inflatable liferafts or a combination of the two, as long as there is capacity for all persons on the platform at any one time. Consistent with the current requirements of 33 CFR 144.01-15, IBAs are not an acceptable replacement for life floats. Platforms should ensure out-of-water survival craft replacement is completed no later than February 26, 2016 or in accordance with the allowances in this section. If operators determine they cannot meet the February 26, 2016 deadline, they should contact the cognizant OCMI in writing no later than February 26, 2016, and provide (1) an explanation why they cannot meet the deadline (e.g., non-availability of equipment) and (2) when they anticipate achieving compliance. Regardless, all manned fixed offshore platforms should be in full compliance no later than September 1, 2016 or on a date to the satisfaction of the cognizant OCMI.

The cognizant OCMI should coordinate efforts with the regional Bureau of Safety and Environmental Enforcement (BSEE) office, including the installation requirements above and the service and inspection requirements. Please note that since stability and plan review issues are not as complicated for manned fixed offshore platforms, and since the crew on these platforms already has a level of understanding of the maritime environment, the replacement or installation process are significantly different than for passenger vessels.

3) Commercial Fishing Vessels (CFVs).

Certain CFVs will be required to install Coast Guard approved out-of-water survival craft. Survival craft requirements for fishing vessels are contained in 46 CFR Part 28.120, which will be updated to conform to the legislative requirement. The current requirements also include survival craft carried on vessels operating inside three nautical miles (NM), which means all survival craft that are not Coast Guard-approved, including any in-water survival craft (lifefloats or rigid buoyant apparatus), must be replaced with an approved device, even for vessels operating inside of three NM.

To facilitate adequate and additional time for owners and operators of CFVs to research, order, receive, and properly install new out-of-water survival craft as required by law, CFVs that operate exclusively in warm water can continue to

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use unapproved survival craft temporarily if that device remains in serviceable condition. However, replacement out-of-water survival craft must be installed no later than February 1, 2017. CFVs operating in cold water areas may continue to use unapproved survival craft equipment if it remains in serviceable condition; however, replacement out-of-water survival craft must be installed before November 1, 2016. Cold water areas by geographical location are defined in NVIC 7-91.

Additionally, please note that the 2010 amendment to 46 U.S.C. Chapter 45 regarding a requirement for an out-of-water survival craft on vessels operating beyond three NM of the Baseline or three NM from the coastline of the Great Lakes is specific. As such, certain vessels that were exempted from carrying a survival craft can no longer exercise that exemption if operating beyond the three NM designation. Further, certain vessels that were allowed to carry a buoyant apparatus out to 12 NM will have to install an out-of-water survival craft if operating beyond 3 NM. Refer to 46 CFR Part 28.120 (b), (c), and (h), where the 12 NM limitation will be replaced by 3 NM after February 26, 2016, pursuant to the law. Enclosure (4) should also assist CFV owners and operators in determining the proper out-of-water replacement survival craft.

For vessels to which 46 CFR 28.500 (Stability) or 46 CFR 42.03-5 (Load Lines) apply, weight changes shall be tracked in accordance with enclosure (2) and the vessel's stability shall be checked for compliance with the applicable stability standards.

c. Additional Considerations.

- 1) *Installation.* IBAs and liferafts are available in a variety of containers, including hard cases and fabric valises (bags). Owners and operators should select the installation configuration that has low impact on vessel stability and operation and that does not interfere with embarkation or operation of any survival equipment. Survival craft designed to be stowed below deck are not permitted for above-deck installation. Install survival craft on each vessel according to the applicable regulations as specified in the next part entitled, "Approved Equipment by Vessel Type," and as specified in requirements for embarkation arrangements, launching appliances, survival craft locations, and placards or instructions. When a Coast Guard-approved davit-launch system or any other mechanical device is used to deploy the survival craft, the replacement proposal (inspected vessels only) submitted to the OCMI shall include information on where and how the system is installed. If the survival craft needs to be relocated to an area within the passenger accommodation spaces to ensure deployment, this change in location may affect the vessel's passenger carrying capacity.

