

DOD MANUAL 4715.06, VOLUME 3

REGULATIONS ON VESSELS OWNED OR OPERATED BY THE DEPARTMENT OF DEFENSE: BALLAST WATER

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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 a ballast water management program to minimize the risk of introduction of nonindigenous species from releases of ballast water from seagoing vessels of DoD in accordance with Section 4713 of Title 16, United States Code, also known as "Section 1103 of the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990," as amended by the National Invasive Species Act of 1996.

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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, 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, DoD will plan, program, and budget to achieve, maintain, and monitor compliance with applicable environmental requirements.

1.3. SUMMARY OF CHANGE 3. This change:

a. Modifies the current implementation date for ballast water control technology for DoD vessels, as defined in this volume, from 2023 to 2028 to allow adequate time to validate system integration on warfighting vessels.

b. Changed Assistant Secretary of Defense for Sustainment to the Assistant Secretary of Defense for Energy, Installations, and Environment (ASD(EI&E)) to correctly align and clarify responsibilities and authority for exemption requests.

c. Updates organizational symbols, references, and the definition of United States for accuracy.

SECTION 2: RESPONSIBILITIES

2.1. 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 exemptions from the requirements of this volume.

2.2. DoD COMPONENT HEADS. DoD Component heads:

a. Implement the procedures in this volume.

b. Verify 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 ballast water treatment systems.

e. Review and coordinate DoD Component-affiliated requests for exemptions from the requirements of this volume.

2.3. SECRETARIES OF 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 design and equip ship ballast systems with the ability to manage clean ballast water discharges underway and at port facilities under their authority.

b. Develop, design, procure, and install treatment systems to manage ballast water discharges aboard ships under their authority that are required by this volume to have systems.

c. Use the requirements of this volume in all specifications for development of ship design and procurement, as well as port facility installations under their authority.

d. Update appropriate operational regulations applicable to ship commanders and ship masters specifying ballast water procedures for ships under their authority.

SECTION 3: REQUIREMENTS AND EXEMPTIONS

3.1. GENERAL. The requirements of this volume apply to all DoD vessels (referred to in this volume as "ships") owned or operated by DoD Components that discharge clean ballast.

3.2. EXEMPTIONS.

a. General Exemptions. Compliance with Paragraph 4.2. and Sections 6 and 7 is not required when, in the judgment of the commanding officer or ship master, managing ballast water in accordance with these requirements would pose a threat to the safety of the ship or the health, safety, or welfare of the crew or other personnel aboard.

b. DoD Submersibles. The requirements of this volume do not apply to DoD submersibles.

c. Compensated Fuel Ballast Systems. The requirements of this volume do not apply to discharges from a compensated fuel ballast system. This type of discharge is conducted in accordance with the requirements of Volume 2 of this manual.

d. Requests for Additional Exemptions. Requests for individual ship or ship-class additional exemptions to the design requirements of Sections 4 and 5 will be reviewed and coordinated by the affiliated, lead DoD Component head and addressed to the ASD(EI&E) through the chain of command. Requests must include technical, performance, cost data, or projected ship inactivation schedules that sufficiently demonstrate:

- (1) Potential ship 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.

SECTION 4: GENERAL REQUIREMENTS

4.1. SHIP DESIGN TO MANAGE CLEAN BALLAST WATER DISCHARGES.

a. Ship with Keel Laid Date On or After October 1, 2028. A ship with a keel laid date on or after October 1, 2028 that requires a clean ballast system will be designed and equipped to manage ballast water discharges to minimize the risk of introducing nonindigenous species from releases of ballast water in accordance with the applicable design requirements of Section 5. All ships will be designed to use potable water as ballast water, treat ballast water before discharge, offload ballast water ashore, or have no ballast water.

b. Ship with Keel Laid Date Before October 1, 2028.

(1) A ship with a keel laid date before October 1, 2028 that has a clean ballast system that is already designed and equipped to manage ballast water discharges to minimize the risk of introduction of nonindigenous species from releases of ballast water will be capable of meeting the applicable design requirements of Section 5. This applies to ships that are already designed to use potable water as ballast water, treat ballast water before discharge, offload ballast water ashore, or have no ballast water.

(2) A ship with a keel laid date before October 1, 2028 that has a clean ballast system that is not already designed and equipped to manage ballast water discharges will follow Paragraph 4.2.

c. Upgrading Ship Systems. Any ship that has a clean ballast system that has been designed and equipped to manage ballast water discharges that does not meet the performance requirements of Section 5 will have the clean ballast systems upgraded to meet those performance requirements by October 1, 2028.

