

# **REVIEW OF OIL SPILL RESPONSE VESSELS (OSRV), LIGHTSHIP AND STABILITY**

Procedure Number: C1-20

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## **Purpose**

This Plan Review Guidance (PRG) explains the requirements for seeking plan approval for stability plans and calculations from the Marine Safety Center (MSC) for Oil Spill Response Vessels between 15 and 500 U.S. gross tons that carry recovered oil in bulk in accordance with the below references. (OSRVs of 500 gross tons or more are regulated as tank vessels under the provision of 46 CFR Subchapter D).

## **Contact Information**

If you have any questions or comments concerning this document, please contact the Marine Safety Center (MSC) by e-mail or phone. Please refer to Procedure Number C1-20.

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## **1. Applicability**

This Plan Review Guideline (PRG) is applicable to Oil Field Waste Barges

## **2. References**

- a. [MVI Policy Letter No. 1-95, dated February 13, 1995](#)
- b. [NVIC 3-89, Guidelines for the Presentation of Stability Information for Operating Personnel](#)
- c. [MSC Marine Technical Note 04-95, Light Ship Change Determination](#)
- d. [46 CFR 170, Subpart F, Determination of Lightweight Displacement and Centers of Gravity](#)
- e. [NVIC 17-91, Guidelines for Conducting Stability Tests](#)
- f. [ASTM F 1321, Standard Guide for Conducting a Stability Test \(Lightweight Survey and Inclining Experiment\) to Determine the Light Ship Displacement and Centers of Gravity of a Vessel](#)
- g. [46 CFR 173, Subpart B, Lifting](#)
- h. [46 CFR 173 Subpart E, Towing](#)
- i. [Marine Safety Manual, Vol. II, "Oil Recovery Vessels"](#)

## **3. Definitions**

- a. **Downflooding Point:** The lowest opening on a vessel that allows the entry of seawater into the hull or superstructure of an undamaged vessel due to heel, trim, or submergence of the vessel.

## **4. Content**

- a. Reference (a) is technically superseded by reference (i), however, portions of reference (a) did not cross over completely. Therefore, portions of reference (a) will still be utilized.
- b. Per Figure 10-4 of reference (a), all OSRV's must meet the stability requirements of 46 CFR Subchapter S. Since Subchapter S applies to OSRVs less than 100 gross tons, the intact stability requirements of 46 CFR Subchapter T, Part 178 are generally not applicable, and the simplified stability proof test in that part is not normally allowed as an option to demonstrate adequate stability.
- c. OSRV stability reviews generally fall into one of three categories, depending on the method the submitter uses to establish the acceptable range of loading conditions. The greater this range, the greater the operational flexibility, and the greater complexity required in the stability review/guidance. The three most common methods are listed as follows, in order of increasing complexity:
  - (1) Stability letter with a limited number of specific authorized loading conditions
  - (2) Stability letter (simplified) with approved loading diagram(s)
  - (3) Approved T&S Book, with or without an accompanying stability letter
- d. Regardless of the type of stability review encountered, the basic requirement is that the submitter must clearly demonstrate that each possible loading condition meets the required

stability criteria of 46 CFR, Subchapter S per reference (a). In order to establish a range of acceptable loading conditions, a common technique involves generation of a maximum KG or minimum GM curve. These curves typically plot the maximum KG or minimum GM value on the ordinate axis, against the range of operational drafts on the abscissa. Acceptable curves incorporate values derived from the most stringent governing stability criteria, along with trim considerations.

e. A satisfactory stability review results in operational guidance in the form of a stability letter, and approved vessel loading conditions as indicated above. If the T&S book includes sufficient operational restrictions, instructions, and guidance that would normally be included in a stability letter (see reference (b)), then the MSC may return correspondence approving the T&S book in lieu of a stability letter, noting that the operational instructions in the T&S book must be strictly followed.