Some survival craft installations may require lifting appliance or winches to assist in launching. For small passenger vessels, if the survival craft weighs more than 200 lbs, a manually-operated mechanical launching device shall be provided when the survival craft requires lifting (or lowering) more than 1 vertical foot to launch as per 46 CFR 180.130 / 46 CFR 117.130. When the embarkation station for the survival craft is on a deck more than 15 feet above the waterline, or passengers need to board the craft prior to being placed in the water, a launching appliance meeting the conditions in 46 CFR 180.50(c) / 46 CFR 117.150(c) is required. Also, an embarkation ladder is required for each embarkation station when the distance from the deck on which the embarkation station is located is more than 10 feet from the vessel's lightest operating waterline as per 46 CFR 180.150 (b) / 46 CFR 117.150(b).

For other than small passenger vessels, the installation and stowage must be completed in accordance with the requirements contained within 46 CFR 199.130 (Stowage of Survival Craft) and 46 CFR 199.150 (Survival Craft Launching and Recovery Arrangements), and all launching appliances must be approved under 46 CFR 160.

- 2) *Stability.* The direct effect of replacing existing life floats or rigid buoyant apparatus with inflatable liferafts or IBAs may lead to changes in the vessel's stability. Owners and operators must be aware that total weight changes resulting from the removal of existing equipment and the installation of the new equipment may affect the vessel's approved stability calculations for small passenger vessels, which in turn may lead to the need to retest stability and/or potential changes in the passenger count.

For the majority of small passenger vessels, stability is assessed via a Simplified Stability Proof Test (SST) witnessed by the cognizant OCMI, in accordance with 46 CFR 178.330; or calculations that demonstrate compliance with 46 CFR Subchapter S following a deadweight survey or inclining experiment are reviewed by MSC.

Because the decision to require a new SST rests with the OCMI, enclosure (3) includes important factors to consider when evaluating the need to conduct a new SST. Additional guidance and technical support may be sought through the MSC Hull Division.

For those vessels that have undergone an either a deadweight survey or an inclining experiment to establish their stability profile, the decision to require a new deadweight survey or inclining experiment rests with the MSC. Enclosure (2) describes the process of determining when weight changes to a vessel are significant enough to warrant a new deadweight survey or a full stability test (deadweight survey and inclining experiment). However, as with any change to a vessel's lightship characteristics, regardless of the requirement for a new deadweight survey or inclining, compliance with all applicable stability criteria

must be demonstrated to the satisfaction of MSC whenever a vessel's lightship characteristics are modified.

- 3) *Safety, training, and maintenance.* The owner, charterer, master, or managing operator should instruct each crew member in the operation of the new survival craft and the related duties that crew members are expected to perform. Emergency instruction placards and passenger safety orientation information should be updated to reflect the change to any new survival craft equipment. The master or operator should ensure that the liferaft(s) or IBA(s) are ready for use at all times and that all required equipment is provided, maintained, serviced, and replaced as indicated.

d. Approved Equipment By Vessel Type.

This section contains amplifying information and should coincide the sections regarding implementation Phases I, II, and III, where owners or operators are preparing their replacement proposals and the Coast Guard is approving them. It provides details on life float-to-IBA capacity offsets and vessel routes.

- 1) *Small Passenger Vessels, 46 CFR 117.200 and 180.200.* The current regulations specify survival craft requirements by personnel carriage capacity. See enclosure (1) for tables with detailed guidance for replacement of survival craft on small passenger vessels. Vessels currently permitted to carry life floats to accommodate 100% of persons on board should have life floats replaced with IBAs to accommodate 100% persons on oceans routes, or 67% of persons on board for other operating routes. The 67% capacity allowance specific to IBAs, is that by design, they are capable of carrying 50% more than their rated capacity. For example, if a small passenger vessel carries 15-total persons on board, the operator may use an IBA rated for 10 persons (or 67% capacity of the total persons on board). However, at this time, there will be no reduction allowance for IBAs less than 50% total persons on board, overall. Thus, vessels currently required to carry life floats to accommodate 50% of persons on board should have life floats replaced with IBAs to accommodate 50% of persons on board. Each IBA must be of a type approved under 46 CFR 160.010 and meet the applicable stowage, embarkation arrangement, and equipment requirements in the relevant subchapter. Lastly, when the owner or the managing operator preference is to use inflatable liferafts, the aggregate capacity requirement is 100% of total persons on board for routes where 67% IBAs is allowed.
- 2) *Offshore Supply Vessels, 46 CFR 133.105(c).* Offshore supply vessels will no longer be permitted to carry life floats in lieu of liferafts. OSVs operating in the Gulf of Mexico may carry IBAs in lieu of liferafts. Life floats should be replaced accordingly based on the aggregate capacity of total persons on board. As comparable equipment to liferafts in Subchapter L, each IBA must meet the liferaft stowage requirements in 46 CFR 133.130.

