

TECHNICAL BULLETIN

CONTROL AND ABATEMENT OF POLLUTION BY ARMY WATERCRAFT

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*This manual supersedes TB 55-1900-206-14, dated 15 July 1991 including all changes.

HEADQUARTERS, DEPARTMENT OF THE ARMY
March 2002

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Dates of issue for original and changes pages are:

Original 0 15 Mar 02

**TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 14 AND
TOTAL NUMBER OF TEXT PAGES IS 16 CONSISTING OF THE FOLLOWING:**

Page No.*	Change No.
Title	0
A - B	0
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DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CONTROL AND ABATEMENT OF
POLLUTION BY ARMY WATERCRAFT

Headquarters, Department of the Army, Washington, D.C.

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Section I. GENERAL

- 1. Purpose.** Provide information and instructions concerning the control and abatement of pollution to those responsible for the operation of Army Watercraft on U.S. navigable waters, within the U.S. contiguous zone, on the open ocean, and on foreign territorial seas. This bulletin ties together the applicable Federal and State laws/regulations with Department of Defense and Army policy dealing with the discharge of oily waste, garbage, graywater, sewage, hazardous substances, and medical waste.
- 2. Scope.** This bulletin is applicable to all US Army organizations, installations, activities, and reserve components that are responsible for the operation of Army Watercraft.
- 3. Definition of Terms.** As used in this publication, the following terms shall have the meaning indicated below:
- a. "Cargo Associated Wastes" means all materials which have become wastes as a result of use on board a ship for cargo stowage and handling. Cargo associated wastes include, but are not limited to dunnage, shoring, pallets, lining and packing materials, plywood, paper, cardboard, wire, and steel strapping.
 - b. "Contiguous Zone" means the zone of the high seas, established by the United States under Article 24 of the Convention on the Territorial Sea and Contiguous Zone, which is contiguous to the territorial sea and which extends nine miles seaward from the outer limit of the territorial sea.
 - c. "Discharge" includes but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping.
 - d. "Dishwater" means the liquid residue from the manual or automatic washing of dishes and cooking utensils which have been pre-cleaned to the extent that any food particles adhering to them would not normally interfere with the operation of automatic dishwashers.
 - e. "Effluent limitation" means any restriction established by the EPA, State, or Local authority on quantities, rates, and concentrations of chemical, physical, biological and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean.
 - f. "Garbage" means all kinds of victual, domestic, and operational waste, excluding fresh fish and parts thereof, generated during the normal operation of the ship and liable to be disposed of continuously or periodically, except dishwater, graywater, and those substances that are defined or listed in other Annexes to MARPOL 73/78.
 - g. "Graywater" means drainage from dishwasher, shower, laundry, bath, and washbasin drains and does not include drainage from toilets, urinals, hospitals, and cargo spaces.
 - h. "Hazardous Substance" means any substance designated pursuant to section 311(b)(2)(A) of the Clean Water Act (CWA); any element, compound, mixture, solution, or substance designated pursuant to section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act; any toxic pollutant listed under section 307(a) of the CWA; any hazardous air pollutant listed under section 112 of the Clean Air Act; and any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act. In general, the term applies to substances other than oil and natural gas that have been determined to pose a significant threat to human health due to their known or suspected toxicity and potential for human exposure.
 - i. "Marine Sanitation Device" includes any equipment for installation onboard a vessel and which is designed to receive, retain, treat, or discharge sewage.
 - (1) "Type I Marine Sanitation Device" means a device that, under the test conditions described in 33 CFR 159.123 and 159.125, produces an effluent having a fecal coliform bacteria count not greater than 1,000 per 100 milliliters and no visible floating solids.