f. In addition, stability reviews may be preliminary or final, depending on the basis of the light ship values. Preliminary stability calculations are not required, but at the option of the owner/naval architect they may be submitted before conducting the inclining experiment of the vessel, using assumed light ship values. This is often done to facilitate expedited final stability reviews. Preliminary stability reviews are conducted in the same manner as final stability reviews, except that a stability letter is not generated and all returned items are marked "Examined." Following the inclining experiment of the vessel and calculated results indicating the true light ship of the vessel, a final stability review may be accomplished and a stability letter generated. A new set of stability calculations is not required if the submitter demonstrates that the assumed light ship values closely match those resulting from the incline experiment (see reference (c) for further guidance and acceptable ranges).

g. Has an Application of Inspection been submitted? In general, no plan review may occur until receipt of a copy of the Application of Inspection.

h. Is it clearly stated what is desired from the MSC? Are all plans requiring Coast Guard review and/or approval submitted in triplicate? Are there any special or unusual requests involved?

(1) Ensure the following information have been received ( \* as applicable):

(2) General Arrangements

(3) Lightship values based on calculated results of stability test data

(4) Lines, offsets, or computer disk with hull model

(5) Hydrostatic Tables

(6) Tank Capacity Tables\Plan

(7) Ullage & Sounding Tables

(8) Intact stability calculations

(9) Damage stability calculations\*

(10) Lifting calculations\*

(11) Towing Calculations\*

(12) Trim and Stability (T&S) Booklet, Loading Diagrams, or summary loading conditions\*

i. Verify Lightweight Characteristics utilizing one of the following methods:

(1) Does a sister vessel with known characteristics exist?

- (2) Has an approved procedure and subsequent stability test been performed in accordance with references (d), (e), and (f) and reviewed in accordance with the MSC guidelines for review of Stability Test Results?
- j. For vessels carrying recovered oil in bulk, verify the applicability of tank vessel intact and damage stability requirements by using the attached Tank Vessel Stability Matrix. Note that OSRVs are exempt from 46 CFR 172 Subpart D per 46 CFR 172.060, 33 CFR 157.01(b), and 46 USC 3702.
- k. If the vessel does not carry recovered oil in bulk, refer to other MSC guidelines for review of stability applicable to the appropriate inspection Subchapter of the vessel.
- l. Verify the applicability of the weather criterion of 46 CFR 170.173, Criterion for Vessels of Unusual Proportion and Form. The applicability of this criterion is determined by the Marine Safety Center. The MSC generally requires all self-propelled vessels, other than tugboats, towboats, and vessels with barge shaped hulls, to meet this criteria.
- m. Ensure that the compliance has been demonstrated for all applicable intact and damage stability requirements (refer to MSC guidelines for Tank Vessel Stability for further guidance).
- n. If the vessel is equipped with a crane, ensure compliance with 46 CFR 173, Subpart B (see MSC guidelines for review of Crane Lifting calculations – PRG C1-3).
- o. Ensure that the stability instructions and operating guidance are technically correct and detailed, sufficient, clear, and easy to use, in accordance with reference (b).
- p. The following items will be included in the return correspondence from the MSC, and copies will be provided to the cognizant OCMI and ABS (loadline/stability group):
- (1) Approved light ship weight and location (VCG and LCG).
  - (2) Comment to ABS noting the maximum allowed draft (specify molded or extreme).
  - (3) Comment to ABS to include a statement in the Load Line certificate requiring compliance with the stability letter and approved stability guidance (T&S book, loading diagrams, etc.).
  - (4) If a stability letter is generated, it will contain the appropriate standard phrases and stability instructions (bilges, hull openings, watertight doors, weight changes, slack tank restrictions, etc.). See reference (b) for additional information.
- q. Ensure that the location of downflooding is taken into account for compliance with the stability criteria.
- r. If the towing authorization is requested on the stability letter, ensure compliance with the towline pull criteria of 46 CFR 173, Subpart E (reference (h)).
- s. If damaged stability criteria apply, ensure that the correct assumptions of space permeability, in accordance with Table 174.207(b).

