



## DoD MANUAL 4715.06, VOLUME 2

# REGULATIONS ON VESSELS OWNED OR OPERATED BY THE DEPARTMENT OF DEFENSE: OIL POLLUTION PREVENTION

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**Purpose:** This manual is composed of several volumes, each containing its own purpose. In accordance with the authority in DoD Directive 5135.02:

- This manual implements policy, assigns responsibilities, and provides procedures for environmental compliance of vessels owned or operated by DoD.
- This volume:
  - Implements Annex I of the 1973 International Convention for the Prevention of Pollution from Ships (MARPOL), including the 1978 MARPOL Protocol, in accordance with the requirements of Section 1902(i) of Title 33, United States Code (U.S.C.).
  - Implements and administers policies for warships, naval auxiliaries, and other public vessels owned or operated by DoD to prevent oil pollution.

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## **SECTION 1: GENERAL ISSUANCE INFORMATION**

### **1.1. APPLICABILITY.** This volume:

a. Applies to OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within DoD (referred to collectively in this volume as the “DoD Components”).

b. Does not apply to those DoD Components that do not:

(1) Own or operate public vessels.

(2) Have shore facilities that service DoD vessels or other authorized vessels.

**1.2. POLICY.** In accordance with the policy in DoD Instruction 4715.06, the DoD will plan, program, and budget to achieve, maintain, and monitor compliance with applicable environmental requirements.

### **1.3. SUMMARY OF CHANGE 4.** This administrative change:

a. Clarifies exemption requirements for DoD vessels established in this volume.

b. Updates gross tonnage (GT) for consistency.

c. Updates the definition of United States for consistency and accuracy.

## **SECTION 2: RESPONSIBILITIES**

**2.1. ASSISTANT SECRETARY OF DEFENSE FOR ENERGY, INSTALLATIONS, AND ENVIRONMENT (ASD(EI&E)).** Under the authority, direction, and control of the Under Secretary of Defense for Acquisition and Sustainment, the ASD(EI&E):

- a. Oversees compliance with the requirements of this volume.
- b. Approves or disapproves requests for additional exemptions from the requirements of this volume.

**2.2. DOD COMPONENT HEADS.** The DoD Component heads:

- a. Implement the procedures in this volume.
- b. Verify that supplemental DoD Component guidance and procedures are in accordance with this volume.
- c. Designate a technical authority to evaluate and approve systems and equipment for installation on vessels.
- d. Administer DoD certification of oil pollution abatement equipment.
- e. Review and coordinate DoD Component-affiliated requests for exemptions from the requirements of this volume.
- f. Establish requirements for DoD shore facilities to ensure collection capabilities (including wastewater collection barges) are available to support implementation of the requirements in this volume.

**2.3. SECRETARIES OF THE MILITARY DEPARTMENTS.** In addition to the responsibilities in Paragraph 2.2., the Secretaries of the Military Departments:

- a. Program, budget, and account for funds necessary to train personnel and install appropriate oil pollution abatement equipment aboard vessels and at port facilities under their authority.
- b. Develop, procure, and install appropriate oil pollution abatement equipment for vessels and port facilities under their authority.
- c. Use the standards in Section 4 of this volume in all specifications for development of vessel design and procurement, as well as for port facility installations under their authority.
- d. Update appropriate operational regulations applicable to vessel commanders and vessel masters, specifying proper oil pollution abatement procedures for vessels under their authority.

## SECTION 3: REQUIREMENTS AND EXEMPTIONS

### 3.1. GENERAL. The requirements of this volume:

a. Apply to all active DoD vessels (referred to in this volume as “ships”) that the DoD owns or operates, if their construction and equipment include equal protection against oil pollution, assuming due regard to the service for which the ship is intended. This volume also applies to DoD shore facilities receiving DoD or other authorized ships.

b. Do not apply to hydrofoils, air-cushion vehicles, and submarines, if the construction and equipment of such excepted public vessels include equal protection against oil pollution, assuming due regard to the service for which the public vessel is intended.

c. Set reasonable standards that are consistent with Annex I of the 1973 MARPOL Convention, including the 1978 MARPOL Protocol, in accordance with Section 1902(i) of Title 33, U.S.C., to prevent oil pollution by ships.

### 3.2. EXEMPTIONS.

a. **General Exemptions.** Compliance with Paragraph 4.2.a.(2) is not required when, in the judgment of the commanding officer or master, managing oil; oily mixtures; or oily wastes in accordance with such requirements would adversely influence the ship’s ability to carry out its mission or pose a threat to the safety of the ship or the health, safety, or welfare of the crew or other personnel aboard.

b. **Requests for Additional Exemptions.** Requests for individual ship, ship-class, or shore facilities design and install exemptions will be reviewed and coordinated by the affiliated, lead DoD Component and addressed to the ASD(EI&E) through the chain of command. Exemptions may not be granted for vessel discharges within 12 nautical miles (nm) from the nearest land of the United States that could violate Section 1321 of Title 33, U.S.C. Requests must include technical, performance, cost data, or projected ship or facility inactivation schedules that sufficiently demonstrate that the exemption is warranted based on one or more of the following:

- (1) Potential ship or facility inactivation;
- (2) Impacts to the ship’s operational performance requirements;
- (3) Impacts to the ship’s designed space, weight, or power requirements;
- (4) Retrofitting that is cost prohibitive; or
- (5) For shore facilities, where full compliance is not practical due to infrequent use by ships.

