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Chron File - June 1993 #1 [9]

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DOCUMENT NO. AND TYPE	SUBJECT/TITLE	DATE	RESTRICTION
001. memo	For the Executive Secretary, National Security Council. Subject: Significant Military Exercise - TANDEM THRUST 93. (1 page)	06/10/1993	P1/b(1)
002. cable	re: Part I Significant Military Exercise Brief. (2 pages)	05/14/1993	P1/b(1)
003. cable	re: Proposed Public Affairs Guidance -- Ex Tandem Thrust 93. (2 pages)	05/18/1993	P1/b(1)

COLLECTION:

Clinton Presidential Records
National Security Council
Defense Policy and Arms Control (Robert Bell)
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Chron File - June 1993 #1 [9]

2016-0152-F

vz4416

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

Freedom of Information Act - [5 U.S.C. 552(b)]

P1 National Security Classified Information [(a)(1) of the PRA]
P2 Relating to the appointment to Federal office [(a)(2) of the PRA]
P3 Release would violate a Federal statute [(a)(3) of the PRA]
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P5 Release would disclose confidential advice between the President
and his advisors, or between such advisors [(a)(5) of the PRA]
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purposes [(b)(7) of the FOIA]
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financial institutions [(b)(8) of the FOIA]
b(9) Release would disclose geological or geophysical information
concerning wells [(b)(9) of the FOIA]

C. Closed in accordance with restrictions contained in donor's deed
of gift.

PRM. Personal record misfile defined in accordance with 44 U.S.C.
2201(3).

RR. Document will be reviewed upon request.

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NATIONAL SECURITY COUNCIL
WASHINGTON, D.C. 20506

4279

June 12, 1993

ACTION

MEMORANDUM FOR WILLIAM H. ITOH

THROUGH: ROBERT BELL *RB*

FROM: KEITH HAHN *KH*

SUBJECT: Significant Military Exercise TANDEM THRUST 93

Attached at Tab I is a proposed memorandum to the Executive Secretary, Department of Defense, approving military exercise TANDEM THRUST 93. At Tab II Defense recommends approval and State concurs.

TANDEM THRUST 93 is a joint task force field training exercise scheduled to take place throughout the month of July in and near the islands of Guam, Tinian and Farallon De Medinilla in the Marianas. A total of approximately 5000 U.S. military personnel will participate.

The critical cancellation date is June 21, 1993.

Concurrence by: Sandra Kristoff *SK*

RECOMMENDATION

That you sign the memorandum at Tab I approving the exercise.

Attachments

Tab I Memorandum for Signature

Tab II OSD Executive Secretary Memorandum, June 10, 1993

~~CONFIDENTIAL~~

Declassify on: OADR

DECLASSIFIED
E.O. 13526
White House Guidelines, September 11, 2006
By *VR* NARA, Date *10/3/2006*
2016-052-F

~~CONFIDENTIAL~~

NATIONAL SECURITY COUNCIL

WASHINGTON, D.C. 20506

MEMORANDUM FOR COL MICHAEL B. SHERFIELD
Executive Secretary
Department of Defense

SUBJECT: Significant Military Exercise TANDEM THRUST 93

Military exercise TANDEM THRUST 93 is approved.

William H. Itoh
Executive Secretary

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NATIONAL SECURITY COUNCIL

WASHINGTON, D.C. 20506

June 12, 1993

ACTION

MEMORANDUM FOR WILLIAM H. ITOH

THROUGH: ROBERT BELL *RB*FROM: KEITH HAHN *KH*

SUBJECT: Defense Draft Bill RE Public Vessel Plastic and Solid Waste Control Act of 1993

Attached at Tab II is a revised Defense draft of the Public Vessel Plastic and Solid Waste Control Act of 1993. An earlier draft of this bill raised concerns from several agencies and resulted in a meeting on April 29 to find ways to answer these concerns.