- t. If the unusual proportion and form intact stability criteria is used, ensure that the calculations incorporate the zero trimming moment method, per 46 CFR, 170.173(d).
- u. Ensure that the lesser of the stability limiting draft and Geometry Load Line draft is used for loadline draft and freeboard per 46 CFR, Subpart E.
- v. The following items are indicative of normal MSC plan review:
  - (1) Perform independent calculations to verify values used for free-surface corrections.
  - (2) At respective drafts, compare the displacement and KM values listed in the hydrostatic tables to the values used in corresponding loading conditions.
  - (3) Construct an outer hull model in HECSALV or GHS and generate hydrostatics to compare with those submitted.
  - (4) Independently calculate tank capacities. Compare 100% capacities, and weight loading values and locations to those used in the submitted calculations.
  - (5) Independently generate the required KM or GM curve, using all applicable stability criteria.
  - (6) Construct a full HECSALV or GHS model including all compartments/tanks
  - (7) Analyze different loading conditions of the vessel and compare stability results from the computer model to the submitted stability.

## **5. Disclaimer**

This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is not intended to nor does it impose legally-binding requirements on any party. It represents the Coast Guard's current thinking on this topic and may assist industry, mariners, the general public, and the Coast Guard, as well as other federal and state regulators, in applying statutory and regulatory requirements. You can use an alternative approach for complying with these requirements if the approach satisfies the requirements of the applicable statutes and regulations. If you want to discuss an alternative, you may contact MSC, the unit responsible for implementing this guidance.

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16711/2  
MVI Policy Ltr No. 7  
FEB 13 1995

From: Commandant  
To : Distribution

Subj: OIL SPILL RESPONSE VESSELS (OSRVs)

Ref : (a) Commandant, MVI Policy Ltr No. 03-92 of 3 March 1992

1. This Policy Letter provides revised guidance on the inspection and certification of OSRVs. It supersedes the guidelines established in MVI Policy Ltr No. 03-92 and 4-94. Although superseded, Policy Ltrs No. 03-92 and 7-91 should be retained to serve as reference for OSRV construction standards as discussed in paragraph 6 below.

2. This policy change is the result of comments received from the response community, Coast Guard field offices, and the American Bureau of Shipping. Several members of the response community have indicated that they do not intend to respond to oil spills unless the oil spilled is Grade D or lower or has weathered to an equivalent of Grade D. As such, they consider a Grade B design criteria established by previous policy letters as inappropriate for all OSRVs. Other members have indicated that they intend to respond immediately to all types and grades of oil. We agree with the industry comments that the Grade B design criteria is unnecessary for vessels responding to oil spills of a non-volatile nature (Grade D and lower or has weathered to an equivalent of Grade D). Based on this input we have revised our policies. This allows vessels to be built to safety standards commensurate with the grade of oil they plan to recover taking weathering into consideration. This revised policy expands the standards for construction and inspection which includes these additional categories of vessels.

3. Reference (a) established inspection criteria for dedicated OSRVs. Questions were raised regarding inspection requirements for non-dedicated OSRVs. These are vessels that are not certificated to Title 46, Code of Federal Regulations (CFRs), Subchapter D - Tank Vessels, and are routinely used in services other than oil spill response. Since the operation of these vessels during a response will subject them to the same type of hazards as dedicated OSRVs, the provisions of this policy are extended to non-dedicated OSRVs.

Subj: OIL SPILL RESPONSE VESSELS (OSRVs)

4. The primary safety consideration for OSRVs is the risk associated with the handling of flammable or combustible liquids. This change is in keeping with the regulatory scheme used in reference (a). As an alternative to meeting all of the requirements contained in 46 CFR, Subchapter D - Tank Vessels, this change incorporates appropriate inspection standards from 46 CFR, Subchapter T - Small Passenger Vessels, or 46 CFR, Subchapter I - Cargo and Miscellaneous Vessels and 46 CFR, Subchapter J - Electrical Engineering Standards with portions of Subchapter D to establish new minimum standards for OSRVs less than 500 gross tons. OSRVs of 500 gross tons or more will continue to be regulated as tank vessels under the provisions of 46 CFR Subchapter D.