- (2) "Type II Marine Sanitation Device" means a device that, under the test conditions described in 33 CFR 159.126 and 159.126a, produces an effluent having a fecal coliform bacteria count not greater than 200 per 100 milliliters and suspended solids not greater than 150 milligrams per liter.
- (3) "Type III Marine Sanitation Device" means a device that is designed to prevent the overboard discharge of treated or untreated sewage or any waste derived from sewage.
- j. "MARPOL 73/78" means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, Annex I, which regulates pollution from oil and which entered into force on October 2, 1983.
- k. "Navigable Waters" means the waters of the United States, including the territorial seas. The term includes:
 - (1) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
 - (2) Interstate waters, including interstate wetlands;
 - (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, and wetlands, the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - (a) That are or could be used by interstate or foreign travelers for recreational or other purposes;
 - (b) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce;
 - (c) That are used or could be used for industrial purposes by industries in interstate commerce;
 - (4) All impoundments of waters otherwise defined as navigable waters under this section;
 - (5) Tributaries of waters identified in paragraphs (1) through (4) above, including adjacent wetlands; and
 - (6) Wetlands adjacent to waters identified in paragraphs (1) through (5) above: provided, that waste treatment systems (other than cooling ponds meeting the criteria of this paragraph) are not waters of the United States.
- l. "Oil" means oil of any kind or in any form, including, but not limited to petroleum, fuel oil, sludge, oil refuse, vegetable oil, animal fat, and oil mixed with wastes other than dredged spoil.
- m. "Oily Waste" or "Oily Mixture" means a mixture with any oil content, including bilge slops, oil residues (sludge), oily ballast water, and washings from cargo oil tanks.
- n. "Medical Waste" means isolation wastes, infectious agents, human blood and blood products, pathological wastes, sharps, body parts, contaminated bedding, surgical wastes and potentially contaminated laboratory wastes, dialysis wastes, and such additional medical items as prescribed by the Administrator of the EPA by regulation.
- o. "Plastic" means any garbage that is solid material, that contains as an essential ingredient one or more synthetic organic high polymers, and that is formed or shaped either during the manufacture of the polymer or polymers or during fabrication into a finished product by heat or pressure or both. "Degradable" plastics, which are composed of combinations of degradable starches and are either (a) synthetically produced or (b) naturally produced but harvested and adapted for use, are plastics under this part. Naturally produced plastics such as crab shells and other types of shells, which appear normally in the marine environment, are not plastics under this part.

NOTE

Plastics possess material properties ranging from hard and brittle to soft and elastic. Plastics are used for a variety of marine applications including, but not limited to: food wrappings, products for personal hygiene, packaging (vapor proof barriers, bottles, containers, and liners), ship construction (fiberglass and laminated structures, siding, piping insulation, flooring, carpets, fabrics, adhesives, and electrical and electronic components), disposable eating-utensils and cups (including styrene products), bags, sheeting, floats, synthetic fishing nets, monofilament fishing line, strapping bands, hardhats, and synthetic ropes and lines.

- p. "Pollution" is the condition resulting from the presence of chemical, mineral, radioactive, or biological substances that alter the natural environment or adversely affect human health or the quality of life, biosystems, the environment, structures and equipment, recreational opportunities, aesthetics, and/or natural beauty.
- q. "Sewage" means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes.
- r. "Sheen" means an iridescent appearance on the surface of water.
- s. "Sludge" means an aggregate of oil or oil and other matter of any kind in any form other than dredged spoil having a combined specific gravity equivalent to or greater than water.
- t. "Territorial Seas" means the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of 3 miles.

NOTE

Each country has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with the United Nations Convention on the Law of the Sea.

- u. "United States" means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Canal Zone, Guam, American Samoa, the Virgin Islands, and the Trust Territory of the Pacific Islands.
- v. "Watercraft" is a term that includes all marine equipment used by the Army.
- w. "Vegetable Oil" means non-petroleum oil or fat of vegetable origin, including but not limited to oils and fats derived from plant seeds, nuts, fruits, and kernels.
- x. "Victual Waste" means food-related waste such as food scraps.
- y. "Wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds.

4. Policy.

- a. Federal Requirements. The Clean Water Act as amended by the Water Quality Act of 1987 (Public Law 100-4) states: Congress hereby declares that it is the policy of the United States that there should be no discharges of oil or hazardous substances into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act (43 U.S.C. 1331 et seq.) or the Deepwater Port Act of 1974 (33 U.S.C. 1501 et seq.), or which may affect natural resources belonging to,

appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.)).

- b. State and Local requirements. Environmental quality standards prescribed by state and/or local authorities that are more stringent than Federal, Department of Defense, or Army standards will be adhered to unless instructions to the contrary are received from the appropriate Major Army Commander.
- c. Department of the Army (DA) Requirements.
 - (1) The Army is committed to environmental stewardship in all actions as an integral part of the Army mission. It is therefore DA policy that all Army components demonstrate leadership in environmental pollution abatement programs. A proactive approach should be taken to accelerate the pace of corrective measures required to control pollution emanating from sources under DA jurisdiction.
 - (2) Adhere to the requirements of Army Regulations 56-9, 200-1, and 200-2 which state in part:
 - (a) Army Watercraft will not discharge oil or other hazardous substances upon the navigable waters of the United States, adjoining shorelines or contiguous zones.
 - (b) Army Watercraft will comply with all Federal, State and Local regulations governing the disposal of oily waste, garbage, graywater, sewage, hazardous substances, and medical waste.
- d. Overseas Requirements. Army Watercraft ported or operating in overseas areas will comply with the pollution control and abatement requirements established by the host nation. In the event requirements have not been established by the host nation or the requirements are less stringent than those contained in this document. the requirements stated herein shall apply.