- 3) *Sailing School Vessels, 46 CFR 169.515(c)*. Sailing school vessels will no longer be permitted to carry life floats in lieu of liferafts or lifeboats. Vessels certificated for protected waters only may carry IBAs in lieu of liferafts or lifeboats. IBAs must be of a type approved under 46 CFR 160.010, must meet the general stowage requirements in 46 CFR 169.521(a), and must be stowed so that they will float free in the event of the vessel sinking. Stowage and launching arrangements must be to the satisfaction of the OCMI.
- 4) *Cargo Vessels, 46 CFR 199.640(e)*. Certain cargo vessels are currently permitted to carry life floats in lieu of inflatable liferafts. These vessels will no longer be permitted to carry life floats, but may carry IBAs, in lieu of liferafts, of an aggregate capacity to accommodate 67% of the total number of people on board. Each IBA must be of a type approved under 46 CFR 160.010 and meet the applicable stowage, embarkation arrangement, and equipment requirements in Subchapter W under 46 CFR 199.130 (c) as referred by 46 CFR 199.640(j)(2)(i).
- 5) *Commercial Fishing Industry Vessels, 46 CFR 28.120*. Enclosure (4) provides updated requirements for approved survival craft to replace life floats and buoyant apparatus.

6. Pending Legislation: The Coast Guard Authorization Bill of 2015. In this bill, Congress is proposing to amend the requirements cited in the Background section above. If this bill passes, the scope of the affected vessels may be reduced. In turn, the Coast Guard will revise this Policy Letter accordingly.

7. Disclaimer. The guidance in this letter is not a substitute for applicable legal requirements. The guidance in this letter is not intended to impose legally-binding requirements on any party. This guidance represents the Coast Guard's current stance on this topic and may assist industry, mariners, the general public, and other Federal and state regulators, in applying statutory and regulatory requirements. An alternative approach may be used for complying with these requirements if the approach satisfies the requirements of the applicable statutes and regulations.

8. Questions. Questions concerning equipment approval should be directed to Commandant (CG-ENG-4), Commercial Regulations and Standards Directorate, Office of Design and Engineering Standards, Lifesaving and Fire Safety Division at [TypeApproval@uscg.mil](mailto:TypeApproval@uscg.mil). Questions concerning compliance and enforcement should be directed to Commandant (CG-CVC), Commercial Vessel Compliance at [CG-CVC-1@uscg.mil](mailto:CG-CVC-1@uscg.mil).

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- Enclosure:
- (1) Summary of Survival Craft Changes for Small Passenger Vessels on February 26, 2016
  - (2) Marine Safety Center Marine Technical Notice (MTN) 04-95, Change 1
  - (3) Factors to Consider by OCMI's on When to Conduct a New Simplified Stability Test
  - (4) Acceptable Survival Craft Installations on Commercial Fishing Vessels

## SUMMARY OF SURVIVAL CRAFT CHANGES FOR SMALL PASSENGER VESSELS ON FEBRUARY 26, 2016

**SUBCHAPTER K—SMALL PASSENGER VESSELS CARRYING MORE THAN 150 PASSENGERS OR  
WITH OVERNIGHT ACCOMMODATIONS FOR MORE THAN 49 PASSENGERS**

Table 117.200(c)

Route	Vessels type and/or water temperature	Survival Craft meeting law on Feb. 26, 2016
Oceans	(a) cold water <sup>1</sup>	100% ILR <sup>2</sup>
	(b) warm water <sup>3</sup>	
	(i) w/overnight accommodations	100% IBA <sup>9</sup>
	(ii) w/o overnight accommodations	67% IBA <sup>8</sup>
Coastwise	(a) w/overnight accommodations	100% IBA <sup>9</sup>
	(b) w/o overnight accommodations	
	(i) cold water	67% IBA
	(ii) warm water	67% IBA
	(iii) within three miles of shore w/float free 406 MHz EPIRB	50% IBA
	(a) w/overnight accommodations	100% IBA <sup>9</sup>
	(b) w/o overnight accommodations	
Limited coastwise (Not more than 20 miles from a harbor of safe refuge)	(i) cold water	67% IBA <sup>8</sup>
	(ii) warm water	50% IBA
	(iii) within three miles of shore w/float free 406 MHz EPIRB	
	(A) cold water	50% IBA
	(B) warm water	NONE
	(a) same as limited coastwise (a) & (b)—§117.206(a)	same as limited coastwise (a) & (b)
	(b) within one mile of shore	NONE <sup>4</sup>

