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Reply to Mr. Ed Lacy
Attn of: (ocs)

To: Distribution

Subj: GUIDANCE ON SPAR LIFERAFT INSTALLATIONS

Ref: (a) 54 FR 16198, Coast Guard Notice of proposed rulemaking, Lifesaving Equipment, April 21st 1989
(b) 61 FR 25272, Coast Guard Interim Rule with request for comments, Lifesaving Equipment, May 20th, 1996

1. **DIRECTIVES AFFECTED:** None.
2. **PURPOSE:** This letter provides guidance on liferaft installations on SPARs with a degree of safety comparable to installations on seagoing vessels compliant with 46 CFR 108.525(a)(2) and 108.530(c).
2. **BACKGROUND:** The governing regulation for liferaft installations on SPARs is 33 CFR 143.120, published on March 4, 1982. At the time no SPARs existed on the outer continental shelf, floating OCS facilities were in the concept phase and the applicable regulation referred to, 46 CFR 108 Subpart E, did not require float free liferafts in addition to lifeboats (see enclosure 1). 46 CFR 108 Subpart E was amended via references (a) and (b) but the affected population conducting OCS activities considered was only OSVs and MODUs. The revision did not address floating OCS facilities or SPARs. The construction and arrangement and operation of SPARs fundamentally differs from MODUs and OSVs. MODUs and OSVs are not permanently moored and do not process oil and gas continuously. Therefore, the assumptions and points of reference behind the rulemaking did not consider these fundamental differences.
The D8 OCS OCMI requested the OOC conduct an analysis of liferaft installations on SPARs when a SPAR operator requested reconsideration for a deficiency to correct an installation that does not float free. The OOC provided that analysis in enclosure 2. It pointed out SPARs are not seagoing vessels, SPAR intact and damage stability generally exceeds seagoing vessels and the risk of fire and explosion generally exceeds seagoing cargo vessels. The enclosed OOC analysis provides guidance on SPAR liferaft installations that corresponds to this risk profile. In particular, installation on a lower deck allows the liferafts to be located in proximity to the required egress ladders to the water surface and provides shielding from sources of potential fire and explosion.
3. **POLICY:** Liferaft installations on SPARs in a float-free arrangement on top of its hull, on or outboard of the rail to facilitate manual deployment, provide a degree of safety comparable to installations on seagoing vessels compliant with [46 CFR 108.525\(a\)\(2\) and 108.530\(c\)](#) (refer to 33 CFR 140.15).

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POINT OF CONTACT: Questions regarding this policy may be directed to the Eighth District OCS staff at (504) 671-2151.

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Encl: (1) 43 FR 56824, 46 CFR 108 Subpart E as it existed on March 4, 1982
(2) Offshore Operator's Committee (OOC) Guidance Document USCG-052318 Rev. 1 of 24 May 18, "Life Rafts on SPARS"

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**MONDAY, DECEMBER 4, 1978
PART III**



**DEPARTMENT OF
TRANSPORTATION**

Coast Guard

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**REQUIREMENTS FOR
MOBILE OFFSHORE
DRILLING UNITS**

TABLE 108.495(b)

Classification: Type and size	Water liters (gallons)	Foam liters (gallons)	Carbon dioxide kilograms (pounds)	Dry chemical kilograms (pounds)	Halon 1211 kilograms (pounds)
A II	9.5 (2½)	9.5 (2½)	2.25 (5) ³		
B I	4.7 (1¼)	4.7 (1¼)	1.8 (4)	0.9 (2)	1.1 (2½)
B II	9.5 (2½)	9.5 (2½)	6.7 (15)	4.5 (10)	4.5 (10) ³
B III	45.5 (12)	45.5 (12)	15.8 (35)	9.0 (20)	
B IV	7.6 (20)	7.6 (20)	22.5 (50)	13.5 (30)	
B V	152 (40)	152 (40)	45 (100) ⁴	22.5 (50) ⁴	
C I			1.8 (4)	0.9 (2)	
C II			6.7 (15)	4.5 (10)	
C III			15.8 (35)	9.0 (20)	
C IV			22.5 (50)	13.5 (30)	

NOTE 1.—Fire extinguisher are designed by type as follows: (a) "A" for fires in combustible materials such as wood, (b) "B" for fires in flammable liquids and greases, (c) "C" for fires in electrical equipment.