5. Reporting Errors and Recommending Improvements.

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit your DA Form 2028 (Recommended Changes to Equipment Technical Publications and Blank Forms), through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is <http://aeprs.ria.army.mil>. If you need a password, scroll down and click on "ACCESS REQUEST FORM". The DA Form 2028 is located in the ONLINE FORMS PROCESSING section of the AEPS website. Fill out the form and click on "SUBMIT". Using this form on the AEPS website will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, E-mail or fax your letter or DA Form 2028 directly to: AMSTA-LC-CI/TECH PUBS, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The E-mail address is TACOM-TECH-PUBS@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

Section II. OILY WASTE

6. Oily Waste.

- a. 40 CFR Part 110 states: discharges of oil in such quantities that the Administrator has determined may be harmful to the public health or welfare or the environment of the United States include discharges of oil that:
 - (1) Violate applicable water quality standards; or
 - (2) Cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.
- b. All Army Watercraft (except vessels less than 26 feet in length) must have a placard of at least 5 by 8 inches, made of durable material fixed in a conspicuous place in each machinery space, or at the bilge and ballast pump control station, stating the following:

DISCHARGE OF OIL PROHIBITED

The Federal Water Pollution Control Act prohibits the discharge of oil or oily waste into or upon the navigable waters of the United States, or the waters of the contiguous zone, or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States, if such discharge causes a film or discoloration of the surface of the water or causes a sludge or emulsion beneath the surface of the water. Violators are subject to substantial civil penalties and/or criminal sanctions including fines and imprisonment.

c. Oily-Water Separating Equipment.

(1) All Army Watercraft (non-oceangoing):

- (a) Must have the capacity to retain on board all oily wastes and be equipped to discharge these oily wastes to a reception facility.
- (b) May retain all oily waste on board in the ship's bilges. An oily waste (sludge) tank is not required.

(2) All Army Watercraft (oceangoing) of less than 400 gross tons:

- (a) Must have the capacity to retain on board all oily wastes and be equipped to discharge these oily wastes to a reception facility; or
- (b) Have approved oily-water separating equipment for the processing of oily waste.
- (c) May retain all oily waste on board in the ship's bilges. An oily waste (sludge) tank is not required.
- (d) The above requirements do not apply to barges that are not equipped with an installed bilge pumping system for discharge into the sea.

(3) All Army Watercraft (oceangoing) of 400 gross tons and above but less than 10,000 gross tons must be fitted with:

- (a) Approved 100 parts per million (ppm) oily-water separating equipment for the processing of oily waste.
- (b) A tank or tanks of adequate capacity to receive oily waste that cannot be dealt with otherwise.
 - 1) In new vessels, such tanks shall be designed and constructed to facilitate cleaning and the discharge of the oily waste to reception facilities. Existing vessels shall comply with this requirement as far as reasonable and practicable.
 - 2) Tanks used for oily wastes on vessels certificated under 46 CFR Chapter I shall meet the requirements of 46 CFR 56.50–50(h) for isolation between oil and bilge systems.

(c) A pipeline to discharge oily waste to a reception facility.

(d) The above requirements do not apply to barges that are not equipped with an installed bilge pumping system for discharge into the sea.

(4) All Army Watercraft (non-oceangoing) of 100 gross tons and above that are fitted with main or auxiliary machinery spaces and are operated in the navigable waters of the United States must be equipped with:

- (a) At least one pump installed to discharge oily waste through a fixed piping system to a reception facility.
- (b) A piping system that has at least one outlet that is accessible from the weather deck.

- (c) A shore connection that meets the specifications in 33 CFR 155.430 or have at least one portable adapter that meets the specifications in 33 CFR 155.430 and fits the required outlets.
- (d) A stop valve for each outlet.
- (e) The above requirements do not apply to vessels that have approved oily-water separating equipment for the processing of oily waste.

d. Discharge of oily wastes/oily mixtures.

