



Alternatives to Life Boat Loading

OOO Guidance Document
USCG-052018 Rev. 1



1 Overview

Coast Guard inspectors witness emergency drills on offshore platforms during scheduled inspections and at other times. Their purpose for doing this is to assess the competency of the crew and the crew's ability to react to a variety of common emergency scenarios. Furthermore, the Coast Guard relies on a few regulatory cites to require abandon platform drills and to verify the ability of the crew to board a lifeboat and secure themselves in an efficient and orderly manner. Regardless of the regulatory oversight component of this issue, it is imperative that platform personnel are properly trained to perform emergency and abandon platform duties at any time. This training primarily takes place during or immediately after emergency or abandon platform drills.

Familiarization with the operational aspects of the lifeboats and how to safely board them is essential to this training. However, the nature of the environment in which fixed and floating platforms operate poses unique challenges not experienced by traditional merchant vessels. Unlike merchant vessels, platforms cannot release, maneuver, and raise a lifeboat in a sheltered area provided by a port/harbor or stabilize the boat via the use of a painter line while the vessel is underway and provide a lee side from wind and waves. Also, the lifeboat launching systems on fixed and floating platforms pose other challenges not found in lifeboat applications such as those found on traditional merchant vessels. The cantilever style davits on offshore applications do not have the kinds of safeguards found on other types of lifeboat davit systems. The cantilever style davit holds the boat over, and provides a direct path to, the water surface. The only mechanism preventing the boat from lowering to the water is the winch brake. Boats are often fitted with maintenance pendants (a.k.a. maintenance strops) and while they provide an additional safeguard, they are primarily used to support a limited number of persons, who board the lifeboat to perform routine inspection and/or maintenance activities.

Occasionally when witnessing abandon platform drills, a Coast Guard inspector will ensure platform personnel are able to properly board the lifeboat and that the boat can safely accommodate the maximum number of persons it is rated to carry. Historically, the Coast Guard has used the cite found in 46 CFR §108.540(d) to have operators prove the boat can be boarded by its full complement of persons.

46 CFR §108.540(d) Each lifeboat must be arranged to be boarded by its full complement of persons within 3 minutes from the time the instruction to board is given.

It should be noted that this cite is only applicable to Floating Offshore Installations (FOIs). Further, the time stated is more realistically suited for the lesser capacity lifeboats that were common when this cite was last amended in 1998 and not for the much larger boats in use today. Regardless, the ability for a platform crew to be able to board and secure themselves in a lifeboat in an orderly and efficient manner is a competency required for any lifeboat application, whether on a floating or fixed facility. The partial or full loading of personnel on a lifeboat should be undertaken with extreme caution and safeguards should be employed to minimize the risk that accidental lowering or component failure could have to the occupants.

2 Relevant Requirements

The requirements in 33 CFR Subchapter N apply to both fixed and floating platforms. Specifically, 33 CFR §143.120 requires that FOIs meet the MODU design and equipment regulations in 46 CFR 107 (Subpart C) and 46 CFR §108, as well as the vessel marine and electrical engineering regulations at 46 CFR Subchapter F and 46 CFR Subchapter J.



The only applicable Coast Guard requirement governing the frequency of emergency drills is 33 CFR §146.125. It requires emergency drills to be conducted once per month “...as if an actual emergency existed” and that “All personnel should report to their respective stations and be prepared to perform the duties assigned to them.” The Coast Guard usually interprets this phrase to include lowering, releasing/launching, and operating the lifeboats in the water even though the wording of the regulation clearly indicates there is no expectation to load, lower, and launch lifeboats at every emergency drill. As an alternative, the Coast Guard has generally accepted the lowering, launching, and operating of the lifeboats in the water on a quarterly basis as cited in 46 CFR §109.213(d)(3) even though 46 CFR Part 109 is not applicable to fixed and floating platforms.