## **SECTION 4: GENERAL REQUIREMENTS**

### **4.1. COMPLIANCE WITH STANDARDS.**

a. Section 1902(i) of Title 33, U.S.C., requires the heads of the federal departments and agencies to provide standards ensuring that ships under their control operate in a manner consistent with Annex I of the 1973 MARPOL Convention, including the 1978 MARPOL Protocol, so far as is reasonable without impairing the operations or operational capabilities of such ships.

b. Ships will comply with the standards in Paragraphs 4.2. through 4.5. to ensure that they operate with due regard to recognized international standards for environmental protection, while not detracting unreasonably from their mission to protect national interest or endangering the health, safety, or welfare of the ship and crew.

c. The standards in Paragraph 4.2. will apply to the operation of ships as specified for each type of ship.

d. The standards in Paragraph 4.3. will apply to the construction of ships and to the installation of oil pollution abatement equipment aboard ships. Comparable fittings, materials, appliances, or apparatus may be fitted in a ship as an alternative to those required by the standards, if they are at least as effective as those so required. Operational methods may be substituted for a design or equipment requirement.

e. The DoD Component will inspect and certify each oiler and oil tanker of at least 150 GT and all other ships of at least 400 GT according to procedures described in Paragraphs 4.4. and 4.5. Inspections that the United States Coast Guard (USCG) completes at the request of the DoD Component are acceptable to meet this requirement.

f. DoD shore facilities, such as oil-loading terminals, will:

(1) Comply with regulations pursuant to Chapter 6 of Annex I of the 1973 MARPOL Convention, including the 1978 MARPOL Protocol, establishing criteria for the adequacy of reception facilities for ports or terminals unless a specific exception is granted, as provided in Paragraph 3.2.

(2) Have oil-transfer hose adapters to allow connection with the North Atlantic Treaty Organization (NATO) Standardization Agreement (STANAG) 4167-compliant fittings, including NATO 100 millimeter (mm) cam-lock quick-disconnect coupling.

(3) Have standard flange specified by the International Maritime Organization (IMO). The IMO flange will have:

(a) A 215-mm outside diameter, a 20-mm thickness, and 6 holes, 22 mm in diameter, equidistantly placed on a bolt circle of 183 mm slotted to the flange periphery. The slot width is to be 22 mm.

(b) An inner diameter sized to fit mating hose or piping and associated bolts and nuts will be 20 mm in diameter and of suitable length.

(c) A flange operating pressure of 6 kilograms per square centimeter.

g. Personnel will be trained in the proper procedures for connecting and disconnecting systems to other ships and shore facilities, transferring oil or oily mixtures, maintaining transfer equipment (including the oil and water separator (OWS) and associated equipment), and responding to oil spills before they may perform or supervise these operations.

h. All DoD oilers and oil tankers of at least 150 GT, and all other ships of at least 400 GT, will develop and maintain a written oil Spill Contingency Plan (SCP). The SCP will have procedures for reporting, containment, control, recovery, and disposal of spilled materials. Since Part 151 of Title 33, Code of Federal Regulations (CFR), does not apply to ships, neither the USCG nor State officials may require the preparation of ship SCPs. DoD will provide ship SCPs to the USCG and State officials on request.

## **4.2. OPERATIONAL STANDARDS.**

### **a. Requirements Applicable to All Ships.**

#### **(1) General.**

(a) The operational standards in this paragraph are described for possible sources of shipboard oil and oily waste discharges, and accommodate various combinations of shipboard oil pollution abatement equipment. Additional standards applicable only to oilers and to oil tankers owned or operated by the DoD Components are provided in Paragraph 4.3.c. Operational standards in Parts 155 and 157 of Title 33, CFR, may be followed instead of the standards listed in Paragraph 4.2.

(b) Ships that operate on the high seas or in MARPOL Annex I Special Areas will comply with the operational standards in this issuance to limit the discharge of oil and oily waste into the world's seas.

1. Discharges, regardless of oil content, that produce a sheen are prohibited within the territorial seas (0–3 nm) and contiguous zone (3–12 nm) of the United States. Ships operating in these waters may process oily waste via an OWS and an oil content monitor (OCM) and discharge the effluent. If a sheen occurs, pumping must halt unless required for the safety of the ship. An investigation of the cause will be made and the problem corrected, if possible.

2. Where a ship has no installed equipment or its installed equipment is inoperable and the conditions meet the criteria of Paragraph 3.2.a., discharges will occur at least 50 nm from the nearest land, outside of MARPOL Annex I Special Areas, while the ship is underway and only if all reasonable efforts have been made to repair an equipment malfunction. If compliance with this limitation would adversely influence the ship's ability to carry out its mission or endanger the health, safety, or welfare of the ship and crew, the discharge should occur as far from land and outside of MARPOL Annex I Special Areas as mission limits allow.

Commanding officers or ship masters will minimize such discharges, and, if practicable, discharge only the water phase of oily waste.

3. Commanding officers or ship masters will comply with Paragraphs 4.2.a.(3) and 4.2.a.(4) for recordkeeping and reporting of discharges, respectively.

(c) Ships that are unable to collect and transfer oily waste for processing through the shipboard OWS system while operating in waters beyond 50 nm from the nearest land may discharge oily waste containing only distillate (non-persistent) oils from isolated spaces, such as JP-5 pump rooms, directly overboard (see Paragraph 4.3.a.(2)). Such discharges will result in minimal quantities of oily waste being discharged.