2.—Fire extinguishers are designated by size where size "I" is the smallest and size "V" is the largest. Sizes "I" and "II" are hand-portable extinguishers and sizes "III", "IV", and "V" are semiportable extinguishers.

3.—Must be specifically approved as a type A, B, or C extinguisher.

4.—For outside use, double the quantity of agent that must be carried.

5.—For outside use only.

MISCELLANEOUS FIREFIGHTING EQUIPMENT

§ 108.497 Fireman's outfits.

Each unit must have at least 2 fireman's outfits. Each fireman's outfit on a unit must consist of—

(a) A self-contained breathing apparatus approved under § 160.011 of this chapter;

(b) A three-cell, explosion proof flashlight with the Underwriter's Laboratories, Inc., label and set of spare batteries for the flashlight;

(c) An oxygen and explosive meter with the Underwriter's Laboratories, Inc. label or the Factory Mutual label;

(d) A lifeline that—

(1) Is attached to the self-contained breathing apparatus;

(2) Is made of bronze wire rope, inherently corrosion resistant steel wire rope, or galvanized or tinned steel wire rope;

(3) Is made up of enough 15.2 meters (50 foot) or greater lengths of wire rope to permit use of the outfit in any location on the unit;

(4) Has each end fitted with a hook with a 16 millimeters (¾ inch) throat opening for the keeper; and

(5) Has a minimum breaking strength of 680 kilograms (1,500 pounds).

(e) Boots and gloves that are made of rubber or other electrically non-conductive material;

(f) A helmet that meets the requirements in ANSI standard Z-89.1-1969; and

(g) Clothing that protects the skin from scalding steam and the heat of fire and that has a water resistant outer surface.

§ 108.499 Fire axes.

Each unit must have at least two fire axes.

Subpart E—Lifesaving Equipment

§ 108.501 Survival capsule.

For the purposes of this subchapter, the term lifeboat includes survival capsules.

§ 108.503 Lifeboats.

(a) Each unit with 30 persons or less allowed on board must have at least one lifeboat. Each unit with more than 30 persons allowed on board must have at least two lifeboats. The total number of lifeboats on a unit must accommodate all personnel on board.

(b) Each lifeboat on a unit must be approved under Subpart 160.035 of this chapter.

(c) Each lifeboat on a unit must be motor propelled and have a permanently installed rigid enclosure of international orange that provides protection from exposure and fire during operation of the lifeboat.

(d) Each lifeboat on a unit must have the equipment required by § 94.20-10 of this Chapter for a lifeboat on an ocean or coastwise vessel other than a seagoing barge, except that the following equipment is not required:

- (1) Ditty bag.
- (2) Lantern if the lifeboat has equivalent interior lighting.
- (3) Illuminating oil, if the lifeboat does not carry a lantern.
- (4) Protecting cover.

(e) In addition to the equipment listed in paragraph (d), the following equipment is not required for each lifeboat on a unit which is not in international service:

- (1) Condensed milk.
- (2) Oars.
- (3) Storm oil.
- (4) Provisions.
- (5) Rowlocks.

(f) Each lifeboat must have a list of the equipment it is required to carry. Except for boat hooks, the equipment and list must be securely stowed in the lifeboat. The equipment required by paragraph (d) must meet the requirements of § 94.20-15 of this Chapter.

(g) Each unit must have a manual for each lifeboat containing the following detailed information:

- (1) Instructions for launching the lifeboat.
- (2) Instructions for operating the lifeboat, its accessories, and its equipment.
- (3) Maintenance and repair instructions.
- (4) Schedule of periodic maintenance.
- (5) Diagram of lubrication points with recommended lubricants.
- (6) List of replaceable parts.
- (7) List of sources of repair parts.
- (8) Log of records of inspections and maintenance.

§ 108.505 Liferrafts.

(a) Each unit must have enough inflatable liferafts to accommodate at least 100% of the persons allowed on board.

(b) Each inflatable liferaft on a unit must—

(1) be approved under Subpart 160.051 of this chapter as an inflatable liferaft intended for an ocean service vessel; and

(2) have a carrying capacity of not less than 6 nor more than 25 persons.

(c) Lifeboats in addition to those required by § 108.503 may be substituted for inflatable liferafts.

§ 108.506 Lifeboat and liferaft launching capability.

(a) Each lifeboat and liferaft on a surface type unit must be capable of

being launched to the water at the minimum operating draft when the unit has an adverse list up to 15° or trim up to 10°.