The primary issue raised in the original draft was DoD's proposal for an open-ended extension to the compliance requirements of the Act. Most dissenting agencies (State, Commerce, NOAA and EPA) wanted some form of interagency oversight of DoD's progress in meeting compliance requirements. This draft answers these concerns by requiring the Secretary of Defense and the Secretary of Transportation to report to the heads of concerned Federal agencies annually on discharges from submersibles (which DoD originally wanted totally exempted). These Secretaries are also required to report in five years on the "then-existing technologies for solid waste management aboard ships, including submersibles, and assessing the practicability of employing such technologies"

(2) *va*
Concurrences by: Jeremy Rosner and Eileen Claussen

RECOMMENDATION

That you sign the memorandum at Tab I concurring in the Defense draft bill.

Attachments

Tab I Memorandum for Signature
Tab II Incoming Correspondence

NATIONAL SECURITY COUNCIL

WASHINGTON, D.C. 20506

MEMORANDUM FOR RONALD K. PETERSON

FROM: WILLIAM H. ITOH

SUBJECT: Revised Defense Draft Bill RE Public Vessel
Plastic and Solid Waste Control Act of 1993

The National Security Council staff concurs in the revised Defense draft bill.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503

4/2/

SPECIAL

June 4, 1993

LEGISLATIVE REFERRAL MEMORANDUM

LRM #D-252

DRAFT #209

TO: Legislative Liaison Officer -

COMMERCE - Michael A. Levitt - (202)482-3086 - 324
JUSTICE - Faith Burton - (202)514-2141 - 217
STATE - Bill Keppler - (202)647-2137 - 225
TRANSPORTATION - Tom Herlihy - (202)366-4687 - 226
EPA - Thomas C. Roberts - (202)260-5414 - 326
NSC - William H. Itoh - (202)395-3722 - 249

FROM: RONALD K. PETERSON (for) *Ronald K. Peterson*
Assistant Director for Legislative Reference

OMB CONTACT: Holly FITTER (395-3233)
Secretary's line (for simple responses): 395-6194
Linda WIESMAN (395-6808)

SUBJECT: *Revised* DEFENSE Draft Bill Public Vessel Plastic and
Solid Waste Control Act of 1993

DEADLINE: 10:00 AM June 9, 1993

COMMENTS: If we do not hear from your agency within the
prescribed timeframe we will assume that you have no objection
to clearance.

OMB requests the views of your agency on the above subject before
advising on its relationship to the program of the President, in
accordance with OMB Circular A-19.

Please advise us if this item will affect direct spending or
receipts for purposes of the the "Pay-As-You-Go" provisions of
Title XIII of the Omnibus Budget Reconciliation Act of 1990.

CC:
J. Payne
L. Haber
T. Hunt
K. McGinty

A BILL

**Department of Defense and Coast Guard Ship
Plastic and Solid Waste Control Act of 1993**

To amend the Act to Prevent Pollution from Ships in order to establish standards for compliance with Annex V to the MARPOL Convention by ships owned or operated by the Department of Defense and the Coast Guard, and for other purposes.

Be it enacted by the Senate and House of Representatives of
the United States in Congress assembled,

Section 1. Title. This act may be cited as the Department of Defense and Coast Guard Ship Plastic and Solid Waste Control Act of 1993.

Section 2. Applicability. Subsection 3(b)(1)(A) of the Act to Prevent Pollution from Ships [33 U.S.C. §1902(b)(1)(A)] is amended to read as follows: "a warship, naval auxiliary, or other ship owned or operated by the Department of Defense or the Coast Guard when engaged in noncommercial service; or".

Section 3. Compliance Deadline. Subsection 3(b)(2)(A) of the Act to Prevent Pollution from Ships [33 U.S.C. § 1902(b)(2)(A)] is amended by deleting the words "5 years after the effective date of this paragraph" and substituting therefor "December 31st, 1998," and by adding the words "other than a submersible" following the words "paragraph (1)(A)."

Section 4. Special Area Discharges. Section 3 of the Act to Prevent Pollution from Ships [33 U.S.C. § 1902] is amended by renumbering existing subsections (c) and (d) as (d) and (e) respectively and inserting new subsection (c) after subsection (b), as follows:

**Department of Defense and Coast Guard Ship
Plastic and Solid Waste Control Act of 1993**

"(c) Special Area Discharges.