- (1) Periodically, the oily waste which has accumulated in a vessels bilge and/or holding tank must be discharged. The preferred method of discharging oily waste is to discharge directly into an approved collection facility (sludge barge, shoreside drums, waste oil collecting tanks) using installed equipment or small, portable, positive displacement pumps and hoses. Discharges of oily mixtures at sea shall be in accordance with the requirements of paragraph (2) or (3) below.
- (2) When more than 12 nautical miles from the nearest land, any discharge of oily mixtures into the sea from an Army vessel is prohibited except when all of the following conditions are satisfied:
 - (a) The oily mixture does not originate from cargo pump room bilges;
 - (b) The oily mixture is not mixed with oil cargo residues;
 - (c) The vessel is not within a special area;
 - (d) The vessel is proceeding enroute;
 - (e) The oil content of the effluent without dilution is less than 100 parts per million (ppm); and,
 - (f) The ship has in operation oily-water separating equipment, a bilge monitor, bilge alarm, or combination thereof as required by 33 CFR Part 155 Subpart B.
- (3) When within 12 nautical miles from the nearest land, any discharge oily mixtures into the sea from an Army vessel is prohibited except when all of the following conditions are satisfied:
 - (a) The oily mixture does not originate from cargo pump room bilges;
 - (b) The oily mixture is not mixed with oil cargo residues;
 - (c) The oil content of the effluent without dilution is less than 15 parts per million (ppm);
 - (d) The ship has in operation oily-water separating equipment, a bilge monitor, bilge alarm, or combination thereof as required by 33 CFR Part 155 Subpart B; and,
 - (e) The oily-water separating equipment is equipped with a 15 ppm bilge alarm.

Section III. SEWAGE (SANITARY WASTE) AND GRAYWATER

7. Sewage and Graywater.

- a. To ensure compliance with regulations regarding the discharge of sewage and graywater:
 - (1) All Army Watercraft (>65 feet) with installed toilet facilities shall be equipped with a U.S. Coast Guard (USCG) approved and operable Type II or Type III Marine Sanitation Device (MSD).

- (2) Existing Army Watercraft (>65 feet) equipped with a Type I MSD installed before 31 January 1978 is in compliance so long as the device remains satisfactorily operable.
 - (3) Army Watercraft personnel shall not dispose of used solvents or other industrial wastes to MSDs or graywater collection systems or dump them down sinks or deck drains. They shall containerize used solvents and industrial wastes for disposal ashore.
 - (4) Army Watercraft personnel shall properly operate and maintain installed MSDs to prevent the overboard discharge of untreated or inadequately treated sewage within the Territorial Seas (within 3 nm of the U.S. shore).
 - (5) While in port or when transiting between 0-3 nm of shore, vessels shall collect graywater in installed MSDs or graywater collection systems. If a vessel is not equipped to collect graywater, the vessel may discharge the graywater directly overboard unless prohibited by State and/or Local requirements.
 - (6) Army Watercraft shall not discharge any treated or untreated sewage into freshwater lakes (excluding the Great Lakes), freshwater reservoirs or other freshwater impoundments, or into rivers not capable of interstate navigation.
 - (7) While operating beyond 3 nm from shore, Army Watercraft may discharge sewage and graywater directly overboard. Vessels equipped with a USCG-approved Type I or II MSD shall treat the sewage prior to discharge.
- b. Exceptions. Army Watercraft may discharge minimal quantities of sewage within 3 nm of shore under certain circumstances with “due consideration for the environmental effects”. Vessels may discharge sewage overboard within 3 nm of shore only under the following conditions:
- (1) The vessels holding capacity is insufficient because transit time through the 0-3 nm zone from shore is of a long duration. The vessel shall minimize any necessary sewage discharge and shall pump out as far as possible from land.
 - (2) The vessel is conducting or participating in military operations or exercises (including training or readiness evolutions) within the 0-3 nm zone from shore and terminating operations to discharge sewage to a land-based collection facility or beyond 3 nm from shore would impair the operational effectiveness of the mission.
 - (3) The vessel is at anchor or moored where sewage reception facilities or services are not reasonably available, or where use of such services or facilities is not feasible because of foul weather, poor visibility, or unsafe environmental conditions, and where on board retention of sewage is not practicable.
 - (4) The vessels MSD is inoperable because of equipment malfunction or maintenance, its use would interfere with an on-going repair effort, or its use would pose a hazard to the health or welfare of the crew. Vessels shall minimize those periods prompting use of this exemption. Under this exemption, vessels shall discharge sewage underway as far as possible from shore. If in port, the vessel shall obtain concurrence from the environmental manager of the shore activity before discharging overboard.