4.2. SHIP OPERATIONS TO MANAGE CLEAN BALLAST WATER DISCHARGES. A ship that has a clean ballast system that is not already designed and equipped to manage ballast water discharges to minimize the risk of introduction of nonindigenous species from releases of ballast water will meet the operational procedures in accordance with Paragraph 6.2.a.

4.3. MORE STRINGENT DESIGN AND OPERATIONS REQUIREMENTS. Nothing in this volume will be construed as limiting the authority of the DoD Component heads to establish more stringent design requirements or operational procedures for ballast water discharges on ships owned or operated by the concerned DoD Component. Such requirements or procedures will not adversely impact operations or operational capabilities of the affected ships.

SECTION 5: SHIP DESIGN REQUIREMENTS FOR CLEAN BALLAST SYSTEMS

5.1. DESIGN REQUIREMENTS. All ships that have clean ballast systems that are designed and equipped to manage ballast water discharges to minimize the risk of introduction of nonindigenous species from releases of ballast water must meet performance and design requirements as identified in Paragraphs 5.1.a. through d.:

a. Discharge Performance Requirements. Ships owned or operated by DoD will manage ballast water discharges according to how the ship's clean ballast system is designed and equipped. All ballast water discharges within 12 nautical miles (nm) from the nearest land will meet these performance requirements:

(1) For organisms greater than or equal to 50 micrometers (μm) in minimum dimension, discharge must include fewer than 10 viable organisms per cubic meter of ballast water.

(2) For organisms less than 50 μ m and greater than or equal to 10 μ m, discharge must include fewer than 10 viable organisms per milliliter (mL) of ballast water.

(3) Indicator microorganisms must not exceed:

(a) For toxicogenic Vibrio cholerae (serotypes O1 and O139), a concentration of less than 1 colony forming unit (cfu) per 100 mL.

(b) For Escherichia coli, a concentration of fewer than 250 cfu per 100 mL.

(c) For intestinal enterococci, a concentration of fewer than 100 cfu per 100 mL.

b. Additional Design Requirements for Ships that Use Potable Water. Ships' clean ballast systems will be designed and equipped to use only potable water filled pier side or generated onboard. If a ship's clean ballast system is designed for seawater fire main fill, the ship will be designed either to hold for offload ashore or to treat in accordance with the performance requirements in Paragraph 5.1.a.

c. Additional Design Requirement for Ships that Offload. The piping and pumps of ships' clean ballast systems must be adequate for the volumes of ballast water and sediments necessary to connect and offload to a shore facility.

d. Additional Design Requirement for Ships with Treatment Systems. Ships' clean ballast systems will be designed and equipped to use ballast water pumps (instead of gravity draining) to discharge ballast water when required to facilitate the treatment process.

5.2. DESIGN APPROVALS AND CERTIFICATION.

a. Approval and Certification. The DoD Component Technical Authority will approve and certify a treatment system that meets the performance requirements of Paragraph 5.1.a. The DoD Component Technical Authority may consider any additional design and integration factors to determine approval and certification.

b. Equivalent Requirement. Any equivalent requirement established by the DoD Component Technical Authority will be protective of the aquatic environment and will minimize the risk of introduction of nonindigenous species from the discharge of ballast water from seagoing ships of DoD.

c. Equipment Operation. Clean ballast systems will be properly maintained and operated in accordance with guidance established by the DoD Component Technical Authority to minimize the risk of introduction of nonindigenous species from releases of ballast water.

5.3. INSPECTIONS. All ships that require the discharge of treated ballast water will be inspected by representatives of the respective DoD Component Technical Authority.

a. Initial Inspection. An initial inspection will be conducted before the ship is put in service or just after installation of the equipment and will include a complete survey of appropriate parts of the ship's structure, equipment, fittings, arrangements, and material to comply with the requirements in Paragraph 5.1.

b. Periodic Inspection. A periodic inspection will be conducted at intervals specified by the respective DoD Component Technical Authority, not to exceed 5 years, so that each ship continues to comply with the requirements in Paragraph 5.1. The inspections will include a survey of the integrity and working order of appropriate parts of each ship's structure, equipment, and associated systems.

5.4. CERTIFICATION AND TRAINING.

a. Ships in Compliance. When an inspection described in Paragraph 5.3. finds that a particular ship complies with the requirements in this volume, the ship will be certified by the respective DoD Component head or their designee as being in compliance.

b. Ships Not in Compliance. When an inspection described in Paragraph 5.3. finds that a particular ship does not comply with the requirements of this volume, corrective action will begin immediately to bring the ship into compliance and a report will be made to DoD Component Technical Authority indicating the status of the treatment system and plans to repair.

c. Certificate Status After Ship Alteration. The certificate required by this paragraph 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.

d. Training. Personnel who receive, transfer, or dispose of ballast water or supervise these processes will, before completing these duties, be trained to the respective DoD Component Technical Authority-specified requirements.