5. Enclosure (1) is the Coast Guard policy for OSRVs and will be incorporated in a future revision to Volume II of the Marine Safety Manual (MSM).

6. This policy identifies OSRVs of less than 500 gross tons that recover oil as a special class of vessel beyond the scope of the current regulatory scheme. A regulatory project has been initiated to formalize the policy of enclosure (1) into a rulemaking. Realizing that several vessels have already been built or converted to previous policies, the implementation plan of this policy is as follows:

a. All OSRVs with contract dates for conversion or construction following the date of this Policy Letter may meet the criteria in enclosure (1) in lieu of 46 CFR, Subchapter D.

b. All OSRVs built or converted to the guidance contained in MVI Policy Ltr No. 03-92 may continue service without alterations.


c. Existing OSRVs built or converted based upon the policy of MVI Policy Ltr No. 7-91 should be reviewed to the enclosed criteria as soon as possible. Those vessels found not to be in compliance with enclosure (1) should be given appropriate time to comply by the cognizant Officer-in-Charge, Marine Inspection (OCMI). These vessels may be operated in the interim but should be brought into compliance no later than 31 January 1998. If disputes arise regarding an existing vessel design, the matter should be forwarded to Commandant (G-MVI) for resolution following normal appeal procedures.

d. Existing OSRVs that were inspected for certification prior to MVI Policy Ltr No. 7-91, should continue to be inspected. These vessels may continue operations for the grade of product for which they were initially authorized. These vessels are not required to meet the inspection standards of enclosure (1) unless they undergo a major conversion or desire authorization to carry a higher grade of recovered oil than the vessel is currently authorized to carry.



Subj: OIL SPILL RESPONSE VESSELS (OSRVs)

e. Nothing in this policy is meant to prevent the On-Scene Coordinator for a spill response, from exercising their authority to use available Craft of Opportunity to respond after consideration of the circumstances of each recovery operation.



G. M. WILLIAMS  
By direction

Encl: (1) Oil Spill Response Vessel Policy Guidance

Distribution: All District (m) Offices; MSC; MSS

## OIL SPILL RESPONSE VESSELS (OSRVs)

1. Introduction. It is the Coast Guard's intention to encourage cooperatives, state and local agencies, and private response organizations to make OSRVs available in the event of an oil spill. The Coast Guard must ensure that these vessels are safe for the intended service. OSRVs responding to higher grade oil spills are at a higher risk of exposure to flammable vapors than vessels responding to lesser grades. An inspection policy is necessary that recognizes the special nature of these vessels and provides appropriate alternative inspection standards for them. This inspection policy addresses requirements for OSRVs in both operating scenarios.

### 2. Background.

- a. Vessels carrying more than limited quantities of oil (over 20% of the deadweight tonnage) have normally been inspected as tank vessels. However, many of the regulations in Subchapter D are inappropriate for smaller recovery vessels. Therefore, Commandant (G-MVI) has determined that OSRVs, less than 500 gross tons, that retain or carry recovered oil, should not be subject to the limited quantity provision, nor should they be considered tank vessels for inspection purposes.
- b. Recovered oil is spilled oil that has been removed from the water or transferred as a result of lightering to mitigate a potential spill. Inspection standards for OSRVs are based on the grade of oil they intend to recover. It is likely that the grade of oil recovered will be less than the grade of oil spilled, based on such factors as; extent of weathering, distance from spill site, spill thickness, etc. The characteristics of the oil should be evaluated during the site safety assessment to determine the appropriate type of OSRV that should be used.
- c. OSRVs dispensing fuel during a spill response are technically considered tank vessels. However, many OSRVs are outfitted to provide this service during a spill response. Recognizing the logistical need for this service during a response warrants treating these vessels similar to Offshore Supply Vessels (OSVs) and not requiring full compliance with the provisions of 46 CFR Subchapter D.
- d. The exigencies of a spill response may require the On-Scene Coordinator (OSC) to consider using other vessels that are not designed for oil spill response, to mitigate the impact of a spill. These vessels are considered "Craft of Opportunity". Craft of Opportunity may include inspected vessels, uninspected work boats, fishing industry vessels, tugboats and work/support barges. Paragraph 7. contains guidance for these vessels.