Section IV. GARBAGE

8. Plastic Garbage.

- a. Federal law prohibits the discharge of plastics to the marine environment. Therefore, Army Watercraft shall not dump plastic garbage anywhere into or upon any waters. Plastic garbage will be retained onboard, stored to meet sanitation requirements, and disposed of at shoreside facilities.
- b. Vessels should minimize the volume of plastic material taken to sea that may become waste. For example:
 - (1) Plastic disposable items should be replaced with non-plastic items where possible.
 - (2) If appropriate, remove plastic wrapping and shipping materials from supply items before bringing them on board.

9. Garbage (Non-Plastic).

- a. Army Watercraft shall not discharge garbage into the navigable waters (see definitions) of the United States.
- b. Army Watercraft shall not discharge garbage into its Territorial Seas (within 3 nm of shore).
- c. Army Watercraft shall not discharge garbage into the Great Lakes and their connecting or tributary waters.
- d. When greater than 12 nm from land (open ocean), Army Watercraft may discharge victual wastes (food scraps) and all other garbage including paper products, rags, glass, metal, bottles, crockery and similar refuse.
- e. When between 3 nm and 12 nm from land (open ocean), Army Watercraft may discharge victual wastes (food scraps) and all other garbage including paper products, rags, glass, metal, bottles, crockery and similar refuse **after** it has been passed through a grinder or comminuter (as specified in 33 CFR 151.75) capable of processing garbage so that it passes through a screen with openings no greater than 25 millimeters (one inch).
- f. When greater than 25 nm from land (open ocean), Army Watercraft may discharge dunnage, lining and packing materials that float.

Section V. HAZARDOUS SUBSTANCES

10. Hazardous Substances.

Army Watercraft shall not discharge hazardous substances anywhere into or upon any waters. Hazardous substances will be retained onboard and properly disposed of at shoreside facilities.

Section VI. MEDICAL WASTES

11. Medical Wastes.

- a. No Army vessel shall dispose of potentially infectious medical waste into ocean waters unless:
 - (1) The health or safety of individuals on board the vessel is threatened; or
 - (2) During time of war or a declared national emergency; and
 - (3) The waste is disposed of beyond 50 nautical miles from the nearest land; and
 - (4) The waste is sterilized, properly packaged, and sufficiently weighted to prevent the waste from coming ashore after disposal.
- b. Non-infectious medical waste may be disposed of as garbage and does not require sterilization.
- c. Sharps that have been used in patient care or in medical research/industrial laboratories, including hypodermic needles, syringes, pasteur pipettes, broken glass, and scalpel blades, must be disposed of at shore facilities. Under no circumstances are they to be disposed of into ocean waters.

Section VII. OPERATING PROCEDURES

12. Maintenance. The following procedures are to be followed in order to minimize the amount of oily bilge waste generated during maintenance.

- a. Use only the minimum amount of water required for washdown of machinery spaces.
- b. Use containers to collect liquids that normally drain to the bilge (sinks, water fountains, etc.) or re-pipe drains.

- c. Repair or contain all identified oil, grease, and fuel leaks.
- d. Drain the contents of machinery sumps into appropriate containers. Do not drain machinery sumps into the bilge. Draining the sumps of oil lubricated machinery or the contents of oil filters, oil strainers, or oil purifiers into the bilge of any U.S. vessel are prohibited (U.S. Coast Guard Regulations).
- e. Do not use detergents for cleaning machinery. Detergents promote stable oil-water emulsions, which are difficult to separate and dispose of.
- f. Do not add dispersants or emulsifiers to oily wastewater. Federal law prohibits the addition of dispersants or emulsifiers to oily wastewater, which is to be discharged.
- g. Do not dilute oily waste with water in order to reduce the oil concentration of the mixture. Federal law prohibits this practice.
- h. Use drip pans to the maximum extent practicable under potential sources of oil leaks/spills such as:
 - (1) Oil filter and strainer housing drains.
 - (2) Oil purifiers, centrifuges, and clarifiers.
 - (3) Machinery lubricating oil pump drains.
 - (4) Oil drains from gutters around machinery.
 - (5) Fuel oil leaks from diesel engine injectors.
 - (6) Run off from the automatic or manual oiling of machinery.
 - (7) Leakage from oil pump packing glands.
 - (8) When changing disposable fuel/oil filter cartridges.
- i. Some classes of Army Watercraft employ oil-lubricated stern bearings and oil seals, and/or hydraulically controlled propellers. Although minor, some oil leakage from these systems is possible, which may result in exceeding the standards of the Federal Water Pollution Control Act. Therefore, inspections of oil-lubricated bearings and oil seals and hydraulically controlled propellers should be conducted on a periodic basis.