(1) This chapter shall not apply to effluent or other discharges from pulpers, comminuters, shredders, compactors, processors or other waste processing devices from any ship described in subsection (b)(1) while such ship is located in a special area in effect under the Convention unless:

(A) The ship is located within twelve nautical miles of the nearest land;

(B) such effluent or discharges result in the release of floatable material upon the surface of the water; or

(C) such effluent or discharges result in the release of plastic, irrespective of whether it floats."

Section 5. Full compliance measures. Renumbered subsection 3(e) of the Act to Prevent Pollution from Ships [33 U.S.C. 1902(e)] is amended as follows:

"(e) Compliance by Excluded Vessels. The United States hereby establishes a goal of full compliance with the MARPOL Protocol. To this end:

(1) The Secretary of Defense and the Secretary of Transportation shall prescribe standards applicable to ships excluded from this chapter by subsection (b)(1) of this section and for which they are responsible. Standards prescribed under this subsection shall ensure, so far as is reasonable and practicable without impairing the operations or operational capabilities of such ships, that such ships act in a manner consistent with the MARPOL Protocol.

(2) The Secretary of Defense and the Secretary of Transportation annually shall report to the heads of

**Department of Defense and Coast Guard Ship
Plastic and Solid Waste Control Act of 1993**

1 concerned Federal agencies regarding discharges from
2 submersibles and discharges pursuant to subsection (c)(1),
3 which discharges would not otherwise be authorized under
4 Annex V to the Convention.

5 (3) Five years from the effective date of this section, and
6 on each five year anniversary thereafter until full
7 compliance with Annex V to the Convention is achieved by all
8 ships under their control, the Secretary of Defense and the
9 Secretary of Transportation shall submit to the Secretaries
10 of concerned agencies a report reviewing the then-existing
11 technologies for solid waste management aboard ships,
12 including submersibles, and assessing the practicability of
13 employing such technologies in Department of Defense and
14 Coast Guard ships, including submersibles, respectively, to
15 achieve full compliance with Annex V to the Convention by
16 all ships under their control."
17

Codified Section 1902, As Amended

§ 1902. Ships subject to preventive measures

(a) Included vessels

This chapter shall apply-

(1) to a ship of United States registry or nationality, or one operated under the authority of the United States, wherever located;

(2) with respect to Annexes I and II to the Convention, to a ship, other than a ship referred to in paragraph (1), while in the navigable waters of the United States;

(3) with respect to the requirements of Annex V to the Convention, to a ship, other than a ship referred to in paragraph (1), while in the navigable waters or the exclusive economic zone of the United States; and

(4) with respect to regulations prescribed under section 1905 of this title, of any port or terminal in the United States.

(b) Excluded vessels

(1) Except as provided in paragraph (2), this chapter shall not apply to-

(A) a warship, naval auxiliary, or other ship owned or operated by the Department of Defense or the Coast Guard when engaged in noncommercial service; or

(B) any other ship specifically excluded by the MARPOL Protocol.

(2) (A) Notwithstanding any provision of the MARPOL Protocol, and subject to subparagraph (B) of this paragraph, the requirements of Annex V to the Convention shall apply after December 31st, 1998 to a ship referred to in paragraph (1) (A), other than a submersible.

(B) This paragraph shall not apply during time of war or a declared national emergency.

Codified Section 1902, As Amended

(c) Special Area Discharges.

(1) This chapter shall not apply to effluent or other discharges from pulpers, comminuters, shredders, compactors, processors or other waste processing devices from a ship described in subsection (b)(1) while such ship is located in a special area in effect under the Convention unless:

(A) The ship is located within twelve nautical miles of the nearest land;

(B) such effluent or discharges result in the release of floatable material upon the surface of the water; or

(C) such effluent or discharges result in the release of plastic, irrespective of whether it floats.