Lakes, bays, and sounds <sup>5 6</sup>	(a) w/overnight accommodations	67% IBA <sup>10</sup>
	(b) w/o overnight accommodations	
	(i) cold water	67% IBA (same as vessels w/overnight accommodations in cold water)
	(ii) warm water	50% IBA
	(iii) within one mile of shore	NONE
Rivers <sup>6 7</sup>	(a) cold water	
	(i)	50% IBA
	(ii) within one mile of shore	NONE
	(b) Warm water	NONE

**Abbreviations used:**

ILR = Inflatable liferaft

IBA = Inflatable Buoyant apparatus

LF = Life Float. As allowed by §117.15(a), any buoyant apparatus in use on an existing vessel on March 11, 1996, may be used to meet the requirements for LF as long as the buoyant apparatus is in good and serviceable condition.

Footnotes:

<sup>1</sup>Cold water means the cognizant OCMI has determined the monthly mean low temperature of the water is ≤15 °C (59 °F)

<sup>2</sup>Vessels operating less than 50 miles from shore may carry 100% IBA in lieu of ILR—§117.202(b)

<sup>3</sup>Warm water means the cognizant OCMI has determined the monthly mean low temperature of the water is >15 °C (59 °F)

<sup>4</sup>OCMI may reduce primary lifesaving for seasonal or ferry type operations on the Great Lakes—§117.206(b)

<sup>5</sup>Shallow water exception—§117.207(e).

<sup>6</sup>OCMI may reduce survival craft requirements based upon the route, communications schedule, and participation in VTS—§117.207(f) and §117.208(e).

<sup>7</sup>Shallow water exception—§117.208(d)

<sup>8</sup>As of Feb. 26, 2016 LF may not be used in lieu of IBA.

<sup>9</sup>When the total number of persons allowed on the COI exceeds the total number of overnight passengers allowed, the vessel must be provided with 67% IBA.

<sup>10</sup>When the total number of persons allowed on the COI exceeds the total number of overnight passengers allowed, the vessel must be provided with 67% IBA in cold water and 50% IBA in warm water.

**SUBCHAPTER T—SMALL PASSENGER VESSELS (UNDER 100 GROSS TONS)**

**Table 180.200(c)**

<b>Route</b>	<b>Vessels type and/or water temperature</b>	<b>Survival Craft meeting law on Feb. 26, 2016</b>	
Oceans	(a) cold water <sup>1</sup>	100% IBA	
	(i) w/subdivision <sup>2</sup>	100% IBA	
	(b) warm water <sup>3</sup>	67% IBA <sup>8</sup>	
Coastwise	(a) wood vessels in cold water		
	(i)	67% IBA	
	(ii) w/subdivision	67% IBA	
	(b) nonwood and vessels operating in warm water		
	(i)	67% IBA	
	(c) within three miles of shore		
	(i) w/o subdivision	67% IBA	
	(ii) w/subdivision	50% IBA	
	(iii) w/float free 406 MHz EPIRB	50% IBA	
	Limited Coastwise (Not more than 20 miles from a harbor of safe refuge)	(a) wood vessels in cold water	
		(i)	67% IBA
		(ii) w/subdivision	67% IBA
(b) nonwood vessels in cold water		67% IBA	
(c) within three miles of shore			
(A) w/o subdivision		67% IBA	
(B) w/subdivision		50% IBA	
(C) w/float free 406 MHz EPIRB		50% IBA	
(d) vessels operating in warm water			
(i)		50% IBA	
(ii) within three miles of shore			
(A) w/o subdivision		50% IBA	
(B) w/subdivision		NONE	
(C) w/float free 406 MHz EPIRB		NONE	

Great Lakes	(a) same as Limited Coastwise (a) & (b)—§180.206(a)	same as Limited Coastwise (a) & (b)
	(b) within one mile of shore	NONE <sup>4</sup>
Lakes, Bays, & Sounds <sup>5,6</sup>	(a) wood vessels in cold water	
	(i) 100% LF	67% IBA
	(ii) w/subdivision	50% IBA
	(b) nonwood	50% IBA
	(c) within 1 mile of shore	NONE
	(d) warm water	NONE
RIVERS <sup>6,7</sup>	(a) cold water	
	(i) w/o subdivision	50% IBA
	(ii) w/subdivision	NONE
	(iii) within one mile of shore	NONE
	(b) warm water	NONE

**Abbreviations used:**

ILR=Inflatable liferaft

IBA=Inflatable Buoyant Apparatus

LF=Life Float. As allowed by §180.15(b) any buoyant apparatus in use on an existing vessel on March 11, 1996, may be used to meet the requirements for LF as long as the buoyant apparatus is in good and serviceable condition.