13. Oil Transfer. Transferring oil (including fuel oil) from/to a shoreside facility to/from a watercraft or between watercraft increases the risk of an oil spill. Therefore, oil transfer operations shall not be conducted unless:

- a. There is a designated person in charge on the transferring watercraft/facility and the receiving watercraft/facility.
- b. The watercraft's moorings are strong enough to hold during expected variances in surge, current, and weather and long enough to allow for changes in draft, drift, and tide during the transfer operation.
- c. The oil transfer hoses are long enough to allow the watercraft to move to the limits of its moorings without placing undue strain on the hoses and/or oil transfer piping.
- d. Each hose is adequately supported to prevent kinking/other damage to the hose and excessive coupling strain.
- e. Each part of the oil transfer system not necessary for the transfer operation is securely blanked or shut off.
- f. Each oil transfer hose has no unrepaired loose covers, kinks, bulges, soft spots, or any other defect which would permit the discharge of oil through the hose material and no gouges, cuts, or slashes that penetrate the first layer of hose reinforcement.

- g. Each drain and scupper is closed.
- h. All connections in the oil transfer system are leak free except that a component in an oil transfer system, such as the packing glands of a pump, may leak at a rate that does not exceed the capacity of the discharge containment provided during the transfer operation.
- i. Two way voice communications is established between the designated person in charge on the transferring watercraft/facility and the receiving watercraft/facility.

14. Oil Discharge Containment. Watercraft must have a fixed container or enclosed deck area under or around each fuel oil or bulk lubrication oil tank vent, overflow and fill pipe which has a capacity of at least one-half barrel.

Section VIII. POLLUTION CONTINGENCY PLANS AND REGULATIONS

15. National Oil and Hazardous Substances Pollution Contingency Plan. The purpose of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) is to provide the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants. The plan coordinates the Federal response to spills in U.S. navigable waters, their tributaries and adjoining shorelines. These waters include inland rivers, the Great Lakes, coastal territorial waters, the contiguous zone and high seas where there is a threat to U.S. waters, shoreface, or shelf bottom.

The Federal Water Pollution Control Act directed all Federal agencies to development emergency plans and procedures for dealing with accidental pollution. Thus, the U.S. was divided into regions with a Regional Response Center (RRC) as the headquarters for pollution control activities. Information on RRC locations is available from any U.S. Coast Guard (USCG) District Office or Environmental Protection Agency (EPA) Regional Office. Each Army activity having the potential to become an accidental polluter of the navigable waters of the U.S., their tributaries or adjoining shorelines, must contact their RRC to acquaint themselves with their regions contingency plans and how their activity should respond to a spill. In addition, each Army activity must formulate and widely disseminate their own emergency procedures for accidental spills of oil and hazardous substances (AR 200-1 and AR 500-60). State and local requirements must be included in these procedures.

16. Reporting Requirements.

Any person in charge of a vessel or a facility shall, as soon as he or she has knowledge of any discharge from such vessel or facility in violation of section 311(b)(3) of the CWA, immediately notify the National Response Center (NRC) at 1-800-424-8802 or 1-202-267-2675. If direct reporting to the NRC is not practicable, reports may be made to the USCG or EPA predesignated On-Scene Commander (OSC) for the geographic area where the discharge occurs. The EPA predesignated OSC may also be contacted through the regional 24-hour emergency response telephone number. All such reports shall be promptly relayed to the NRC. If it is not possible to notify the NRC or predesignated OSC immediately, reports may be made immediately to the nearest Coast Guard unit. In any event such person in charge of the vessel or facility shall notify the NRC as soon as possible.

NOTE

Do not delay the reporting of a spill due to the lack of complete information. You might be providing the NRC with the first indication that a major incident has occurred.

The following information should be reported to the NRC via telephone in a spill emergency:

Who are you?

- Your name, address and phone number.
- The name, address and phone number of the responsible party (if known).

What happened?

- What material was released?
- How much was released?

Where did it happen?

- City, County, State.
- Location of the nearest street corner or landmark.

When did it happen?

- When did the spill occur?
- When did you discover the spill?

Why did it happen?

- How did the spill occur?
- What caused the spill?