(d) Chemical agents that promote chemical emulsion of oil will not be intentionally introduced to bilges, oily waste holding tanks (OWHTs), waste oil tanks (WOTs), fuel tanks, or ballast tanks. This requirement does not prohibit the use of these materials in machinery spaces for the purposes of maintaining or cleaning equipment. Bilgewater that contains chemical emulsion agents will not be processed by the OWS but will be held and discharged to appropriate shore receiving facilities.

## (2) Oily Wastes and Waste Oils.

### (a) OWHT and Bilgewater Discharges.

1. The following applies to all areas of operation:

a. Ships equipped with approved OWS systems and OCMs, as specified in Paragraph 4.3., will operate such equipment for processing all bilgewater and OWHT contents before discharging overboard. The separated oil will be stored in shipboard WOTs until it may be offloaded safely ashore.

b. Ships with approved OWS systems, as specified in Paragraph 4.3., will use them to process all bilgewater and OWHT contents before discharging overboard. OWS systems will routinely produce an output of no more than 15 parts per million (ppm) if operating properly and if the oily waste does not contain detergents, emulsifying agents, or solid waste that may clog the separator plates. The separated oil will be stored in shipboard WOTs until it may be offloaded safely ashore.

c. Ships with no or inoperable OWS systems will hold all bilgewater for shore disposal to the maximum extent possible.

d. If operating conditions meet the exemption in Paragraph 3.2.a., ships will comply with Paragraph 4.2.a.(1)(b).

e. Eductors may only be used to dewater bilges only when OWHTs are not available, all reasonable efforts have been made to repair an equipment malfunction, and continuing to hold meets the exemption of Paragraph 3.2.a.

2. Additional requirements apply when within 12 nm from the nearest land.



- a. Ships may have additional requirements under surface vessel bilgewater and oil water separator effluent requirements in Volume 4.
- b. While in port and where there are adequate shore reception facilities, bilgewater and OWHT contents will be held and pumped ashore for treatment.
- c. Where adequate shore waste collection lines are not available, ships with an installed OWS must offload bilgewater and OWHT contents to a collection barge, if available.
- d. Where neither adequate shore collection facilities nor a collection barge are available, and if port regulations allow, ships with an operable OWS and OCM may use them to process bilgewater and OWHT contents.
- e. Where neither adequate shore collection facilities nor a collection barge are available, ships with an operable OWS but inoperable OCM may only process bilgewater and OWHT contents during normal daylight working hours, and must have a topside watch stationed at the discharge location to halt the processing if a sheen is observed.
- f. Where neither adequate shore collection facilities, nor a collection barge are available, ships without an operable OWS must minimize the volume of bilgewater discharged, attempt to process the water phase of the bilgewater or OWHT contents, only discharge during normal daylight working hours, and post a topside watch stationed at the discharge location to halt the discharge if a sheen is observed.

(b) WOTs.

1. Shipboard WOTs will hold separated oil from OWS systems, OWHTs, and waste oil from other ship processes.
  - a. Used lubricating oils will be collected, stored, and labeled for eventual shore reclamation.
  - b. Lubricating oils will not be purposely disposed into the bilge, OWHTs, or WOTs.
  - c. Synthetic lubricating oils and hydraulic oils will also be collected separately from other used and waste oils.
  - d. Containers in which oil products were originally packaged will be held and properly labeled for storing and transferring oil ashore.
2. Fuel tank strippings will not be discharged to WOTs (see Paragraph 4.2.a.(2)(c)1.a.).
3. The contents of WOTs will only be discharged to proper shore reception facilities including SWOBs, pier side collection tanks, tank trucks, and contaminated fuel barges. Ships will comply with Paragraph 4.2.a.(1)(b) if discharges must occur at sea.

(c) Fuel Tanks.

1. Fuel Tank Strippings.

a. Ships with fuel tank stripping systems will discharge the strippings only to available holding tanks that store contents for appropriate processing or discharge ashore, such as contaminated fuel settling tanks, or other special fuel oil reclamation tanks (see Paragraph 4.2.a.(2)(d)). Strippings will not be discharged to bilges or WOTs or overboard.

b. Eductors will not be used to strip fuel or cargo tanks.

2. Fuel Tank Deballasting.

a. Ships that must carry ballast water in fuel oil tanks may discharge ballast only to appropriate shoreside reception facilities. If compliance with this limitation meets the exemption in Paragraph 3.2.a., then ships will follow Paragraph 4.2.a.(1)(b)2.

b. Ships with approved OCMs (see Paragraph 4.3.) installed in the ballast water discharge piping will check oil concentrations, not to exceed 15 ppm oil to water, when discharging fuel tank ballast to the marine environment.

c. Ships without approved OCMs installed in the ballast water discharge piping will not discharge fuel tank ballast water when operating within MARPOL Annex I Special Areas or within 50 nm from the nearest land. If compliance with this limitation meets the exemption in Paragraph 3.2.a., then ships will follow Paragraph 4.2.a.(1)(b)2.

(d) **Fuel Oil Reclamation Tanks.** Ships with special tanks for reclaiming fuel oil from shipboard fuel tank and cargo tank strippings (see Paragraph 4.2.a.(2)(c)) will not discharge the separated water directly overboard. Such water will either be transferred to an OWHT or processed by an OWS system. While in port, ships so equipped will observe local port guidance on the discharge of fuel oil reclamation tanks.