Footnotes:

<sup>1</sup>Cold water means the cognizant OCMI has determined the monthly mean low temperature of the water is ≤15 °C (59 °F).

<sup>2</sup>Vessels ≤65 ft carrying ≤49 passengers built before March 11, 2001, may meet the collision bulkhead standards in §179.310 and one-compartment subdivision standards in §179.220 and §179.320 at least in way of the engine room and lazarette in lieu of the subdivision requirements contained in this part.

<sup>3</sup>Warm water means the cognizant OCMI has determined the monthly mean low temperature of the water is >15 °C (59 °F).

<sup>4</sup>OCMI may reduce primary lifesaving for seasonal or ferry type operations on the Great Lakes—§180.206(b).

<sup>5</sup>Shallow water exception - §180.207(e).

<sup>6</sup>OCMI may reduce survival craft requirements based upon the route, communications schedule and participation in VTS - §180.207(f) and §180.208(e).

<sup>7</sup>Shallow water exception - §180.208(d).

<sup>8</sup>As of Feb. 26, 2016 LF may not be used in lieu of IBA.

U.S. Department of  
Homeland SecurityUnited States  
Coast Guard

## Marine Safety Center Technical Note

MTN 04-95, CH-1  
16710/Lightship Change  
October 14, 2011

### MARINE SAFETY CENTER TECHNICAL NOTE (MTN) NO. 04-95, CH-1

Subj: LIGHTSHIP CHANGE DETERMINATION WEIGHT – MOMENT CALCULATIONS  
VS. DEADWEIGHT SURVEY VS. FULL STABILITY TEST

Ref: (a) Marine Safety Manual, Volume IV, section 6.D.4  
(b) Navigation and Inspection Circular (NVIC) 17-91 dated 4 November 1991  
(c) ASTM Standard Guide F 1321-90, "Standard Guide for Conducting a Stability Test (Inclining and Lightweight Survey) to Determine the Light Ship Displacement and Centers of Gravity of a Vessel."

1. Purpose: The purpose of this Marine Technical Note (MTN) is to describe the process for determining when weight changes to a vessel are significant enough to warrant a new deadweight survey or a full stability test (deadweight survey and inclining). Compliance with all applicable stability criteria must be demonstrated to the satisfaction of the Marine Safety Center (MSC), regardless of the magnitude of lightship weight change. This change to MTN 04-95 incorporates minor administrative changes and clarifications.
2. Discussion:
  - a. Lightship Characteristic Changes. A vessel's lightship characteristics form the foundation for calculations that demonstrate its compliance with applicable stability requirements. Accordingly, the accuracy of these characteristics is of paramount importance, both at the time of construction and throughout the vessel's service life. Changes to a vessel, through the addition, removal, or relocation of items which are included as a part of the vessel's lightship, could jeopardize the accuracy of the lightship characteristics. Minimizing the adverse effects of weight changes is a key element in preserving confidence in a vessel's stability analysis.

In accordance with reference (a), a complete stability test is normally required when modifications to the vessel's structure or arrangements could adversely affect stability. The MSC will determine whether calculations alone are sufficient, in lieu of a stability test or deadweight survey, based on the accuracy of the calculations and/or the application of appropriate conservative assumptions in VCG. Therefore, an evaluation must be made as to whether or not a vessel needs to undergo a deadweight survey or a full stability test following any change to the lightship characteristics. In making this determination, the MSC will consider the summation of all weight changes that have been made since the last stability test (not just the net change).

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VS DEADWEIGHT SURVEY VS FULL STABILITY TEST

This total weight change ( $W_{total}$ ) is determined by summing the magnitudes of all weights added ( $W_a$ ), all weights relocated ( $W_{rl}$ ) and all weights removed ( $W_r$ ) as follows:

$$W_{total} = |W_a| + |W_r| + |W_{rl}|$$

In applying the above formula, those items whose weight and center of gravity are known exactly through actual measurement may be excluded from the total aggregate weight change; however, such items are subject to review and approval of the MSC and acceptance and verification by the cognizant Officer in Charge, Marine Inspection (OCMI).