17. Penalties.

Any such person who fails to notify immediately the appropriate agency of the United States Government as soon as he has knowledge of such release or who submits in such a notification any information which he knows to be false or misleading shall, upon conviction, be fined in accordance with the applicable provisions of Title 18 of the U.S. Code or imprisoned for not more than 3 years (or not more than 5 years in the case of a second or subsequent conviction), or both. Notification received pursuant to this paragraph or information obtained by the exploitation of such notification shall not be used against any such person in any criminal case, except a prosecution for perjury or for giving a false statement (33 U.S.C. 1321).

APPENDIX A - REFERENCES

1. Department of the Army Regulations.

- a. AR 56-9, Watercraft.
- b. AR 200-1, Environmental Protection and Enhancement.
- c. AR 200-2, Environmental Effects of Army Actions.
- d. AR 500-60, Disaster Relief.

2. Other Documents.

- a. Federal Water Pollution Control Act (FWPCA) of 1972 as amended by the Clean Water Act of 1977 (CWA), 33 U.S.C. 1251 et seq.
- b. Oil Pollution Act (OPA) of 1990, 33 U.S.C. 2701 et seq.
- c. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). 42 U.S.C. 9601, et seq.
- d. Emergency Planning and Community Right-To-Know Act of 1986 (EPCRA), 42 U.S.C. 11001 et seq.
- e. Clean Water Act as Amended by the Water Quality Act of 1987 (Public Law 100-4), 33 U.S.C. 1321 et seq.
- f. Toxic Substances Control Act (TSCA), 15 U.S.C. 2601 et seq.
- g. Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. 6901 et seq.
- h. 33 CFR Part 151, Vessels Carrying Oil, Noxious Liquid Substances, Garbage, Municipal or Commercial Waste, and Ballast Water.
- i. 33 CFR Part 155, Oil or Hazardous Material Pollution Prevention Regulations for Vessels.
- j. 33 CFR Part 159, Marine Sanitation Devices.
- k. 40 CFR Part 110, Discharge of Oil.
- l. 40 CFR Part 112, Oil Pollution Prevention.
- m. 40 CFR Part 140, Marine Sanitation Device Standard.
- n. 40 CFR Part 300, National Oil and Hazardous Substances Pollution Contingency Plan.
- o. International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78).
- p. DOD Directive 6050.1, Environmental Effects in the United States of Department of Defense Actions.
- q. DOD Directive 6050.4, Marine Sanitation Devices for Vessels Owned or Operated by the Department of Defense.
- r. DOD Directive 6050.7, Environmental Effects Abroad of Major Department of Defense Actions.
- s. DOD Directive 6050.15, Prevention of Oil Pollution from Ships Owned or Operated by the Department of Defense.

APPENDIX B

SUMMARY OF U.S. ARMY DISCHARGE RESTRICTIONS

	U.S. Navigable Waters & Territorial Seas (0-3 nm)	Contiguous Zone (3-12 nm)	12-25 nm	> 25 nm
Sewage	No discharge.	Army Watercraft may discharge sewage directly overboard. Vessels equipped with a USCG-approved Type I or II MSD shall treat the sewage prior to discharge.	Army Watercraft may discharge sewage directly overboard. Vessels equipped with a USCG-approved Type I or II MSD shall treat the sewage prior to discharge.	Army Watercraft may discharge sewage directly overboard. Vessels equipped with a USCG-approved Type I or II MSD shall treat the sewage prior to discharge.
Graywater	Army Watercraft shall collect graywater in installed MSDs or graywater collection systems. If no collection capability exists, vessels may discharge graywater directly overboard unless prohibited by State and/or Local requirements.	Army Watercraft may discharge graywater directly overboard.	Army Watercraft may discharge graywater directly overboard.	Army Watercraft may discharge graywater directly overboard.
Oily Waste	No sheen. Oil content of effluent without dilution must be less than 15 ppm.	No sheen. Oil content of effluent without dilution must be less than 15 ppm.	No sheen. Oil content of effluent without dilution must be less than 100 ppm.	No sheen. Oil content of effluent without dilution must be less than 100 ppm.
Garbage (Non-plastic)	No discharge.	Discharge of victual wastes and all other garbage including paper products, rags, glass, metal, bottles, crockery and similar refuse after it has been passed through a grinder or comminuter capable of processing garbage so that it passes through a screen with openings no greater than 25 millimeters (one inch) is permitted.	Discharge of victual wastes and all other garbage including paper products, rags, glass, metal, bottles, crockery and similar refuse is permitted.	Discharge of dunnage, lining and packing materials that float is permitted.
Garbage (Plastics)	No discharge.	No discharge.	No discharge.	No discharge.
Hazardous Substances	No discharge.	No discharge.	No discharge.	No discharge.
Medical Wastes	No discharge.	No discharge.	No discharge.	No discharge.