(d) Regulations

The Secretary shall prescribe regulations applicable to ships of a country not a party to the MARPOL Protocol, including regulations conforming to and giving effect to the requirements of Annex V as they apply under subsection (a) of this section, to ensure that their treatment is not more favorable than that accorded ships to parties to the MARPOL Protocol.

(e) Compliance by Excluded Vessels

The United States hereby establishes a goal of full compliance with the MARPOL Protocol. To this end:

(1) The Secretary of Defense and the Secretary of Transportation shall prescribe standards applicable to ships excluded from this chapter by subsection (b)(1) of this section and for which they are responsible. Standards prescribed under this subsection shall ensure, so far as is reasonable and practicable without impairing the operations or operational capabilities of such ships, that such ships act in a manner consistent with the MARPOL Protocol.

Codified Section 1902, As Amended

1 (2) The Secretary of Defense and the Secretary of
2 Transportation annually shall report to the heads of concerned
3 Federal agencies regarding discharges from submersibles and
4 discharges pursuant to subsection (c)(1), which discharges would
5 not otherwise be authorized under Annex V to the Convention.

6 (3) Five years from the effective date of this section, and
7 on each five year anniversary thereafter until full compliance
8 with Annex V to the Convention is achieved by all ships under
9 their control, the Secretary of Defense and the Secretary of
10 Transportation shall submit to the Secretaries of concerned
11 agencies a report reviewing the then-existing technologies for
12 solid waste management aboard ships, including submersibles, and
13 assessing the practicability of employing such technologies in
14 Department of Defense and Coast Guard ships, including
15 submersibles, respectively, to achieve full compliance with Annex
16 V to the Convention by all ships under their control.

May 27, 1993

Changes to 7th Draft (Dated March 1993) of the Navy's Report to Congress on Plastics

The purpose of these changes is to explain that the Navy has established a goal of full compliance with Annex V and that the exemptions for subs and discharges in special areas should be obviated if the Navy's plans for environmentally sound ships of the 21st century are fulfilled.

- Add new Section 6.1 that summarizes goals for environmentally sound ships
- Point out that Navy will continue to report to interested agencies
 - Annual report on discharges from submarines or in special areas
 - Report every 5 years on existing technologies of solid waste management aboard ships
- Change date on cover and every page to May 1993

Specific Changes

1. Page vi--Executive Summary--Add paragraph after Recommendation #3:

The Navy supports a national goal of full compliance with Annex V requirements and is working hard to achieve that goal. Beyond Annex V, the Navy has established an objective of achieving environmentally sound ships of the 21st century. The Navy now is taking all reasonable measures to minimize discharges in special areas and from submarines, and will continue searching for suitable technologies that will treat or destroy all wastes on board. The Navy will report annually to concerned Federal agencies on the discharges not authorized under Annex V from submarines and from ships operating in special areas. The Navy will also submit every 5 years to concerned Federal agencies a report reviewing the latest technologies for solid waste management aboard ships, including submarines, and the suitability of the technologies for Navy ships and submarines.

2. Page 29--Section 6.0--Replace existing paragraphs with new intro paragraph:

To protect maritime environmental quality, the Navy is taking actions that go beyond MPPRCA and Annex V requirements. The Navy has established the goal of achieving environmentally sound ships of the 21st century that will be able to treat or destroy all wastes on board. The Shipboard Solid and Plastics Waste Program will eliminate floating debris discharges worldwide. The Navy is also investigating degradable materials and plastics waste recycling options.

3. Page 29—Replace old Section 6.1 with new Section 6.1:

6.1 Environmentally Sound Ships

We expect naval ships operating in the 21st century to meet increasingly stringent environmental regulations. The Navy has a comprehensive shipboard pollution abatement program under way that will enable ships of the 21st century to be environmentally sound. The goal is for ships to operate worldwide without potential for regulatory constraints, inappropriate dependence on shore facilities, or unreasonable costs imposed by environmental regulations. The basic strategy is to:

- (1) design and operate ships to minimize waste generation and optimize waste management, and
- (2) develop shipboard systems that will destroy or appropriately treat the wastes generated on board.