(b) Each lifeboat and liferaft on a non-surface type unit must be capable of being launched to the water at the maximum operating height above the water when the unit has an adverse list and trim, the amount of which is determined by the characteristics of the unit.

(c) Each liferaft on a unit which is launched from a position more than 3 meters (10 ft.) above the water must be davit launched.

§ 108.507 Launching equipment for lifeboats.

(a) Each unit must have the following launching equipment for each lifeboat:

(1) Mechanical disengaging apparatus that is approved under Subpart 160.033 of this chapter.

(2) Gravity davits that are approved under Subpart 160.032 of this chapter.

(3) A winch that is approved under Subpart 160.015 of this chapter.

(4) A means to hold the lifeboat steady in a location that allows the full complement to board the boat prior to launching.

(5) Wire falls that are—

(i) Equal or superior to 6 x 19 regular lay filler wire, pre-lubricated during construction;

(ii) Not more than 2 part falls; and

(iii) Designed to have a minimum breaking strength of at least six times the maximum working load.

(6) Blocks, if necessary to allow the falls to lead freely from the drum of the winch, that—

(i) Have sheaves each with a diameter measured from the base of the groove in the sheave that is at least 12 times as large as the diameter of the fall passing over the sheave;

(ii) Have a means to lubricate the moving parts of the blocks; and

(iii) Are designed to have a minimum breaking strength of at least six times the maximum working load.

(b) The lowering mechanism for the lifeboat must be operative from the lifeboat and from the unit.

(c) Each exposed wire fall on a unit must have a cover or means of protection from damage or fouling.

(d) The winch controls on the unit must be located where the operator can observe the lifeboat launching.

§ 108.508 Launching equipment for davit launched inflatable liferafts.

(a) Each unit must have the following launching equipment at each launching station:

(1) Winches that are approved by the Commandant (G-MMT).

(2) Mechanical disengaging apparatus that is approved by the Commandant (G-MMT).

(3) Davits that are approved by the Commandant (G-MMT).

(4) Load bearing components that meet §§ 108.507(a)(5), 108.507(c), and 108.509.

(5) A means to hold the liferaft in a location that allows a person to enter the liferaft.

(6) A means to rapidly retrieve the falls if the station has more than one liferaft.

(b) The launching equipment must be capable of being operated by a person in the liferaft and a person on the unit.

(c) The winch controls on the unit must be located where the operator can observe the liferaft launching.

(d) The launching equipment must be arranged so that a loaded liferaft does not have to be lifted before it is lowered.

(e) Not more than two liferafts may be launched from the same set of launching equipment.

§ 108.509 Wire fall fleet angle.

(a) "Fleet angle" is the angle made by two lines that intersect at the center of the sheave. One line is perpendicular to the axis of the drum and the other passes through either end of the drum at its axis.

(b) The portion of a wire fall between the drum of a winch on a unit and the first sheave over which the wire fall passes must have a fleet angle that is less than 8 degrees if the drum is a grooved drum and less than 4 degrees if the drum is a nongrooved drum.

§ 108.510 Hydrostatic releases.

Each inflatable liferaft that is not intended for davit launching must have—

(a) A hydrostatic release approved under Subpart 160.062 of this chapter; or

(b) A means to ensure that the liferaft will float free if the unit sinks.

§ 108.511 Lifeboat and liferaft arrangement.

The lifeboats and liferafts on a unit must be arranged—

(a) To provide ready access to them;

(b) So that a fire or other casualty does not immobilize all lifeboats and liferafts;

(c) So that they are accessible for inspection, maintenance, and testing;

(d) In locations clear of overboard discharge lines, propellers, and hull obstructions; and

(e) In locations to launch as designed.

§ 108.514 Life preservers.

(a) Each unit must have enough adult life preservers for 125% of the persons allowed on board.

(b) Each unit must have lockers, boxes, closets, shelves, or racks in readily accessible locations in berthing areas, watch stations, or other work areas for the stowage of life preservers. The stowage containers must not be capable of being locked.

(c) Each life preserver on a unit must be approved under Subpart 160.002, 160.005, or 160.055 of this chapter as a Type I—personal flotation device.

(d) Each life preserver on a unit must have a whistle that is—

(1) Of a ball-type;

(2) Corrosion resistant; and

(3) Attached to the life preserver by a 1 meter (3 foot) lanyard that—

(i) Does not have hooks, snaps, clips, or other metal connecting devices;

(ii) Allows the whistle to extend at least 38 centimeters (15 inches) from the top of the life preserver; and

(iii) Is coiled and bound with breakable thread.