- b. **Weight-moment Calculations Only Required.** When the total aggregate weight change does not exceed 2% of the currently approved lightship displacement and the LCG does not shift by more than 1% of the vessel's length between perpendiculars (LBP), weight-moment calculations will generally suffice in lieu of a deadweight survey. However, if the amounts or locations of items being added or removed cannot be determined with reasonable accuracy, then a deadweight survey will be required in order to confirm the new calculated lightship VCG. If weight-moment calculations only are used, then any future weight changes evaluated must include the total aggregate weight changes from the last stability test, not just from the approved lightship characteristics determined by these calculations.
- c. **Deadweight Survey Only Required.** In accordance with 46 CFR 170.175 and the guidelines established in reference (a), a deadweight survey only will generally be required when a vessel has undergone a total aggregate weight change since the last stability test of between two and ten percent (2-10%) of its displacement, or when it's lightship LCG shifts by more than 1% of the vessel's LBP.

If, however, upon completion of a required deadweight survey, the results show that, when compared to the vessel's calculated lightship characteristics (anticipated based on the weight-moment calculations), there is a difference of less than 1% for the displacement or a shift in the LCG of less than 1% of the vessel's LBP, then the vessel's lightship VCG can be assumed as being the one determined by the weight-moment calculations. If the displacement or LCG fall outside the above tolerances, then the vessel must either undergo a full stability test or apply a sufficiently conservative penalty to the calculated lightship VCG. Vessels undergoing a deadweight survey shall comply with the requirements and recommendations of references (b) and (c).

- d. **Full Stability Test Required.** When the total aggregate weight change exceeds 10% of a vessel's currently approved lightship displacement, a full stability test will be required.

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Vessels undergoing a full stability test shall comply with the requirements and recommendations of references (b) and (c).

3. Action:

- a. The owner of a vessel which requires approved lightship characteristics to show compliance with Coast Guard stability requirements must advise the cognizant OCMI or Load Line assigning authority of any changes to the vessel's lightship characteristics. Detailed lists of the items to be added or removed, including weight estimates and calculations showing their effect on the vessel's lightship characteristics, must be submitted to the MSC (or ABS using the NVIC 3-97 process) for review. The owner should include documentation of the last approved lightship characteristics that were based upon a stability test as well as any previous weight-moment calculation adjustments.
- b. The MSC or ABS will then examine the information in accordance with the above policy and determine if a deadweight survey or full stability test is required. In making this determination, the MSC will consider the types of weight involved, the error inherent in the changes, and their effect on stability. Accordingly, a small number of large items with well defined centers of gravity will generally receive more favorable consideration than a large number of small items or items such as extensive piping systems where the accuracy and level of detail is questionable.

4. Disclaimer: While the guidance contained in this document may assist the industry, the public, the Coast Guard, and other Federal and State agencies in applying statutory and regulatory requirements, this guidance is not a substitute for the applicable legal requirements, nor is it in itself a regulation. It is not intended to, nor does it impose legally binding requirements on any party, including the Coast Guard, other Federal agencies, the States, or the regulated community.



P. E. LITTLE

Copy: Commandant (CG-521)  
Commandant (CG-543)  
ABS AMERICAS (Stability & Load Line Section)

### **Factors for consideration of when to conduct a new Simplified Stability Proof Test (SST)**

An SST is a proof test, which means it is a snapshot of the vessel's stability in one given loading condition. When changes are made to the vessel that alter its total displacement, center of gravity, or wind profile, the Officer in Charge, Marine Inspection will assess the vessel to determine if a new SST must be conducted.

Decisions on whether to conduct a new SST take into account the type of vessel, and the relative amount and location of weight added to or removed from the vessel. In addition, previous weight changes since the last SST are considered in the determination.