SECTION 6: SHIP OPERATIONAL REQUIREMENTS FOR BALLAST WATER

6.1. GENERAL OPERATIONAL REQUIREMENTS FOR BALLAST WATER

DISCHARGES. Ships that discharge ballast water will employ these practices, to the extent possible and consistent with mission requirements:

a. Affected Marine Areas. Minimize discharges into waters that are within, or that may directly affect, marine sanctuaries, marine preserves, marine parks, shellfish beds, or coral reefs.

b. Discharges Containing Oil. Any discharges that contain oil or oily waste will be conducted in accordance with Volume 2 of this manual.

6.2. OPERATIONAL REQUIREMENTS FOR MANAGING BALLAST WATER DISCHARGES.

a. Ballast Water Exchange Procedures.

(1) Exchange Procedures. Ships that take on seawater within 12 nm from land and do not meet the performance requirements of Paragraph 5.1.a. will only discharge ballast water within 12 nm from the nearest land in accordance with these procedures:

(a) Single Exchange Greater than 200 nm from the Nearest Land. This exchange will be performed in ocean waters that are greater than 200 nm from the nearest land.

(b) Single Exchange Greater than 50 nm from the Nearest Land. If the single exchange in ocean waters greater than 200 nm from the nearest land is not possible, the ship will perform a single exchange in ocean waters that are greater than 50 nm from the nearest land and in water depths greater than 200 meters.

(c) Double Exchange Greater than 12 nm from the Nearest Land. If the single exchange in water 50 nm or greater from the nearest land is not possible, the ship will perform a double exchange in ocean waters that are greater than 12 nm from the nearest land.

(2) Ballast Water Uptake in Foreign Waters. A ship that has ballast water that was taken on within 12 nm from the nearest land while operating in foreign waters will conduct a ballast water exchange procedure (i.e., single exchange outside of 200 nm) before entering within 12 nm of U.S. waters.

(3) Residual Water and Sediment from Ballast Water. Ships will perform a ballast water exchange procedure in accordance with Paragraph 6.2.a., even if some or all of the seawater from ballast tanks was discharged before exiting 12 nm from the nearest land, as the residual water and sediments remaining in a tank after emptying may still contain organisms that could be transferred during the next ballasting evolution.

(4) Exception to Ballast Water Exchange Procedures. A ballast water exchange procedure is not required during local operations or when a ship re-enters within 12 nm of land in the same locale as the ballast water was initially loaded, provided the ballast tank discharged contains no ballast water from any other locale.

(5) Recordkeeping. Ship engineers will record in the engineering log the geographic location of ballast water uptake within 12 nm from the nearest land and during exchange procedures in accordance with Paragraph 6.2.a.

b. Operational Procedures for Ships Using Potable Water. Ships can discharge potable water anywhere when using potable water systems for ballast water. However, if the ship takes up seawater, the contaminated ballast water tanks will not be discharged within 12 nm of land and must be offloaded ashore or treated before discharge. All tanks and supply lines that used seawater will be cleaned to remove any residual water and sediments before discharging overboard on the next underway period.

c. Operational Procedures for Ships that Offload Ashore or Have No Ballast Water Discharges. Ships can transfer ballast water and residual water and sediments ashore in place of the ballast water management procedures in this volume when adequate shore facilities are available.

d. Operational Procedures for Ships Using Treatment Systems.

(1) Ships with a treatment system will treat ballast water through the treatment system before discharge.

(2) Ships with treatment systems that require repairs will not discharge untreated water within 12 nm of land or will follow ballast water exchange procedures in accordance with Paragraph 6.2.a.

SECTION 7: SHIP REQUIREMENTS FOR SHIP WELLDECK OPERATIONS

7.1. BALLAST WATER FROM WELLDECK OPERATIONS. Ballast water taken on and discharged from rapid ballast tanks in the same locale or during local operations to raise and lower the ship draft to facilitate loading and unloading of equipment and landing craft in the welldeck does not require ballast water treatment or exchange in accordance with Paragraph 6.2.a.

a. Ships equipped with treatment systems as specified in Paragraphs 4.1.a.(2) or 4.1.b.(1) will:

(1) Treat any residual water and sediments that remains in the rapid ballast tanks from welldeck operations in accordance with the performance requirements in Paragraph 5.1.a.; or

(2) Hold for shore disposal.

b. Ships without treatment systems as specified in Paragraphs 4.1.a.(2) or 4.1.b.(1) will:

(1) Conduct a ballast water exchange procedure on any residual water and sediments that remains in the rapid ballast tanks from welldeck operations in accordance with the operational requirements in Paragraph 6.2.a.(3); or

(2) Hold for shore disposal.