(3) Shipboard Recordkeeping.

(a) All vessels that discharge in accordance with Paragraph 3.2.a. must record the details of the discharge in the ship's engineering log.

(b) The following events will also be recorded in the ship's engineering log:

1. For vessels equipped with an OWS, any overboard discharge of oily waste from bilges or OWHTs that is not processed through an OWS.

2. Any overboard discharge of fuel tank or WOT contents.

3. The breakdown or malfunction of OWS or OCM equipment.

(c) The details of every oily waste and waste oil overboard discharge will be recorded in a ship's engineering log and will include:

1. The date, time, and nature of the occurrence.
2. An estimate of the quantity discharged.
3. The latitude and longitude of the ship at the start and finish of the discharge.
4. Equipment malfunctions or casualties that either threaten or result in a discharge of oily waste or waste oil will be reported to the civil and military authority, as specified by the DoD Component heads.

(d) An oil record book maintained in accordance with Part 151 of Title 33, CFR, may be kept instead of the foregoing record keeping requirements.

(e) Ships may have additional recordkeeping requirements for discharge exemptions within 12 nm from the nearest land. These additional recordkeeping requirements are detailed in Volume 4.

**(4) Oil Spill and Release Reporting Requirements.** All discharges that produce a sheen are prohibited within the territorial seas (0–3 nm) and contiguous zone (3–12 nm) of the United States and will be immediately reported to the USCG National Response Center and the appropriate military authority as required by law and command directives. State and local reporting requirements may also apply. Ships may have additional reporting requirements in Volume 4.

**(5) Fuel Oil Transfers.** Fueling, de-fueling, internal fuel transfer or recirculation, and oil offloading operations in restricted waters will occur during normal daylight working hours where schedules allow, and will be conducted by personnel who have completed Service training and qualification requirements. Combatants with compensated fuel ballast systems may discharge compensated fuel ballast water during refueling operations at sea; however, while in port, these ships will follow local port guidance on discharge or collection of compensated fuel ballast water. The ship's officer responsible for the fuel oil transfer will observe these precautions to reduce oil spills:

- (a) Maintain topside watches at likely ship spill discharge locations.
- (b) Maintain direct communication with fuel transfer pump stations.
- (c) Establish check-off lists and procedures for valve alignment and transfer operations.
- (d) Double-check all transfer system valves.
- (e) Determine that all participating personnel are trained and qualified to complete the detailed transfer procedure.
- (f) Require that, before actual fuel transfer, transfer personnel advise both the responsible ship's officer and the fuel supplier that the ship is ready to begin fueling operations.

- (g) Continuously check each tank level during fueling operations.
- (h) Use remote tank level indicators as the primary method of checking tank levels.
- (i) Man fuel transfer pump stations.
- (j) If change in personnel occurs during transfer, verify that new personnel are aware of ongoing transfer.

**b. Additional Requirements Applicable to Oilers and Oil Tankers.**

(1) **Operational Standards.** The operational standards in this paragraph apply to oilers and oil tankers and supplement the operational standards specified for ships in Paragraph 4.2.a. More than one of these standards, which vary depending on the source of discharge, may apply to an individual oiler or oil tanker. Equipment standards required to satisfy operational requirements specified in this paragraph are in Paragraph 4.3.

(2) **Cargo Tanks, Fuel Tanks, and OWHTs.**

(a) Oilers and oil tankers with tank cleaning systems will hold tank washings for disposal ashore or, if the tank washings contain no chemical agents that promote chemical emulsion, transfer them to an OWHT for appropriate processing rather than discharging them directly into the marine environment.

(b) Ballast water on ships configured with segregated ballast tanks will not be introduced to cargo tanks. Clean ballast water discharges will be managed in accordance with Volume 3 of this issuance. In extreme weather or emergency conditions, ballast water may be carried in cargo tanks to ensure the safety of the ship.

(c) When reasonable, oilers and oil tankers will not discharge cargo tank ballast, fuel tank ballast, or OWHT contents when operating within MARPOL Annex I Special Areas or within 50 nm from the nearest land unless compliance with this limitation meets the exemption of Paragraph 3.2.a. In such case, discharge will occur as far from land as mission limits allow and only while the ship is underway. Commanding officers or ship masters will require minimal discharge and duly note the details (nature, quantity, and geographic location) in the ship's engineering log. If such a discharge is required within 12 nm of the United States and its territories, it will be treated as an oil and hazardous substance spill and immediately reported to the USCG National Response Center and the military authorities. Refer to Volume 3 of this issuance for requirements applicable to discharges of clean ballast water.

(d) When outside MARPOL Annex I Special Areas and beyond 50 nm from the nearest land, oilers and oil tankers will hold cargo tank ballast, fuel tank ballast, and OWHT contents for discharge to a shore reception facility. If operating conditions make it necessary to dispose of cargo tank or fuel tank ballast water at sea, discharge will occur as far from land as possible, be kept to a minimum, and be made only under these conditions:

1. With a USCG-approved oil cargo monitor and control system.

a. The instantaneous rate of oil content discharge will not exceed 30 liters per nm.

b. The ship will be proceeding en route.

c. For existing ships, the total quantity of discharged oil will not exceed 1/15,000 of the total quantity of the cargo including the discharge. For new ships, the total quantity of discharged oil will not exceed 1/30,000 of the total quantity of the cargo, including the discharge.

d. A USCG-approved oil cargo monitor and control system specified under Part 157 of Title 33, CFR, will be in operation.