Enclosure(1)

### 3. General Requirements.

- a. With the exception of small skimming vessels and small barges less than 15 gross tons, and dracones which are considered "equipment" for inspection purposes, all other OSRVs that carry recovered oil in bulk as a consequence of response operations are required to be inspected or examined. With the exception of dracones used only in spill response, all OSRVs are subject to the vessel documentation requirements contained in 46 CFR, Part 67.
- b. Since OSRVs must be able to respond to a wide variety of spill scenarios, personnel exposure to toxic atmospheres is a consideration. The level of respiratory protection required will be as determined by the OSC and outlined in the site safety plan.
- c. Plan review and inspection of new construction and conversions of OSRVs by the American Bureau of Shipping (ABS) on behalf of the Coast Guard is allowed in accordance with Navigation and Vessel Inspection Circular (NVIC) No. 10-82, Change 2, "Acceptance of Plan Review and Inspection Tasks Performed by ABS for New Construction or Major Modifications of U.S. Flag Vessels."

### 4. Inspection Criteria for Vessels Under 500 Gross Tons.

Three primary categories are established for OSRVs less than 500 gross tons.

- a. Small Skimming Vessels. These are small vessels including barges, less than 15 gross tons. They may have the capability of storing recovered oil on board. They may have propulsion capability which is primarily used to maneuver on-scene. Skimmers typically work in conjunction with other vessels. These vessels will not be examined or inspected for certification. However, since many skimmers have electrical equipment or internal combustion machinery on board for the purpose of operating recovery machinery, there may be hazardous location considerations. Figure 10-4 identifies standards based on grade of oil to be recovered above those of the uninspected vessel regulations for skimmers.
- b. Small Recovery Vessels. These are vessels over 15 gross tons but less than 100 gross tons. They can be self-propelled and may house workers aboard. They have either independent or integral recovered oil tanks that retain recovered oil in bulk. These vessels must be inspected for certification. The requirements of 46 CFR Subchapter T are used as the primary inspection subchapter. Limited sections of Subchapters D and J will be applied as identified in Figure 10-4.

4.c. Recovery Vessels. These are vessels between 100 and 500 gross tons. They have integral or fixed independent tanks that retain recovered oil in bulk. Also, because of their size, they may be expected to remain away from port for extended periods. These vessels must be inspected for certification. The regulations of 46 CFR, Subchapter I are used as the primary inspection standard. Subchapters D and J standards similar to those required for vessels of less than 100 gross tons apply to the recovery aspect of these vessels. Figure 10-4 outlines inspection criteria for these vessels.

5. Inspection Criteria for Vessels 500 Gross Tons and Above. With the exception of Army Corps of Engineers dredges (see paragraph 6 below) OSRVs above 500 gross tons carrying recovered oil in bulk shall be inspected as tank vessels for the carriage of the grade of oil they intend to recover using the inspection standards in Subchapter D. Additionally, OSRVs that are dedicated to oil spill recovery operations are not required to have double hulls. These vessels must meet the remainder of the requirements in 33 CFR 155, 156, and 157.

6. Open Hopper Dredges. Commandant (G-MVI) has granted conceptual approval to the Army Corps of Engineers to modify inspected hopper dredges to perform oil recovery operations. Since the cargo space is not enclosed on the top, these dredges will be restricted to carrying recovered oil that is equivalent to Grade D and below. Electrical installations in the vicinity of the hopper must be suitable for hazardous locations. Also, there must be a foam blanketing system for the hopper space to extinguish a fire and, if needed, to control vapors. Additionally, sensing equipment must be installed in all machinery and ventilation intakes to detect the accumulation of hazardous vapors. Although these dredges are above 500 gross tons, they may remain certificated under Subchapter I. Questions about the application of specific regulations to these vessels should be directed to Commandant (G-MVI).