By Order of the Secretary of the Army:

ERIC K. SHINSEKI
General, United States Army
Chief of Staff

Official:



JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
0201512

DISTRIBUTION:

To be distributed in accordance with Initial Distribution Number (IDN) 341105, requirements for TB 55-1900-206-14.

These are the instructions for sending an electronic 2028

The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however, only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17 and 27.

From: "Whoever" whoever@avma27.army.mil
To: TACOM-TECH-PUBS@ria.army.mil

Subject DA Form 2028

1. **From:** Joe Smith
2. **Unit:** home
3. **Address:** 4300 Park
4. **City:** Hometown
5. **St:** MO
6. **Zip:** 77777
7. **Date Sent:** 19-OCT-93
8. **Pub no:** 55-1915-200-10
9. **Pub Title:** TM
10. **Publication Date:** 11-APR-88
11. **Change Number:** 12
12. **Submitter Rank:** MSG
13. **Submitter Fname:** Joe
14. **Submitter Mname:** T
15. **Submitter Lname:** Smith
16. **Submitter Phone:** 123-123-1234
17. **Problem:** 1
18. **Page:** 1
19. **Paragraph:** 3
20. **Line:** 4
21. **NSN:** 5
22. **Reference:** 6
23. **Figure:** 7
24. **Table:** 8
25. **Item:** 9
26. **Total:** 123
27. **Text:**
This is the text for the problem below line 27.

RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS						Use Part II (<i>reverse</i>) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE
For use of this form, see AR 25-30; the proponent agency is OAASA							
TO: (<i>Forward to proponent of publication or form</i>) (<i>Include ZIP Code</i>)						FROM: (<i>Activity and location</i>) (<i>Include ZIP Code</i>)	
PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS							
PUBLICATION/FORM NUMBER TB 55-1900-206-14						DATE 15 March 2002	TITLE TECHNICAL BULLETIN CONTROL AND ABATEMENT OF POLLUTION BY ARMY WATERCRAFT
ITEM	PAGE	PARA- GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON	
<i>* Reference to line numbers within the paragraph or subparagraph.</i>							
TYPED NAME, GRADE OR TITLE						TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

TO: <i>(Forward direct to addressee listed in publication)</i>	FROM: <i>(Activity and location) (Include ZIP Code)</i>	DATE
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PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER			DATE	TITLE				
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

PART III - REMARKS *(Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)*

TYPED NAME, GRADE OR TITLE			TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION			SIGNATURE		
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<p align="center">RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS</p> <p align="center">For use of this form, see AR 25-30; the proponent agency is OAASA</p>	<p>Use Part II (reverse) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).</p>	<p>DATE</p>
	<p>TO: (Forward to proponent of publication or form) (Include ZIP Code)</p>	

<p align="center">PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS</p>	
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<p>PUBLICATION/FORM NUMBER</p> <p>TB 55-1900-206-14</p>	<p>DATE</p> <p>15 March 2002</p>	<p>TITLE</p> <p>TECHNICAL BULLETIN CONTROL AND ABATEMENT OF POLLUTION BY ARMY WATERCRAFT</p>
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ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON

** Reference to line numbers within the paragraph or subparagraph.*

<p>TYPED NAME, GRADE OR TITLE</p>	<p>TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION</p>	<p>SIGNATURE</p>
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TO: <i>(Forward direct to addressee listed in publication)</i>	FROM: <i>(Activity and location) (Include ZIP Code)</i>	DATE
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PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

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TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
 1 decimeter = 10 centimeters = 3.94 inches
 1 meter = 10 decimeters = 39.37 inches
 1 dekameter = 10 meters = 32.8 feet
 1 hectometer = 10 dekameters = 328.08 feet
 1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
 1 decigram = 10 centigrams = 1.54 grains
 1 gram = 10 decigrams = .035 ounce
 1 dekagram = 10 grams = .35 ounce
 1 hectogram = 10 dekagrams = 3.52 ounces
 1 kilogram = 10 hectograms = 2.2 pounds
 1 quintal = 100 kilograms = 220.46 pounds
 1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. ounces
 1 liter = 10 deciliters = 33.81 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	To	Multiply by	To change	To	Multiply by
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit	5/9 (after	Celsius	°C
	temperature	subtracting 32)	temperature	

PIN: 013223-000