If wastes are unavoidable and cannot be destroyed or retained on board for recycling ashore, they must be sufficiently treated to make all overboard discharges environmentally insignificant. We have not yet achieved the ultimate solution for on-board destruction for any shipboard wastestream, but we have made considerable progress in developing on-board capabilities to treat or process solid waste, oily waste, hazardous materials, and medical waste.

4. Page 30—Change title of Figure 3 to read "Schedule for Eliminating Discharges of Nonplastic Floating Trash"

5. Page 33—Add to Section 7 after Recommendation #3:

The Navy supports a national goal of full compliance with Annex V requirements and is working hard to achieve that goal. Beyond Annex V, the Navy has established an objective of achieving environmentally sound ships of the 21st century. The Navy now is taking all reasonable measures to minimize discharges in special areas and from submarines, and will continue searching for suitable technologies that will treat or destroy all wastes on board. The Navy will report annually to concerned Federal agencies on the discharges not authorized under Annex V from submarines and from ships operating in special areas. The Navy will also submit every 5 years to concerned Federal agencies a report reviewing the latest technologies for solid waste management aboard ships, including submarines, and the suitability of the technologies for Navy ships and submarines.



Report to Congress

U.S. Navy Compliance with the Marine Plastic Pollution Research and Control Act of 1987

May 1993

Preface

The Marine Plastic Pollution Research and Control Act of 1987 (MPPRCA) implements Annex V of the International Convention for the Prevention of Pollution by Ships (MARPOL) as U.S. law. The effective date of the Act for the maritime industry was December 31, 1988, the day Annex V entered into force for the United States.

Annex V of MARPOL prohibits (subject to limited exceptions) the disposal from ships into the sea of all plastics, including but not limited to synthetic ropes, synthetic fishing nets, and plastic garbage bags. Annex V also restricts the discharge at sea of other types of garbage to specified distances from the nearest land. Public vessels are exempt from the restrictions but are expected to comply to the extent possible.

Unlike Annex V of MARPOL, the MPPRCA does not exempt public vessels and requires the U.S. Navy, beginning five years after Annex V enters into force (i.e., December 31, 1993) to comply with the discharge controls. However, under provisions of MPPRCA, the Congress may modify this applicability to the Navy, based on this mandated Report to the Congress on the Navy's extent of compliance.

This report reviews Navy actions being taken in response to MPPRCA, the schedule for achieving maximum compliance, impediments to full compliance by December 31, 1993, ships that cannot achieve full compliance and recommended measures that will allow for Navy compliance with MPPRCA.

Executive Summary

Navy Actions in Response to MPPRCA

For a number of years, the Navy was developing shipboard solid waste management equipment, in anticipation of Annex V regulations affecting ocean dumping of trash and garbage. However, the MPPRCA requirement prohibiting the Navy from discharging plastic at sea caught the Navy somewhat by surprise because maritime regulations have always recognized the unique operating constraints of the military and have allowed the Navy to comply only to "the extent practicable." Nevertheless, the Navy responded to MPPRCA by accelerating its planned shipboard solid waste management program and modifying the program strategy to address the unanticipated plastics discharge prohibition.

From the highest levels in the Navy down to the deckplate sailor, the Navy took unprecedented measures to immediately reduce and eventually eliminate plastics waste discharges from its ships. The Navy prepared comprehensive program plans prior to passage of MPPRCA and issued new guidance and instructions on plastics waste management in 1989.

Navy sailors are now separating the plastic from the nonplastics waste at sea and storing plastics waste on board to the extent practical without impairing the operation of our ships. The waste is then off-loaded in port for recycling or proper disposal. The Navy is reducing the amount of plastics taken on board and developing new equipment for ships to manage what plastics are taken on board.

Navy Program Strategy and Approach

The Navy will comply with and exceed the requirements of Annex V and MPPRCA, subject to the recommended changes, by making changes in shipboard waste management and supply practices, and by installing new shipboard solid and plastics waste management equipment.