7. Craft of Opportunity. In the event of a shortage of inspected OSRVs during a oil pollution incident, the exigencies of the response may necessitate the use of other vessels. Generally, the use of these vessels should only be considered when the OSC has determined that the product spilled does not pose a vapor hazard. Craft of Opportunity authorized to carry oil in bulk as cargo are allowed to carry recovered oil of the same grade in the cargo tanks provided the hazardous location considerations in Figure 10-4 are satisfied. Examples include inspected non-tank vessels, (freight, OSV, etc.) with existing cargo oil endorsements or fishing industry vessels with valid Letters of Compliance in accordance with 46 CFR, Part 105. Other Crafts of Opportunity are identified in the categories below:

7.a. Work Boats.

- (1) These may consist of fishing industry vessels, tugs, and miscellaneous uninspected craft. These craft may be used for logistical and certain clean up functions during the initial response (e.g., tending or deploying boom and skimming equipment, recovering oiled debris, collecting garbage, and ferrying passengers) as needed. Vessels engaged in skimming operations should meet the appropriate sections of paragraph 4. above.
- (2) The OCMI may examine work boats to ensure that no significant safety problems exist. Examinations of craft of opportunity may be conducted on an as-needed basis. This examination should include general condition of the vessel's hull structure, and compliance with uninspected vessel regulations. The OCMI may accept fishing industry vessels displaying the voluntary fishing vessel safety examination sticker as demonstrating compliance with 46 CFR, Part 28. If uninspected vessels have been placed in traditionally inspected vessel roles every effort must be made to replace them with inspected vessels as they become available.

- b. Hotel Barges. Unless permanently moored, these vessels must be inspected as passenger barges. Permanently moored barges must be so designated by the cognizant OCMI. Hotel barges may not be used to store fuel for use by other vessels.
- c. Work/Support Barges. Depending upon the circumstances of the response situation, the OCMI may wish to conduct a safety examination of barges not, otherwise, required to be inspected. The focus of the safety exam will be to confirm the adequacy of lifesaving devices, fuel systems, and fire-fighting equipment.

8. Endorsements on the COI. OSRVs certified to recover and retain oil in independent or integral tanks shall have a COI or a COI endorsement as an oil spill recovery vessel. Dual COI endorsements are authorized for non-dedicated OSRVs. The COI for dedicated OSRVs will be valid for a period of two years. The duration of the COI for non-dedicated OSRVs will remain consistent with the vessel's primary inspection subchapter. Drydockings and recovered oil tank internal inspections shall be conducted in accordance with 46 CFR Subchapter D for dedicated OSRVs and the primary inspection subchapter for non-dedicated OSRVs. The route endorsement shall be as broad as possible, consistent with considerations of seaworthiness. OSRVs may be expected to respond to pollution incidents at great distances from their home ports, often in open sea conditions. When engaged in recovery operations, they are normally in close proximity to other vessels. In most cases, a restricted route is neither desirable nor necessary. The COI should be endorsed for the grade and quantity of oil the vessel is designed to recover. OSRVs employing continuous atmospheric monitoring in lieu of meeting the spill surface hazardous location criteria shall have a restriction placed on the COI which indicates the vessel may not operate in a hazardous location.