2. Without a USCG-approved oil cargo monitor and control system.

a. Commanding officers or ship masters will ensure minimal discharge and duly note the details (nature, quantity, and geographic location) in the ship's engineering log. If required within 12 nm of the United States and its territories, such discharge will be treated as an oil and hazardous substance spill and immediately reported to the USCG National Response Center and the military authorities.

b. Discharge must occur only after sufficient time has elapsed to decant the oil and water contents.

c. If discharging above the waterline, discharge will be visually checked and stopped if the discharge of oil is detected.

d. Before discharging below the waterline, the level of the oil and water interface will be found by using an oil-water interface detector.

(e) Oily ballast residue still in cargo tanks or fuel tanks will be transferred to an OWHT.

(f) Cargo tank or fuel tank ballast water will be discharged into the marine environment only while the ship is underway, proceeding en route at distances from shore as specified in Paragraph 4.2.b.(2)(d).

### **(3) Shipboard Recordkeeping for Oiler and Oil Tanker Oily Waste Discharge.**

Exemption from oily waste discharge restrictions may be necessary at certain times and under certain circumstances, as described in Paragraph 3.2.a. Commanding officers or ship masters will require that any discharge of oily waste under these exemptions is reduced. In addition to the recordkeeping requirements applicable to all ships, in accordance with Paragraphs 4.2.a.(3) and 4.2.a.(4), these events will be recorded in the ship's engineering log for oilers and oil tankers:

(a) Any discharge that exceeds 15 ppm oil to water, as registered by a USCG-approved oil cargo monitor.

- (b) The breakdown or malfunction of a USCG-approved oil cargo monitor.

### **4.3. CONSTRUCTION AND EQUIPMENT STANDARDS.**

#### **a. General.**

(1) The standards specified in this section will be administered taking full account of the stringent military requirements for reliability, maintainability, safety, and life-cycle cost. Each DoD Component Technical Authority will be responsible for approving equipment applicable to the unique mission of its own ships. Equipment approved by the USCG in accordance with Part 162 of Title 46, CFR, is considered acceptable if the service-use requirements of each ship are fulfilled. If equipment does not meet the requirements of the Military Service, that Service will be responsible for developing the required equipment.

(2) While it may not always be possible to reach every remote shipboard space containing potentially minimal amounts of oily waste, DoD Components will strive to design the most effective and efficient oil pollution abatement equipment (such as piping arrangements) that consider the cost constraints and requirements of their respective Military Service.

#### **b. Ships.**

(1) **General.** The ship construction and equipment standards in this paragraph apply to ships with the GT shown for each respective standard. Additional standards applying only to oilers and oil tankers owned or operated by the DoD Components are provided in Paragraph 4.3.c.

(2) **OWS Systems.** OWS systems will be installed on all ships of greater than 400 GT. The system follows those standards specified in Part 162 of Title 46, CFR, so far as is reasonable given the unique requirements of the respective DoD Component.

#### **(3) OCMs.**

(a) OCMs will be installed in the oily waste overboard discharge piping of all ships greater than 400 GT. The monitors will be designed according to those standards specified in Part 162 of Title 46, CFR, so far as is reasonable given the unique requirements of the respective DoD Component.

(b) The OCM alarm will start when the oil content of the OWS effluent exceeds 15 ppm. When the alarm starts, the OWS effluent will be routed back to the bilge or to an OWHT. When the OCM shows that the effluent oil content has returned to 15 ppm or less, the overboard discharge of effluent will be allowed.

(4) **OWHTs.** OWHTs will be installed on all ships of greater than 400 GT. OWHTs on ships will be designed to avoid excessive turbulence, entrainment, and emulsion of oil in water. Tank capacity will be decided by the type of machinery aboard the ship, the processing rate of the OWSs, and the size of the applicable ship.

(5) **WOTs.** Ships greater than 400 GT will be provided with a tank or tanks of adequate capacity to receive all waste oil (oil sludge or residue) generated during normal shipboard operations including separated oil from OWS systems and OWHTs. Tank capacity will be decided by the type of machinery aboard the ship, the length of expected voyages, and the size of the applicable ship. Tanks will be designed and constructed to ease their cleaning and the discharge of their contents to proper shore reception facilities.

(6) **Ship-to-Shore Transfer Equipment.** Ships greater than 400 GT will have piping, pumps, fittings, and adapters that allow safe and efficient offload of shipboard oily residues and oily mixtures to shore reception facilities. When visiting international ports, such ships also will have adapters that allow connection with transfer hoses using the NATO STANAG 4167-compliant fittings, including NATO 100-mm cam-lock quick-disconnect coupling and standard flange specified by the IMO and described in Paragraph 4.1.f.

(7) **Compensated Fuel Ballast Systems.** All new ships with compensated fuel ballast systems will be outfitted with system modifications to reduce oil water mixing and oil discharges during refueling operations. Existing compensated fuel ballast system designs will be reviewed periodically for potential cost-effective improvements.

(8) **Tank Level Indicators.** All new ships will be outfitted with monitoring devices, such as tank level and pressure indicators, to reduce the potential for overboard spills during fueling and oil and oily waste handling and transfer operations.

### **c. Oilers and Oil Tankers.**

(1) **General.** The construction and equipment standards in this paragraph apply to oilers and oil tankers that DoD Components own or operate. These standards must be met in addition to those specified for all ships in Paragraph 4.3.b.