With regards to small passenger vessel stability assessments:

1. For mono-hulled vessels:
  - a. The vessel's stability is usually negatively affected if a significant amount of weight was removed from below the vessel's main deck, or if a significant amount of weight was added above the vessel's main deck.
  - b. The installation of an equivalent weight in the same location should have neutral effect vessel stability. Relocation of an equivalent weight, may change the vessel's trim or list, this may have a negative or positive effect on stability.
  - c. If weight is removed from above the main deck of a small passenger vessel without affecting trim and heel, stability is typically positively impacted.
2. It is difficult to identify what is a "significant" amount of change for a vessel that has been assessed with an SST without reviewing the physical characteristics of the particular vessel. Therefore it's not practical to assign a percentage weight change or numerical amount of change that would trigger a need for a new test. As with any assessment of a vessel that has undergone an SST, the OCMI must use good judgment in combination with an on-scene observation of the vessel's in-water profile and handling characteristics in making the determination to require another proof test. If question arises, the Hull Division at the Marine Safety Center can assist in comparing the vessel's weight change relative to the vessel's overall size, assessing the data from the previous SST, and on-scene observations during the decision making process.
3. Weight changes to multi-hulled and pontoon vessels that have conducted SSTs should be assessed carefully; owner/operators and OCMI's are encouraged to consult with the Marine Safety Center for weight changes on these vessels.
4. If the OCMI decides a new SST is not required, record of the weight changes will be maintained by the Coast Guard for consideration of future changes.

**Required and Acceptable Survival Craft Carriage on Commercial Fishing Vessels**

To comply with the out-of-water survival craft requirement established by the 2010 and 2012 Coast Guard Authorization Acts, and existing 46 CFR Part 28 equipment requirements that do not conflict with Chapter 45 of title 46 United States Code, the following table shows the type of survival craft a vessel must carry to be in compliance with the law and regulations.

<b>Applicable Waters</b>	<b>Vessel Type</b>	<b>Survival Craft Required</b>
Beyond 50 miles of the coastline	Documented	Inflatable liferaft with SOLAS A pack.
Between 20-50 miles of the coastline, Cold waters	Documented	Inflatable liferaft with SOLAS B pack.
Between 20-50 miles of the coastline, Warm waters	Documented	Inflatable liferaft with coastal service pack.
Between 12-20 miles of the Baseline, Cold waters	Documented	Inflatable liferaft.
Between 3-12 miles of the Baseline, Cold waters	Documented	Inflatable buoyant apparatus.
Between 3-20 miles of the Baseline, Warm waters	Documented	Inflatable buoyant apparatus.
Inside 3 miles from the Baseline, Cold waters (See note 4.)	Documented	Inflatable buoyant apparatus. See notes 5, 6, and 8.
Inside 3 miles from the Baseline, Warm waters (See note 4.)	Documented	None.
Beyond 3 miles from the Baseline	Undocumented	Inflatable buoyant apparatus.
Inside 3 miles from the Baseline, Cold waters (See note 4.)	Undocumented	See notes 5, 6, 7, and 8.
Inside 3 miles from the Baseline, Warm waters (See note 4.)	Undocumented	None
Great Lakes, beyond 3 miles of the coastline	All	Inflatable buoyant apparatus
Great Lakes, within 3 miles of the coastline, Cold waters	All	Inflatable buoyant apparatus. See notes 5, 6, 7, and 8.
Great Lakes, within 3 miles of the coastline, Warm waters	All	None

Notes:

1. The hierarchy of survival craft in descending order is lifeboat, inflatable liferaft with SOLAS A pack, inflatable liferaft with SOLAS B pack, inflatable liferaft with coastal service pack, inflatable buoyant apparatus. A survival craft higher in the hierarchy may be substituted for any survival craft required in this table.
2. A lifeboat may be substituted for any survival craft required by this section, provided it is arranged and equipped in accordance with part 199 of this chapter.

3. The capacity of an auxiliary craft carried on board a vessel that is integral to and necessary for normal fishing operations will satisfy the requirements of this section for survival craft, except for an inflatable liferaft, provided the craft is readily accessible during an emergency and is capable of safely holding all individuals on board the vessel. If the auxiliary craft is equipped with a Coast Guard required capacity plate, the boat must not be loaded so as to exceed the rated capacity.
4. This area includes lakes, bays, sounds, and rivers.
5. If the vessel is 36 feet or more in length with 3 or fewer individuals on board, a buoyant apparatus may be acceptable in accordance with the guidelines for delayed compliance set forth in this letter.
6. If the vessel is less than 36 feet in length with 3 or fewer individuals on board, a survival craft is not required.
7. If the vessel is 36 feet or more in length, a buoyant apparatus may be acceptable in accordance with the guidelines for delayed compliance set forth in this letter.
8. If the vessel is less than 36 feet in length and meets the flotation provisions of 33 CFR Part 183, a survival craft is not required.