FIGURE 10-4 OIL SPILL RESPONSE VESSEL REQUIREMENTS MATRIX

VESSEL TYPE	SKIMMING VSL & BARGES < 15GT			SMALL RECOVERY ≥ 15 & < 100 GT			RECOVERY VESSELS ≥ 100 & < 500 GT		
	B&C	D	E	B&C	D	E	B&C	D	E
PLAN SUBMITTAL	X	X	--	X <sup>1</sup>	X <sup>1</sup>	X <sup>2</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>4</sup>
HAZARDOUS LOCATIONS <sup>5</sup> 46 CFR 111.105	6,7 X <sup>8</sup>	7, X <sup>8</sup>	X <sup>9</sup>	6,7 X <sup>8</sup>	X <sup>7,8</sup>	X <sup>9</sup>	6, X <sup>8</sup>	X <sup>8</sup>	X <sup>9</sup>
OIL TRANSFER SYSTEM <sup>10</sup> 46 CFR 32.50-15	X	X	X	X	X	X	X	X	X
TANK VENTING 46 CFR 32.55-20	X	X	X	X	X	X	X	X	X
SEGREGATION OF OIL TANKS 46 CFR 32.60-10	--	--	--	X <sup>11</sup>	X <sup>11</sup>	X	X <sup>11</sup>	X <sup>11</sup>	X
PUMPROOM VENTILATION 46 CFR 32.60-20	--	--	--	X	X	X	X	X	X
STRUCTURAL FIRE PROTECTION	--	--		12,13 X <sup>14</sup>	--	--	X <sup>12</sup>	--	
ACCOMMODATION & MACHINERY VENTILATION	--	--	--	15, X <sup>16</sup>	--	--	X <sup>15</sup>	--	--
FIXED EXTINGUISHING <sup>17</sup> SYSTEMS 46 CFR 34.05-5	--	--	--	X	X	X	X	X	X
FIRE PUMP AND FIRE MAIN	--	--	--	X <sup>18</sup>	X <sup>18</sup>	X <sup>18</sup>	X <sup>19</sup>	X <sup>19</sup>	X <sup>19</sup>
FIRE EXTINGUISHERS	X <sup>20</sup>	X <sup>20</sup>	X <sup>20</sup>	X <sup>21</sup>	X <sup>21</sup>	X <sup>21</sup>	X <sup>22</sup>	X <sup>22</sup>	X <sup>22</sup>
LIFE SAVING	--	--	--	X <sup>23</sup>	X <sup>23</sup>	X <sup>23</sup>	X <sup>24</sup>	X <sup>24</sup>	X <sup>24</sup>
STABILITY <sup>25</sup> 46 CFR SUBCHAPTER S	--	--	--	X	X	X	X	X	X
POLLUTION PREVENTION <sup>26</sup> 33 CFR SUBCHAPTER O	X	X	X	X	X	X	X <sup>27</sup>	X <sup>27</sup>	X <sup>27</sup>
HELICOPTER PLATFORMS <sup>28</sup>	--	--	--	X	X	X	X	X	X

<sup>1</sup> Hazardous location drawings, and those plans required by 46 CFR Sub T and the OCMI.

<sup>2</sup> Those plans required by 46 CFR Sub T and the OCMI.

<sup>3</sup> Hazardous location drawings, and those plans required by 46 CFR Sub I, NVIC 8-84 and the OCMI.

<sup>4</sup> Those plans required by 46 CFR Sub I, NVIC 8-84 and the OCMI.