Notwithstanding the regulatory requirements to conduct emergency drills monthly, many floating platforms elect to conduct emergency and abandon platform drills weekly and to lower, launch, and operate their lifeboats in the water quarterly, weather permitting. Many fixed platforms elect to conduct emergency and abandon platform drills weekly; however, they lower, launch, and operate their lifeboats in the water less frequently than floating platforms. Some fixed platforms lower, launch, and operate their lifeboats in the water on an annual basis. Although 33 CFR Subchapter N does not specify an exact launching frequency requirement, the quarterly lowering, launching, and operating of lifeboats in the water by personnel on fixed platforms is recommended to maintain familiarity with the equipment. Despite the fact the Coast Guard regulations for fixed and floating platforms are not clear in this regard, the issues are the same. The equipment needs to be exercised and personnel need to be familiar with its operation. Safety and operational issues with lifeboats are the same regardless of platform type with the re-hooking and recovery of the boat posing the most risk due to the fact the boats cannot be stabilized via a painter line like a lifeboat being launched from a traditional merchant vessel can be.

Recently, the Coast Guard has interpreted 33 CFR §146.125 to include the loading lifeboats to ensure the crew can load it in an orderly and efficient manner. Furthermore, the Coast Guard expects that this can be done in the time requirement given in 46 CFR §108.540(d) even though this regulation is not applicable to fixed platforms.

Despite the regulatory ambiguity on this issue and the different ways the Coast Guard has historically viewed fixed platforms and FOIs, operators ultimately have the responsibility to ensure their lifeboats are operational and their personnel know how to use them. This includes ensuring the boat can be safely loaded with persons to its rated capacity in an orderly and efficient manner. The purpose of this Guidance Document is to provide operators with Coast Guard accepted alternatives to partially or fully loading their lifeboats in the stowed position.

3 The Case Against Loading Boats

Accidents with lifeboats are well documented and they continue to occur with alarming frequency on merchant ships and in the offshore oil and gas industry worldwide. While it is recognized most of these accidents have to do with human error (i.e. lack of training/familiarity and poor maintenance) it also needs to be recognized a lifeboat is an imperfect mechanical system. Even the most well-maintained boat operated by the best trained crew can still pose risks. The full loading of a lifeboat in the stowed position to satisfy a timed requirement or prove a design capacity is not a practice seen on regular merchant ships, and some offshore operators have policies against doing it based on the results of a risk analysis. Done without certified safeguards in place this should be viewed as a low-risk/high consequence activity.

When active, installed lifeboats are used for this purpose, those systems on merchant ships are usually designed to provide additional safeguards against accidental lowering or component failure (e.g. harbor



pins, preventer bars, gripes, etc.). As discussed, the cantilever davit launched boats found on offshore platforms lack these safeguards. Also, boats on offshore platforms are typically of much larger capacity than those found on merchant ships and they are stowed at a much greater height.

The issue of loading boats in the stowed position seems to be an issue of debate in the GOM; however, it was the subject of a risk assessment performed by Step Change in Safety (UK) in late 2001. It culminated in a cross-industry risk assessment that was summarized in a Guidance Document and a safety alert (SADIE Alert 436...now known as the Incident Alerts Database). While this document is not currently available on the Step Change for Safety website, it can be found on the Coast Guard's Homeport site at:

<https://homeport.uscg.mil/Lists/Content/Attachments/592/Ref%207%20-%20Loading%20of%20Lifeboat%20Guidance1.pdf>

The issue of loading boats during drills was also the subject of a National Offshore Safety Advisory Committee (NOSAC) Task Statement in 2015. That report also references the Step Change in Safety Guidance document. The NOSAC report can be found here:

<https://homeport.uscg.mil/Lists/Content/Attachments/592/NOSAC%20-%20Final%20Report%20for%20the%20SC%20Safety%20of%20Persons%20Assigned%20to%20Lifeboats%20-%202018%20November%202015.pdf>

Ultimately, the workgroup that analyzed this issue for the Step Change in Safety risk assessment made the following conclusions:

- Lifeboat loading drills provide a significant reduction in evacuation risk
- Training exercises carried out offshore on installation survival craft expose crewmembers to risk
- The evacuation risk reduction achieved by offshore drills is greater than the risk experienced due to offshore drills
- Alternative methods for achieving crew training are preferred to the offshore drills option
- Further risk reduction can be achieved by optimizing crew training methods

The report also includes the safety alert it prompted (SADIE Alert 436, Issued April 24, 2003). That alert contained several recommendations but key among them was recommendation #5 which states:

“Fully loaded drills are only to be carried out when a lifeboat cannot fall, e.g. with the lifeboat in an unsuspended state, not over water and with the boat solidly supported either on the deck or in other suitable hard landing area (or onshore).”

The OOC agrees with this analysis and strongly recommends alternatives to loading lifeboats in the stowed position be implemented by its member companies. As described above, the routine loading of personnel above the minimum number required to operate the boat is not a practice seen in other lifeboat applications (i.e. on merchant vessels). The loading (routine or not) of personnel to prove lifeboat capacity and/or familiarity with loading techniques is best accomplished using a boat suited for this purpose as provided by a shore-based training provider. Alternatively, operators may wish to ensure the adequacy of certified safeguards such as maintenance pendants to allow partial loading of a small number of personnel to accomplish the same objectives. More details on this will follow in this Guidance Document.

4 Coast Guard Policy



In October of 2016, the Outer Continental Shelf Officer in Charge, Marine Inspection (OCS-OCMI) issued Policy Letter 04-2016. This policy provides inspection guidance to USCG OCS inspectors for verifying compliance with 33 CFR 146 relative to the inspection of lifesaving equipment and the witnessing of emergency evacuation drills on OCS manned facilities. Paragraph 3.h of this policy states:

*“Each facility should conduct a drill to fully load a lifeboat under time critical conditions at least annually **if** they have at least one lifeboat that has been fitted with certified safeguards to allow the full loading of the lifeboat and prevent against accidental lowering or release of the lifeboat. Training should be provided to all parties so they understand how to embark and strap into a lifeboat. **If the operator has a policy against the full loading of a lifeboat** for drill/training purposes **without** certified safeguards in place, the inspector should ensure person on board **possess adequate knowledge on how to embark lifeboats to include proper entry.**” (emphasis added)*

Since the publication of this policy it has been unevenly applied by USCG OCS Inspectors in the field. In some cases, this led to operators being issued USCG “835” requirements to prove the boats could be loaded even if a company had policy against it. The policy also doesn’t recognize that some operators put restrictions on loading their boats in the stowed position even with certified safeguards in place.

The OOC feels USCG direction to fully load active lifeboats in the stowed position (with or without safeguards) with personnel to prove boat capacity and the competency of the boat complement to load the boat is in direct conflict with long-held and well-established sound marine practices that specifically prohibit this activity. It also appears to run counter to the Coast Guard’s own policy in their Marine Safety Manual (Volume II), Section B, Chapter 1 which states: *“personnel should not be permitted to be used in the tests that load the boat to or beyond rated capacity, except as is absolutely necessary to load or unload the boat, or perform some part of the test once the boat has reached the water.”*. While it is recognized this policy is presented in the context of conducting lifeboat weight tests (e.g. the 110% overload test), the concept is the same and it is clear the Coast Guard also recognizes the risks in loading boats with personnel. The OOC feels this is an activity and competency that is best developed using shore-based training in lifeboat models specially designed for this purpose.

The OOC also recognizes that this capability is limited amongst shore-based training providers in the GOM. Further, this type of training isn’t specifically mandated or uniform in application. This type of training is best suited as a component of the water survival portion of HUET which is generally required (by company policy) of just about everyone who works offshore in the GOM.

Frequent discussions between the OOC and various operators with the USCG has highlighted the need for industry established alternative practices that can be implemented to meet the intent of this Coast Guard policy.