§ 108.515 Ring life buoys.

(a) Each unit must have at least eight ring life buoys and mounting racks.

(b) Each ring life buoy on a unit must—

(1) Have a mounting rack that secures the buoy and allows it to be easily removed from the rack;

(2) Be approved under Subpart 160.009 or 160.050 of this chapter.

(c) At least four ring life buoys on a unit must each have a waterlight attached to the buoy by a 1 to 2 meters (3 to 6 foot) lanyard. Each waterlight must be approved under Subpart 161.012 of this chapter.

(d) At least two ring life buoys that have water light must each—

(1) Have a smoke signal approved under Subpart 160.057 of this chapter that self-activates when the ring life buoy is released from its mounting rack;

(2) Have a releasing mechanism that can be operated from the bridge, except that if the bridge is not continuously manned the mechanism must be capable of operation from a location authorized by the OCMI; and

(3) Be mounted in a location where the buoy, if released by the releasing mechanism, will drop into the water.

(e) At least one ring life buoy on each side of the unit, excluding those required by paragraph (d), must have a buoyant line attached to the buoy that is 1½ times the distance from the buoy to the design waterline of the unit or 15 fathoms in length, whichever is greater. The end of the line must not be secured to the unit.

(f) Each ring life buoy on a unit must be readily accessible to persons on board.

§ 108.517 Line throwing appliance.

(a) Each unit on an international voyage must have at least one impulse projected rocket type line throwing appliance that is approved under Subpart 160.040 of this chapter.

(b) Each unit not on an international voyage must have—

(1) An impulse projected rocket type line throwing appliance that is approved under Subpart 160.040 of this chapter; or

(2) A shoulder type line throwing gun approved under Subpart 160.031 of this chapter.

§ 108.519 Portable radio apparatus.

Each unit on an international voyage must have a portable radio apparatus that meets the requirements of the Federal Communications Commission.

§ 108.521 Distress signals.

(a) Each unit must have at least 12 hand held, rocket-propelled, parachute, red flare, distress signals. Each distress signal on a unit must be approved under Subpart 160.036 of this chapter.

(b) Each distress signal must be stowed in a portable, watertight, and noncorrosive container on the bridge or, if the unit does not have a bridge, in the control room.

§ 108.523 EPIRB.

Each self-propelled unit must have an Class A emergency position indicating radio beacon (EPIRB). Each EPIRB on a unit must be approved under Subpart 161.011 of this chapter.

§ 108.525 Means of embarkation.

(a) Except as provided in paragraph (c), each unit must have a chain suspension ladder approved under subpart 160.017 of this chapter for each lifeboat and liferaft launching station.

(b) Each chain suspension ladder must extend to the unit's lightwaterline the unit at a 15 degree list away from the side where the ladder is installed.

(c) If a chain suspension ladder cannot be supported against a vertical flat surface, a fixed ladder must be installed; however no more than four fixed ladders are required.

(d) Each inclined fixed ladder must—

(1) be at least 71 centimeters (28 inches) wide; and

(2) have a pitch of 50° or less.

(e) Each vertical fixed ladder must meet the requirements of § 108.160 for Fixed Ladders, except that vertical bars in cages must be open at least 50

centimeters (20 inches) on one side for the length of the ladder.

§ 108.527 Additional means of abandonment.

Portable slides, safety booms, moveable ladders, elevators, and other means of abandonment may be installed if approved by the Commandant.

Subpart F—Cranes and Power Operated Industrial Trucks

CRANES

§ 108.601 Crane design.

(a) Each crane and crane foundation on a unit must be designed in accordance with the American Petroleum Institute Specification for Offshore Cranes, API Spec. 2C, Second Edition, February, 1972 (with supplement 2).

(b) In addition to the design requirements of paragraph (a), each crane must have the following:

(1) Each control marked to show its function.

(2) Instruments with built-in lighting.

(3) Fuel tank fills and overflows that do not run onto the engine exhaust.

(4) No gasoline engines.

(5) Spark arrestors fitted on engine exhaust pipes.

POWER OPERATED INDUSTRIAL TRUCKS

§ 108.611 Power operated industrial trucks: definition.

For the purposes of § 108.613 through § 108.615, "power industrial truck" means a tractor, lift truck, or specialized industrial truck used for material handling on a unit.

§ 108.613 Power operated industrial trucks.