- 5 Belt driven equipment must use conducting belts, pulleys and shafts. Geared equipment must have non-sparking gears. Engine exhausts must be fit with spark arresting mufflers. The exhaust for Grade B & C vsl should terminate outside of hazardous locations. Wet exhaust systems that may introduce oil into the exhaust gas stream should be avoided. Hot surfaces should be maintained below 220°C (428° F). Open flame cooking equipment should not be permitted. Vessels certified for grades B-D must have one portable combustible gas indicator.
- 6 Oil spills of Grade C and above may present a waterborne vapor hazard. Any area within 3 meters of the spill surface is treated as a hazardous location. Continuous atmospheric monitoring using portable or fixed gas detection instruments in lieu of meeting the spill surface hazardous location criteria is acceptable. OSRVs employing monitoring should not enter areas where airborne flammable vapor concentrations may exceed acceptable levels. OSRV manning should reflect continuous monitoring.
- 7 Electrical Equipment may be ignition protected or spark ignition proof, as listed/certified by UL 1500 or SAE J1171.
- 8 Title 46 CFR 111.105-31, except 111.105-31 (1)(2).
- 9 Title 46 CFR 111.105-29.
- 10 Recovered oil transfer system may be portable provided it is electrically continuous and meets 46 CFR 32.50-15. Other methods may be accepted by Comdt. on a case-by-case basis. Piping is not permitted in the engineroom unless it is fully welded with no source of leakage or the system conveys Grade E liquids only.
- 11 Cofferdams may be in the form of voids, ballast tanks, dry stores, recovered oil handling rooms, fuel oil tanks, and dispersant tanks. Berthing spaces should not be located directly above and contiguous with cofferdams that are either oil handling spaces or located adjacent to recovered oil tanks. OSRV barges may meet the requirements of 46 Subchapter D
- 12 Accommodations/service spaces are not permitted over recovered oil tanks but may be forward of the tanks. Insulation of the bulkhead facing recovered oil tanks and openings in the superstructure/deckhouse are subject to 46 CFR 32.56. Openings are allowed in the superstructure/deckhouse facing the tanks provided they are at least one deck above the tank deck, and located at least 3 meters away from the recovered oil tank vertical plane and 3 meters from sources of vapor leakage. Additionally, openings are allowed in exterior boundaries facing the tank deck provided an air lock system meeting 46 CFR 154.345 (b)(1), (2), (4), (5), (6), is employed. When openings face the tank deck an alternate means of escape shall be provided away from the tanks.
- 13 Footnote 12 is only applicable to vessels with overnight accommodations.
- 14 Where the physical size of the vessel precludes the access arrangements of Footnote 12, accesses must be located as far as reasonable and practicable from the oil tank block.
- 15 Gas safe spaces must have positive pressure ventilation and self closing doors. Ventilation system must be independent of those serving hazardous locations. Ventilation intakes shall be located in a gas safe area.
- 16 Where the physical size of the vessel precludes ventilation intakes meeting Footnote 15, the OCMI may consider the installation of a fixed flammable gas detection system as an equivalent.
- 17 Fixed extinguishing systems iaw 46 CFR 34.05-5 are required except a fixed deck foam system is not required.
- 18 Vessels shall meet the requirements of Title 46 CFR 34.10-5 or be provided with a power driven fire pump and fire stations(s) meeting the requirements of 46 CFR 181.10-1 (c).
- 19 Shall meet the requirements of 46 CFR Part 95.

- 20 Manned skimmers of less than 26 feet in length should be provided with two B-I portable fire extinguishers.
- 21 Portable fire extinguishers iaw 46 CFR Sub T and Table 46 CFR 34.50-10(a), to satisfaction of OCMI.
- 22 Portable fire extinguishers iaw 46 CFR Sub I and Table 46 CFR 34.50-10(a), to satisfaction of OCMI.
- 23 Lifesaving equipment iaw 46 CFR Sub T, stowed as far as practicable outside of hazardous locations.
- 24 Lifesaving equipment iaw 46 CFR Sub I, stowed as far as practicable outside of hazardous locations.
- 25 Vessels fit with cranes and/or equipped for towing are subject to the Lifting Criteria of 46 CFR Subpart B and Towline Pull Criteria of 46 CFR Subpart E.
- The damage stability requirements of 33 CFR 157.21 do not apply.
- 26 All vessels are subject to the requirements of 33 CFR Subchapter O. Coamings must be provided to prevent oil on deck from entering machinery, accommodation or service spaces.
- 27 Oceangoing vessels over 400 GT must be surveyed in accordance with MARPOL (33CFR 151.17 and NVIC 9-86). A Form A survey should be issued to surveyed vessels. IOPP certificates will not normally be issued to OSRVs unless they are in full compliance with MARPOL.
- 28 Helicopter decks must be located at least 3 meters above the tank deck and at least 3 meters from sources of vapor leakage. Design and installation shall meet 46 CFR 108.233-108.241, 108.486-108.489, Table 108.495 (a) and NVIC 9-81.