5 Recommended Alternatives to Life Boat Loading

The OOC recommends the implementation of the following alternative procedures and practices:



5.1 Use of Maintenance Pendants

It is not recommended for operators to use maintenance pendants with a view to provide enough capacity to fully load the boat in the stowed position. Rather, maintenance pendants are recommended to be used for an identified minimum number of persons necessary to board the lifeboat for maintenance and training purposes. Operators should ensure maintenance pendants can be affixed to each boat.

Operators should also evaluate the rated capacity of these pendants, associated attaching gear (e.g., shackles, pins, etc.), and the attachment points on the boat releasing gear and the davit structure and apply a prudent Safety Factor (a SF of 6 is normally used for lifesaving apparatus). Operators should confirm the pendants, gear, and attaching points are adequate to hold the weight of the empty boat and its equipment. Any excess capacity provided should be enough to establish how many persons can safely load the boat with these safeguards in place.

5.2 Weight Tracking

The muster list for each boat should be continuously updated with each person's weight from the flight manifest (or other source). The total POB (persons on board) weights for each boat should be constantly monitored to ensure they do not exceed the "B" weight of the boat. The "B" weight is the approved weight of the boat, its equipment, supplies, and the weight capacity of persons it is rated to carry. The majority of GOM operators have voluntarily de-rated their boats to comply with a "GOM Standard" weight of 210 lbs (95 kg) per person. Operators will need verify the standard to which their boats are rated. The other approved standard is 181.5 lbs (82.5 kg); however, this is obviously not representative of the weight of the average offshore worker on the U.S. OCS. The 210 lb "GOM Standard" also equates to a 21-inch seat width whereas the 181.5 lb standard is a 17-inch seat width.

5.3 Weight Management

The impact larger average person weights are having to a given lifeboat muster list should be carefully evaluated. If weight tracking shows the "B" weight is being exceeded, steps should be taken to move personnel to other boats or to reduce POB altogether. Persons much larger than the rated average person weight of the boat (either 181.5 or 210 lbs) should be carefully assessed to ensure they can safely strap into the provided harnesses. If a seat belt/harness is too small, it will be necessary to replace it with a belt which can accommodate the range of persons who may need to use the lifeboat and this may reduce the overall seating capacity of the boat. Seating location should also be considered so as not to group larger average weight persons together but instead try to disperse them amongst persons of lower average weight so that the seating capacity of the boat can be used to maximum potential. It is understood this can be a sensitive issue but if not addressed, it may pose serious consequences to the primary lifesaving capacity and compromise the design and function of the lifeboat.

5.4 Platform Orientation

Every person who is new to a platform already receives a company mandated orientation. Part of this orientation should also include an overview of the lifeboats to include putting that person into the boat and providing training on the proper methods of loading the boat during a full evacuation. Each platform should take that into consideration and allow as many persons as necessary for training and familiarization to board the boat as allowed by the maintenance pendants installed for that boat (see Use of Maintenance Pendants above).



5.5 Training on Board and Seating Patterns

During drills and other training events, training should be provided on the most orderly and efficient way to board the lifeboat. This training needs to consider the access point(s) and seating arrangements of the particular boat models on the platform. All applicable boat manufacturer guidance shall be followed and boats that are assigned fewer persons than their full rated capacity will need to take that into account so the load is balanced as much as possible. Designating persons to assist in traffic flow and seating is highly recommended.

5.6 Seating Charts

Seating charts that show flow patterns for each boat should be mounted at each boat muster station (primary and secondary).

5.7 Shore-based Training

To the maximum extent possible, all personnel should attend shore-based training at a facility that has a lifeboat training model installed at their site. These boats can be safely loaded to capacity and are installed for this purpose. Ideally, training of this type would be built into HUET training but that remains to be fully developed.

The development of other alternatives to fully loading the boat in the stowed position is encouraged. The Coast Guard will likely ask questions about what alternatives an operator has in lieu of full boat loading. Platform personnel should be able to easily and competently demonstrate they have these alternatives in place and they are routinely practiced. Of primary importance; however, is that these alternatives are in place for the safety of personnel at all times and not just when the regulator is asking.

OOC Guidance Document No. USCG-052018 Rev. 1

May 2018

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