7.2. WELLDECK DISCHARGES. Welldeck discharges are covered in Volume 4 of this manual.

GLOSSARY

G.1. ACRONYMS.

ASD(EI&E) cfu	Assistant Secretary of Defense for Energy, Installations, and Environment colony forming unit
μm	micrometer
mL	milliliter
nm	nautical mile

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

ballast tank. Any tank or hold on a vessel used for carrying ballast water, whether or not the tank or hold was designed for that purpose other than a tank used in a compensated fuel ballast system.

ballast water. Any water and associated residual water and sediments used to manipulate the trim and stability of a vessel.

ballast water exchange. An operational procedure used by a surface ship to empty and refill the ballast water in a tank or compartment by first emptying the tank to the maximum extent possible and then refilling the tank with water. A double exchange means this is done twice so the ship empties, fills, empties, and then refills the tank.

ballast water management. The use of equipment and operational procedures by a ship to minimize the risk of introduction of nonindigenous species from releases of ballast water.

ballast water treatment. The design and equipment of a ship's clean ballast system to manage ballast discharges by using an application or system of mechanical, physical, chemical, or biological processes, either singularly or in combination, to kill, render harmless, or remove organisms within ballast water and residual water and sediments before discharging overboard.

clean ballast system. Any tank or compartment within a ship that is intended to hold water taken in dedicated ballast tanks used to provide stability, list, trim, and adjust the ship's draft for various loading conditions and operations.

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 require that the tanks are filled with fuel, water, or a mixture of both.

DoD Component Technical Authority. An official in a technical oversight office who approves systems and equipment for installation on vessels and, if applicable, administers certification requirements.

DoD vessels. Vessels owned or operated by the DoD when engaged in noncommercial service, other than vessels that are time or voyage chartered by the DoD or vessels that are memorials or museums.

foreign waters. Waterways that are within 12 nm of lands that are not part of the United States or its territories, including all coastal waters, inland waterways, rivers, and lakes.

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 and 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 13°00' S., longitude 144°00' E., to a point at

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

Latitude 18°00' S., longitude 147°00' E., to a point at

Latitude 21°00' S., longitude 153°00' E., to a point on the coast of Australia at

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

keel laid date. The date when progressive construction of a specific vessel begins, including construction of the first module or prefabricated section of the hull identified with that vessel.

local operations. An underway period of fewer than 5 days when the ship operates exclusively within a 50-mile radius of the port of departure or within an operating area associated with the port, does not make any intermediate stops or port calls, and returns to the port of departure.

nonindigenous species. Any species or other viable biological material that enters an ecosystem beyond its historic range, including any such organism transferred from one country to another. These are also referred to as aquatic nuisance species.

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

operating areas. Areas where ships conduct training operations and other mission-related operations occur such as Southern California Range Complex for Naval Station San Diego and Hawaii Range Complex for Naval Station Pearl Harbor.

potable water. Water that meets the accepted requirements to be used for personal consumption. It may be provided by shore facilities, or may be generated aboard ship by shipboard systems.

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

rapid ballast tank. A tank that is only used for rapid ballasting and deballasting operations to launch or recover amphibious landing craft. These tanks are intended to be full during launch and recovery of amphibious assault landing craft or empty at all other times and are only filled during launch or recovery of amphibious landing craft.

residual water and sediments. Any remaining water or matter settled out of ballast water within a ship's ballast tanks.

same locale. In the context of ballast water discharges, refers to ballast water discharges that occur within 12 nm of the mouth of the same harbor, port, river, estuary, or bay, or from the same landlocked water body from which the ballast water was taken up.

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

submersible. A ship such as a submarine or any other vessel designed to operate under water.

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.

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.

REFERENCES

- DoD Directive 5137.02, "Under Secretary of Defense for Research and Engineering (USD(R&E))," July 15, 2020
- DoD Instruction 4715.06, "Environmental Compliance in the United States," May 4, 2015, as amended
- DoD Manual 4715.06, Volume 2, "Regulations on Vessels Owned or Operated by the Department of Defense: Oil Pollution Prevention," June 7, 2017, as amended
- DoD Manual 4715.06, Volume 4, "Regulations on Vessels Owned or Operated by the Department of Defense: Discharges Incidental to Normal Operations," October 25, 2022
- United States Code, Title 16, Section 4713 (also known as "Section 1103 of the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990," as amended)