(a) Each power operated industrial truck used on a unit must have a type designation as follows:

(1) "E"—electrically powered trucks that have safeguards against inherent sources of ignition.

(2) "EE"—electrically powered trucks that have the requirements for "E" trucks, and completely enclosed electric motors and equipment.

(3) "EX"—electrically powered trucks whose electrical fittings and equipment are designed, constructed, and assembled to permit the trucks to be used in atmospheres containing flammable vapors or dusts.

(4) "D"—diesel powered trucks that have safeguards against inherent sources of ignition.

(5) "DS"—diesel powered trucks that are provided with safeguards to the exhaust, fuel, and electrical systems not provided on a "D" truck.

(b) Each power operated industrial truck used on a unit must be approved

and designated by a testing laboratory listed in paragraph (c) of this section.

(c) The following testing laboratories are accepted for the purposes of this section:

(1) Underwriters' Laboratories, Inc., P.O. Box 247, Northbrook, Illinois, 60092.

(2) Factory Mutual Laboratories Engineering Division, 1115 Boston Providence Turnpike, Norwood, Massachusetts 02062.

(d) Each power operated industrial truck used on a unit must have at least the following safety features:

(1) A warning device that can be heard above normal background noises.

(2) A driver's overhead guard if, during normal operations, the operator may be exposed to falling objects.

(3) If the truck has a fork lift—

(i) A vertical load back rest extension or rack to prevent the load from falling toward the driver when the mast is in a position of maximum backward tilt;

(ii) A means of securing the forks to the carriage to prevent unintentional lifting of the toe;

(iii) A means of securing fork extensions and other attachments to prevent lifting or displacement on the primary forks; and

(iv) A factor of safety for the forks of at least three to one, based on the elastic limit of the fork material.

(4) Guards on each exposed wheel to prevent the wheel from throwing particles at the operator.

(5) Steering controls that are—

(i) Within the clearances of the truck; or

(ii) Guarded so that movement of the controls will not result in injury to the operator when the truck is passing an obstruction.

(e) A steering knob may be mounted within the perimeter of the wheel, if used on a steering mechanism that allows the wheel to spin as a result of road action. The steering knob must be—

(1) A mushroom type that engages the palm of the operator's hand; or

(2) Arranged in some other manner to prevent injury to the operator.

§ 108.615 Charging facilities for battery powered industrial trucks.

Each supply or charging circuit for charging batteries of powered industrial trucks must be connected to the truck by a portable plug that is—

(a) Break away type; and

(b) Connected to the charging outlet so that any movement of the truck away from the charging station—

(1) Breaks the connection;

(2) Does not expose any live parts to contact with a conducting surface or object; and



OOO Guidance Document USCG-052318 Rev. 1 Life Rafts on SPARS

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1 Overview

Coast Guard inspectors have raised concerns about the installation of life rafts on certain SPAR type platforms. Two issues that were highlighted involved rafts not stowed near the rail to facilitate manual launching as required and the potential risk of rafts becoming entrained in the topsides structure if the unit sank. The Coast Guard and members of the OOC met to discuss these issues on March 27, 2018 at the OOC offices in Kenner, LA. At the conclusion of that meeting, the Coast Guard requested the OOC draft a guidance document that helps detail the most suitable stowage locations for life rafts on SPAR type floating OCS facilities.

2 Relevant Requirements and Regulatory History

The relevant Coast Guard requirements for the installation of life rafts on a floating offshore installation (FOI) are found in 46 CFR 108.525(a)(2) and 108.530(c). These requirements were revised as part of an Interim Rule (CGD 84-069) on May 20, 1996. A major part of this rulemaking was the incorporation of SOLAS Chapter III and the 1989 MODU Code into Coast Guard regulation to harmonize Coast Guard requirements with SOLAS. This is an important point because; 1) SOLAS regulations do not apply to FOIs, and 2) the Coast Guard has never developed regulations specific to FOI design and operation. Instead, the Coast Guard has required FOIs to comply with certain regulations in Subchapter I-A for U.S. Flag MODUs. The application of traditional vessel-based regulations on FOIs can be problematic and is not always appropriate. Further, a review of the Interim Rule did not indicate this specific issue was raised during the comment period. This is likely due to the fact only two SPAR hulls pre-date the October 1996 implementation date of this rulemaking and neither were in operation at the time.