Prior to passage of MPPRCA, the Navy's strategy for shipboard solid waste management was to direct ships to discharge solid wastes only where permitted, and to provide ships with equipment to grind up pulpable wastes and compact unpulpable trash into sinkable slugs for overboard discharge where permitted. As early as 1970, the Navy

EXECUTIVE SUMMARY

Schedule for Compliance

waste processors. This will enable Navy ships to fully comply with the plastics waste provisions and exceed the nonplastics waste provisions of Annex V.

The Navy expects to achieve maximum compliance with MPPRCA and Annex V in 1998. The Navy has given priority status to the program and is working to accelerate development, procurement, delivery, and installation of solid waste processing equipment. Actions are under way to complete or have in progress installations of the Navy's metal/glass shredder, solid waste pulper, and plastics waste processor by the end of 1998. These actions include:

- Accelerating procurement and delivery of shipboard equipment;
- Accelerating development and testing of plastics waste processors; and
- Assigning priority status to equipment installations at the earliest opportunities.

Impediments to Full Compliance By 1994

The Navy cannot fully comply with zero-plastics discharge requirement of MPPRCA and Annex V by December 31, 1993 because: 1) the shipboard solid and plastics waste management equipment cannot be developed and installed on all ships by that date; 2) food-contaminated plastics waste cannot be stored on board for more than 3 days without unacceptable odors and potential fire, health, and sanitation risks; and 3) suitable nonplastic substitutes for all plastic items, packing, and packaging taken on board are not available.

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1.

Introduction

1.1 Purpose of Report

This Navy report fulfills a requirement of the Marine Plastic Pollution Research and Control Act of 1987 (P.L. 100-220) that each Federal agency operating ships that may not be able to comply with the requirements of the Act shall report to Congress. The Act directs each agency to report the following:

- 1) The technical and operational impediments to achieving that compliance;
- 2) An alternative schedule for achieving that compliance as rapidly as is technologically feasible;
- 3) The ships operated or contracted for operation by the agency for which full compliance with section 3(b)(2)(A) (by January 1, 1994) is not technologically feasible; and
- 4) Any other information which the agency head considers relevant and appropriate.

1.2 Marine Plastic Pollution Research and Control Act of 1987

The Marine Plastic Pollution Research and Control Act of 1987 (MPPRCA), signed by the President on December 29, 1987, implements Annex V of the International Convention for the Prevention of Pollution by Ships (MARPOL) as U.S. law, and mandates certain studies of plastics pollution and compliance reports by Federal agencies. The effective date of the Act for the maritime industry was December 31, 1988, the day Annex V entered into force for the United States.

1.3 Annex V of MARPOL

Annex V of MARPOL prohibits (subject to limited exceptions) the disposal from ships into the sea of all plastics, including but not limited to synthetic ropes, synthetic fishing nets, and plastic garbage bags. It also restricts the discharge at sea of other types of garbage to specified distances from the nearest land. Public vessels are exempt from the restrictions but are expected to comply to the extent possible. The basic requirements of Annex V are the following:

2.

Navy Actions in Response to MPPRCA

For a number of years, the Navy was developing shipboard solid waste management equipment, in anticipation of Annex V regulations affecting ocean dumping of trash and garbage. However, the MPPRCA requirement prohibiting the Navy from discharging plastic at sea caught the Navy somewhat by surprise because maritime regulations have always recognized the unique operating constraints of the military and have allowed the Navy to comply only to "the extent practicable." Nevertheless, the Navy responded to MPPRCA by accelerating its planned Shipboard Solid Waste Management Program and modifying the program strategy to address the unanticipated plastics discharge prohibition.

From the highest levels in the Navy down to the deckplate sailor, the Navy took unprecedented measures to immediately reduce and eventually eliminate plastics waste discharges from its ships. The Navy prepared comprehensive program plans prior to passage of MPPRCA and issued new guidance and instructions on plastics waste management in 1989.

Navy sailors are now separating the plastics from the nonplastics waste at sea and storing plastics waste on board until it is off-loaded in port for recycling or proper disposal. The Navy is reducing the amount of plastics taken on board and developing new equipment for ships to manage what plastics are taken on board.