(2) **OWS Systems.** OWS systems, as specified in Paragraph 4.3.b.(2), will be installed on all oilers and oil tankers greater than 150 GT.

(3) **OCMs.** OCMs, as specified in Paragraph 4.3.b.(3), will be installed in oily waste overboard discharge lines aboard all oilers and oil tankers greater than 150 GT.

(4) **Cargo Tank Cleaning.** Oilers and oil tankers greater than 150 GT will have adequate means for cleaning cargo tanks and for transferring the tank washings to an OWHT (see Paragraph 4.3.c.(5)) before cargo tank ballast operations.

(5) **OWHTs.** Oilers and oil tankers greater than 150 GT will have OWHTs that are able to sufficiently hold dirty ballast residues and the slops generated by cargo tank washing. Existing ships may designate any empty cargo tank as an OWHT. OWHTs on new ships will be designed to avoid excessive turbulence, entrainment, and emulsion of oil in water.

(6) **Oil-Water Interface Detectors.** Oilers and oil tankers greater than 150 GT will have at least one OWHT with an oil-water interface detector capable of rapidly and accurately locating the oil and water interface within a tank. An oil-water interface detector will be

available to detect the oil-and-water interface in any tank from which discharge to the marine environment is intended.

(7) **Segregated Ballast Tanks.** Segregated ballast tanks will be provided for all new ships of 30,000 deadweight tons or more. They will enable the ship to operate safely on voyages without introducing ballast water to cargo tanks, except in emergencies that threaten the stability and safety of the ship. Segregated ballast tanks will be located along the length of the ship so they provide protection to cargo tanks against collision, grounding, or hostile action.

(8) **Double Hull Requirements.** All oilers and oil tankers on which construction began on or after January 1, 2016, will be constructed with double hulls for cargo areas consistent with USCG regulations, and the design will be approved by the DoD Component Technical Authority.

(9) **Pumps, Piping, and Discharge Arrangements.** All new ships designed with segregated ballast tanks will include oil piping that reduces oil retention in the lines. They will have the means to drain all cargo pumps and all oil lines at the completion of cargo discharge both ashore and to a cargo tank or OWHT.

(10) **Ship-to-Shore Transfer Equipment.** All oilers and oil tankers will have ship-to-shore transfer equipment, as specified in Paragraph 4.3.b.(6). New ships will be able to transfer dirty ballast water and any other oily mixtures to shore facilities. Deck connections for discharge to shore will be located on the open deck on both sides of the ship.

**4.4. INSPECTIONS.** All oil tankers of 150 GT and above, and all other ships of 400 GT and above, will be inspected by their respective DoD Component or, on request, by the USCG, according to this schedule:

a. An initial inspection will:

(1) Be conducted before the ship is put in service or just after installation of the equipment described in Paragraph 4.3.

(2) Include a complete survey of appropriate parts of the ship's structure, equipment systems, fittings, arrangements, and material to ensure full compliance with the standards in Paragraph 4.3.

b. A periodic inspection will:

(1) Be conducted at intervals specified by the respective DoD Component head, not to exceed 5 years, so that each ship continues to comply with the standards in this volume.

(2) Include a survey of the integrity and working order of appropriate parts of each ship's structure, equipment, and associated pump and piping systems, including oil discharge monitoring and control systems and oil/water separating equipment.



#### **4.5. CERTIFICATION AND TRAINING.**

a. When an inspection described in Paragraph 4.4. finds that a particular ship complies with the standards in this volume, the ship will be certified by the respective DoD Component head or their designee as being in compliance.

b. When an inspection described in Paragraph 4.4. finds that a particular ship does not comply with the standards of this volume, corrective action will begin immediately to bring the ship into compliance. If it is reasonable without impairing the operations or operational capability of the ship, any necessary action will be completed and the ship will be certified compliant before it may proceed to sea.

c. The issuance of an International Oil Pollution Prevention Certificate by the USCG, in accordance with Part 151 of Title 33, CFR, or a Statement of Voluntary Compliance for Oil Pollution Prevention by the USCG or a USCG Authorized Classification Society will satisfy the inspection and certification requirements of this section.

d. The certificate required by this section will no longer be valid after significant alteration to the ship's construction, equipment, systems, fittings, arrangements, or material—except that the direct replacement of such equipment, systems, or fittings will not invalidate the certificate.

e. Personnel who receive, transfer, or dispose of oil products or supervise these processes will, before completing these duties, be trained to the DoD Component-specified standards in the proper procedures for connecting and disconnecting systems to other ships and shore facilities, transferring oil or oily waste, maintaining transfer equipment (including the OWS and associated equipment), and executing oil spill response.

## GLOSSARY

### G.1. ACRONYMS.

ASD(EI&E)	Assistant Secretary of Defense for Energy, Installations, and Environment
CFR	Code of Federal Regulations
GT	gross tonnage
IMO	International Maritime Organization
MARPOL	International Convention for the Prevention of Pollution from Ships
mm	millimeter
NATO	North Atlantic Treaty Organization
nm	nautical mile
OCM	oil content monitor
OWHT	oily waste holding tank
OWS	oil and water separator
ppm	parts per million
SCP	Spill Contingency Plan
U.S.C.	United States Code
USCG	United States Coast Guard
WOT	waste oil tank

### G.2. DEFINITIONS. These terms and their definitions are for the purposes of this volume.

**bilgewater.** A mix located at or derived from the lowest inner part of a ship's hull consisting primarily of water, some oil (normally less than 5 percent), and other unspecified substances, resulting from the normal operation of a ship and has not been processed through an OWS.