3 Coast Guard Concerns

The Coast Guard feels that the installation of inflatable life rafts on top of the SPAR hull may compromise the ability of the rafts to float-free should the unit sink in a nearly vertical manner, thus potentially causing the rafts to become entrained in the topsides structure as the unit sinks. The Coast Guard was also concerned that some operators installed the rafts well inboard of the rail and that this could make it more difficult to manually launch the rafts. Rafts installed in this manner do not comply with the regulations in 46 CFR 108.530(c).

4 Operator Concerns

Operators of SPARs with this type of life raft arrangement have concerns about relocating the life rafts to a higher and more outboard location for the following reasons:

1. Moving a raft to a higher location may exceed the raft's approved drop/mounting height and would require the operator to procure the appropriately rated rafts.
2. Moving a raft higher and outboard of the hull (i.e. to the outer edge of the lower deck of the topsides) puts the raft in a less protected location from fire and explosion and could place it further away from established egress routes. Installing rafts in positions closer to the production train also puts them closer to the most likely fire and explosion hazards and would likely render them unusable.



3. Moving rafts higher and outboard of the hull presents additional issues with the safe deployment and boarding of the rafts due to the fact personnel would normally be egressing via the fixed ladders on the hull all the way to the water. If the rafts were moved to the outboard edge of the topsides structure, it is not clear how personnel would be able to safely board those rafts. In this scenario, the OOC feels this creates many more problems than it attempts to resolve. As an example, should personnel begin to evacuate the unit via the required means of egress towards the water, they would end up below the location of the rafts. Personnel would need to transit back towards the hazard or remain in the proximity of the hazard to manually deploy the rafts.
4. Industry feels that moving the life rafts above the SPAR deck does not alleviate the Coast Guard concern for float-free entanglement. The life raft and/or painter could also become entangled in topsides gear or structure following deployment. Marine casualty investigation analysis on traditional sea-going vessels has shown issues with float-free rafts becoming entangled with vessel structure or rigging even though they were otherwise properly installed. A float-free arrangement is the least susceptible to entrapment and entanglement but is also largely influenced by the manner in which the vessel sinks and other environmental conditions.

5 Recommendations

The OOC feels that the installation of life rafts in a float-free arrangement on top of a SPAR hull, on or outboard of the rail to facilitate manual deployment in compliance with 46 CFR 108.530(c), is the most suitable location for the following reasons:

1. The deck located above the SPAR deck serves as a hard barrier against fire and explosion. Loss of primary containment resulting in explosion or fire is a more likely risk scenario for which the facility needs to have adequate means of evacuation should that incident render some or all life boats unusable or inaccessible. Placing the life rafts on or within the topsides structure increases the risk and likelihood that the life rafts could be damaged by a fire and explosion incident. Mounting them on top of the hull puts the rafts closer to the water level and able to be more easily deployed from the unit so that personnel can safely board them via the hull egress ladders.
2. Primary egress and secondary egress are either of the two required life boat locations. Life rafts are considered as supplementary to tertiary egress via the fixed ladders to the water. This egress route offers better protection for the platform crew. Rafts located as close to these egress points as possible increases the likelihood of successful evacuation without personnel having to enter the water.
3. The OOC recognizes the Coast Guard's concern that there is a *potential* risk of rafts becoming entrained in the topsides should a platform sink. However, the OOC does not feel this to be realistic as the most common damage stability scenarios indicate while a SPAR would most likely sink in the vertical, it would do so very slowly. This would provide ample time for any crew who needed to egress via the fixed ladders to manually deploy the rafts from the top of the SPAR hull well before they would float-free as designed. The rapid sinking of a SPAR in a manner that would compromise the ability of properly installed life raft to float-free unencumbered is not seen as a credible risk.



4. In the most extreme case, catastrophic hull damage caused by a vessel collision is an event operators mitigate via their emergency response plans. Platform personnel can likely be evacuated via the life boats well before a threat like this matures.

It should also be noted that Coast Guard regulations currently allow at least two SPARs in the GOM to operate without being fitted with life rafts at all as part of their lifesaving equipment because of their date of build. This is a result of how the regulations identified above were developed as they allowed grandfathering for older MODUs. This, again, points to deficiencies in the Coast Guard regulatory construct for FOIs and the pitfalls of attempting to apply regulations better suited for traditional seagoing vessels to FOIs. This should also serve as an indication that lifesaving equipment requirements on offshore production platforms (both fixed and floating) is an issue long overdue for a modern, thoughtful risk assessment.

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