2.1 Immediate High-Level Attention

Prior to passage of MPPRCA, the Assistant Secretary of the Navy for Shipbuilding and Logistics, in October 1987, directed the Naval Sea Systems Command (NAVSEA) and the Naval Supply System Command (NAVSUP) to prepare comprehensive plans of action to control plastics waste discharge at sea. NAVSUP's plan addresses the expeditious reduction of the plastic material aboard ships, with emphasis on initiatives having tangible results by December 31, 1993. NAVSEA's plan addresses the expeditious development and installation of solid waste handling and destruction devices suitable for plastic disposition in a shipboard environment. Although the MPPRCA gives the Navy five years to comply with the plastic discharge ban, the Navy has already taken significant steps to reduce

NAVY ACTIONS IN RESPONSE TO MPPRCA

2.2.2 Navy Program Strategy and Approach

effective date of MPPRCA for Navy ships).

The longer-term objective is to fully comply with the plastics and nonplastics discharge restrictions of Annex V by the end of 1998, and to exceed the requirements by eliminating the discharge of floatable marine debris from Navy ships.

The Navy will comply with Annex V and MPPRCA, subject to the recommended changes, by making changes in shipboard waste management and supply practices, and by installing new shipboard solid and plastics waste management equipment on all ships.

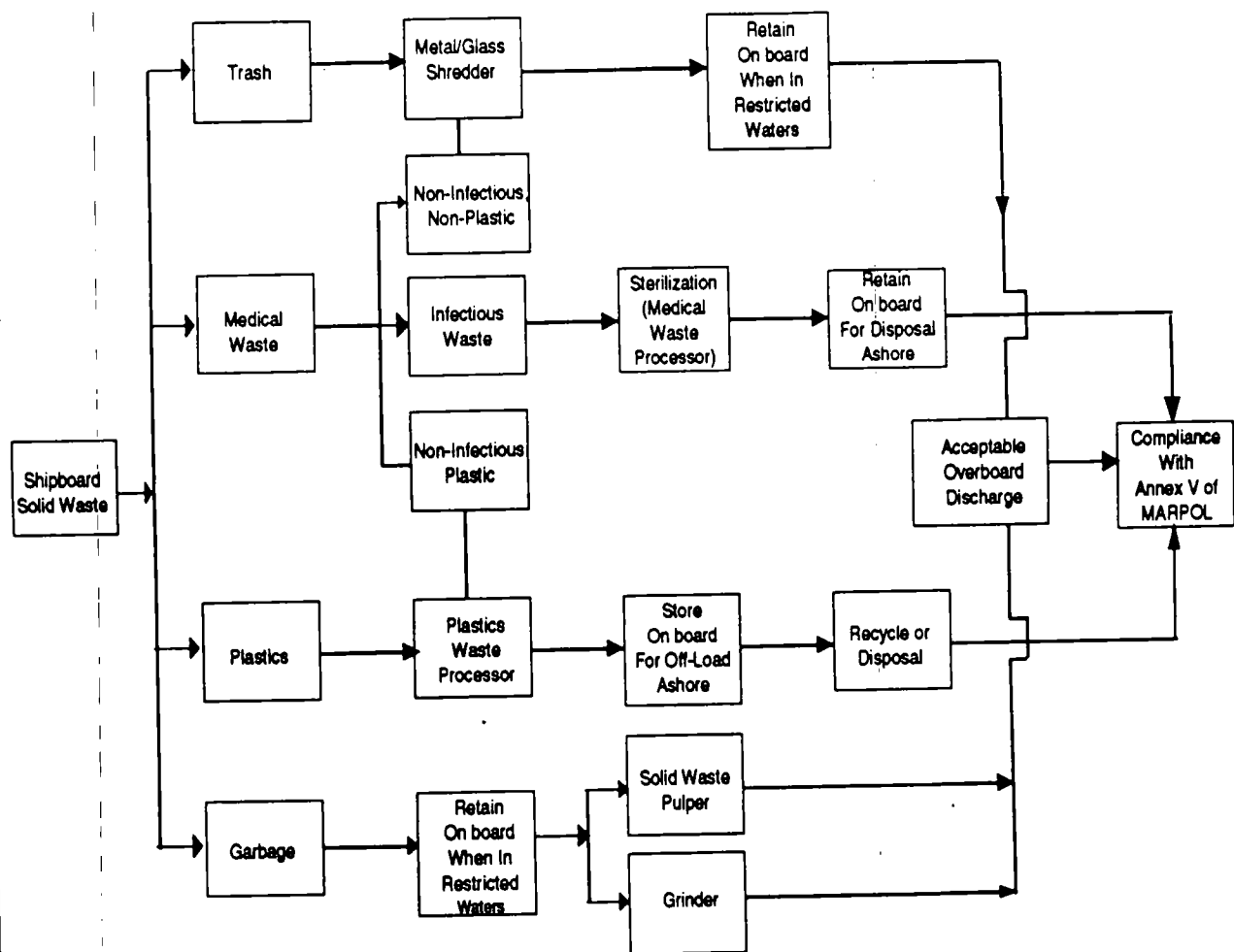
Prior to passage of MPPRCA, the Navy's strategy for shipboard solid waste management was to direct ships to discharge solid wastes only where permitted, and to provide ships with equipment to grind up pulpable wastes and compact unpulpable trash into sinkable slugs for overboard discharge where permitted. As early as 1970, the Navy imposed requirements for shipboard solid waste disposal that were more stringent than those specified in Annex V. Under the original long-term strategy, plastics waste was to have been compacted along with other unpulpable trash and discharged as sinkable slugs. However, the new restrictions on plastics waste discharge caused the Navy to substantially modify its solid waste management practices and long-term strategy.