**combatant.** A ship that is designed and operated primarily for combat with the enemy.

**compensated fuel ballast system.** An automatic shipboard fuel system consisting of banks of interconnected tanks that discharge tank ballast water as new fuel is added and that add ballast water to replace fuel as it is consumed during ship operations. Such systems ensure that the tanks are filled with fuel, water, or a mixture of both.

**contaminated fuel settling tank.** A tank specifically designated to capture strippings from fuel storage and service tanks.

**contiguous zone of the United States.** The belt of high seas, 9 nm wide, that is next to and seaward of the territorial seas of the United States and that extends from 3 nm to 12 nm, as measured from the territorial sea baseline.

**deadweight.** Loaded displacement less light displacement: the difference in metric tons between the displacement of the vessel in water of a specific gravity of 1.025 at the load waterline corresponding to the assigned summer freeboard and the light displacement of the vessel. The determination of deadweight deserves special attention. The term light displacement applicable to this definition has been modified from its conventional meaning to include dry cargo displacement, but excludes liquid cargo, fuel and lubricating oil, ballast, fresh and feed water, consumable stores, and passengers or crew or their belongings. When computing the deadweight of a vessel (loaded displacement less light displacement), the dry cargo displacement should be included in the light displacement. Deadweight then becomes a measure more directly related to the oil pollution potential of a particular vessel. This adjusted measurement is important, particularly with regard to the Navy's unique multipurpose logistics ships, such as the Fast Combat Support Ships, which, unlike commercial tankers, are equipped to simultaneously carry both dry and liquid cargoes.

**discharge.** Any release, such as escape, spilling, leaking, pumping, pouring, emitting, emptying, and dumping of sewage, oil, or oily waste from a vessel.

**DoD vessel.** A vessel owned or operated by the DoD when engaged in noncommercial service.

**eductor.** A jet pump used primarily for pumping bilges, de-ballasting, and de-watering compartments.

**existing ship.** A DoD vessel that does not meet the definition of a new ship.

**from the nearest land.** The shortest distance between the vessel and the line of ordinary low water along a part of the coast that is in direct contact with the open sea or the line marking the seaward limit of inland waters. The exception is the nearest land off the Northeastern coast of Australia, which is measured from a line drawn from a point on the coast of Australia at:

Latitude 11°00' S., longitude 142°08' E., to a point at

Latitude 10°35' S., longitude 141°55' E., to a point at

Latitude 10°00' S., longitude 142°00' E., to a point at

Latitude 9°10' S., longitude 143°52' E., to a point at

Latitude 9°00' S., longitude 144°30' E., to a point at

Latitude 10°41' S., longitude 145°00' E., to a point at

Latitude 13°00' S., longitude 145°00' E., to a point at

Latitude 15°00' S., longitude 146°00' E., to a point at

Latitude 17°30' S., longitude 147°00' E., to a point at

Latitude 21°00' S., longitude 152°55' E., to a point at

Latitude 24°30' S., longitude 154°00' E., to a point on the coast of Australia at

Latitude 24°42' S., longitude 153°15' E

**fueling at sea.** The act of transferring fuel from one ship to another on the open sea while the ships are underway.

**fuel oil.** Any oil used as fuel to propel a vessel or to operate a vessel's auxiliary machinery.

**GT.** A function of the volume of all of a ship's enclosed spaces measured to the outside of the hull framing. GT is calculated by using the formula  $GT = K * V$ , where K is a figure from 0.22 to 0.32, depending on a ship's size, calculated by  $K = .2 + 0.02 * \log_{10}(V)$ , and V = interior volume of a vessel in cubic meters.

**light displacement.** The displacement of a vessel in metric tons including dry cargo displacement, but excluding liquid cargo, fuel and lubricating oil, ballast, fresh and feed water, consumable stores, and passengers or crew or their belongings.

**major conversion.** A conversion of an existing DoD vessel that:

Substantially alters the dimensions or carrying capacity of the vessel.

Changes the class of the vessel.

**new ship.** A DoD vessel:

With a building contract in place after December 31, 1980; or

That has undergone a major conversion:

With a contract in place after December 31, 1982; or

That is completed after December 31, 1985.

**oil.** Petroleum, whether in solid, semi-solid, emulsified, or liquid form, including but not limited to, crude oil, fuel oil, sludge, oil refuse, oil residue, and refined products, and, without limiting the generality of the foregoing, including the substances listed in Appendix I of Annex I of the 1973 MARPOL Convention, including the 1978 MARPOL Protocol. Oil does not include animal- and vegetable-based oil or noxious liquid substances designated under Annex II of the 1973 MARPOL Convention, including the 1978 MARPOL Protocol.

**OCM.** An analytical instrument that measures and displays the oil content (in ppm) of the effluent of the OWS and automatically stops the effluent from discharging overboard if the oil content exceeds the equipment's alarm set point.

**oil discharge monitoring and control system.** A system that monitors the discharge into the sea of oily ballast or other oil-contaminated water from cargo tank areas.

**oil pollution abatement equipment.** Any equipment designed and installed to collect, hold, transfer, treat, and monitor oily mixtures.

**oil tanker.** A DoD ship constructed or adapted primarily to carry oil in bulk in its cargo spaces, including combination carriers when they are carrying oil in bulk. A combination carrier is a ship designed to carry either oil or solid cargoes in bulk.

**oiler.** A DoD ship designed and constructed to conduct fueling at sea and to carry and deliver bulk petroleum, oil, and lubricants to combatants and other ships underway. A ship carrying oil as a secondary cargo is not an oiler.

**OWS.** Water treatment equipment that removes the oil part from an oil and water mixture. Oil and water separation involves several techniques that use parallel plate separators, coalescing filters, centrifugal separators, and various polishing technologies. The OWS's output, during normal operation, should be less than 15 ppm of oil remaining in the water.

**oily mixture.** A mixture with any oil content, including bilge slops, oily wastes, oil residues (sludge), oily ballast water, and washings from cargo oil tanks.

**oily waste.** A mixture of oil and water or oil and other fluids that is no longer useful.

**OWHT.** A tank specifically designated to collect tank drainings, tank washings, and other oily mixtures.

**public vessel.** A vessel owned, or bareboat chartered and operated, by the United States, except when such vessel is engaged in commerce.

**restricted waters.** MARPOL Annex I Special Areas and the territorial seas of the United States (0–3 nm) and the contiguous zone of the United States (3–12 nm).

**segregated ballast.** The ballast water introduced into a tank that is separated completely from the cargo oil and fuel oil system and that is allocated permanently to carrying ballast or cargoes other than oil.

**sheen.** An iridescent appearance on the surface of the water.

**ship.** See definition for "DoD vessel." Exemptions to the definition of ship in this volume are listed in Section 3.

**special area.** Current MARPOL Annex I Special Areas:

The Mediterranean Sea area includes the Mediterranean Sea proper, including the gulfs and seas therein, with the boundary between the Mediterranean and the Black Sea constituted by the 41° N. parallel and bounded to the west by the Straits of Gibraltar and the meridian of 5°36' W.

The Baltic Sea area includes the Baltic Sea proper, with the Gulf of Bothnia, the Gulf of Finland, and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerrak at 57°44.8' N.

The Black Sea area includes the Black Sea proper, with the boundary between the Mediterranean and the Black Sea constituted by the 41° N. parallel.

The “Gulfs” area means the sea area located northwest of the rhumb line between Ras al Hadd (22°30' N., 059°48' E.) and Ras al Fasteh (25°04' N., 061°25' E.).

The Antarctic area includes the sea south of latitude 60° S.

The North West European Waters area includes the North Sea and its approaches, the Irish Sea and its approaches, the Celtic Sea, the English Channel and its approaches, and part of the North East Atlantic immediately to the west of Ireland. The area is bounded by lines joining these points:

Latitude 48°27' N. on the French coast

Latitude 48°27' N., longitude 6°25' W.

Latitude 49°52' N., longitude 7°44' W.

Latitude 50°30' N., longitude 12° W.

Latitude 56°30' N., longitude 12° W.

Latitude 62° N., longitude 3° W.

Latitude 62° N. on the Norwegian coast

Latitude 57°44.8' N. on the Danish and Swedish coasts

The Southern South African Waters area is the sea area enclosed by these coordinates:

Latitude 31°14' S., longitude 017°50' E.

Latitude 31°30' S., longitude 017°12' E.

Latitude 32°00' S., longitude 017°06' E.

Latitude 32°32' S., longitude 016°52' E.

Latitude 34°06' S., longitude 017°24' E.

Latitude 36°58' S., longitude 020°54' E.

Latitude 36°00' S., longitude 022°30' E.

Latitude 35°14' S., longitude 022°54' E.

Latitude 34°30' S., longitude 026°00' E.

Latitude 33°48' S., longitude 027°25' E.

Latitude 33°27' S., longitude 027°12' E.

**tank.** An enclosed space that carries liquid in bulk and is formed by the permanent structure of a vessel or a stand-alone container, not part of the permanent structure of the vessel, used for similar purposes.

**technical authority.** An official in a technical oversight office who approves systems and equipment for installation on ships and administers certification requirements.

**territorial seas of the United States.** The belt of the seas measured from the line of ordinary low water along a part of the coast that is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of up to 3 nm.

**United States.** Includes the States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Commonwealth of the Northern Marianas, and any other territory or possession of the United States.

**vessel.** Watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, including hydrofoils, air-cushion vehicles, submersibles, and floating craft.

**waste oil.** Refined oil that has changed markedly from its original characteristic specifications, has become unsuitable for further use, and is not economically recyclable.

**WOT.** A tank specifically designated to collect shipboard waste oil, such as oil residue, oil sludge separated oil from OWS systems and OWHTs, and waste oil from other ship processes.

## **REFERENCES**

Annex I of the 1973 International Convention for the Prevention of Pollution from Ships (MARPOL), including the 1978 MARPOL Protocol  
Code of Federal Regulations, Title 33  
Code of Federal Regulations, Title 46, Part 162  
DoD Directive 5135.02, “Under Secretary of the Defense for Acquisition and Sustainment (USD(A&S)),” July 15, 2020  
DoD Instruction 4715.06, “Environmental Compliance in the United States,” May 4, 2015, as amended  
North Atlantic Treaty Organization Standardization Agreement-4167, “NATO Pollutant Discharge Connection for Sewage and for Oily Water,” May 10, 2019  
United States Code, Title 33