Under the revised Navy strategy, the approach to compliance with the nonplastics requirements of Annex V remains essentially the same, except that unpulpable trash will be shredded rather than compacted. For the specific problem of shipboard plastics waste management, the Navy's compliance strategy includes five additional elements:

NAVY ACTIONS IN RESPONSE TO MPPrCA

Figure 1

U.S. Navy's Shipboard Solid Waste Management Strategy



2.2.3 Navy Requirements

Following the Fleet Commanders instructions in March 1989 for ships crews to separate and store plastics waste on board, the Chief of Naval Operations institutionalized the new procedures for shipboard solid and plastics waste management in a major revision to the Navy's *Environmental Protection and Natural Resources Manual* (OPNAVINST 5090.1A). The Manual requires the following shipboard procedures for managing solid wastes.

NAVY ACTIONS IN RESPONSE TO MPPRCA

50 nm from the nearest shoreline by properly packaging the waste for negative buoyancy.

- (3) Food-contaminated plastics. When at sea for four or more continuous days, as a goal, retain food-contaminated plastics on board for the last 3 days before return to port to prevent odor and sanitation problems.
- (4) In the event that any on board retention of plastics waste endangers the health or safety of crew members, creates an unacceptable nuisance condition, or compromises combat readiness, overboard discharge is permitted beyond 50 nm from the nearest shoreline, provided that the waste has been properly packaged and weighted for negative buoyancy.
- (5) All at-sea disposal of plastics shall be approved by the commanding officer and appropriately logged to indicate the amount, time, and location of the overboard discharge. Commands shall report discharges of plastics at sea when not in compliance with paragraph above, according to requirements established by type commanders, immediate operational commanders or fleet commanders.
- (6) Submarines shall make a conscientious effort to minimize the discharge of plastics at sea following the guidance above.

Garbage

- (1) Unpulped garbage shall not be discharged within 12 nm of any U.S. coastline.
- (2) Pulped garbage shall be discharged as far from any U.S. coastline as practicable, but not within three nm of any U.S. coastline. Pulped garbage may be discharged into shipboard sewage holding tanks only when a ship is docked and the sewage tanks are discharging to pier facilities. Garbage pulpers shall not be used within three nm of any U.S. coastline in order to maximize necessary sewage holding capacity and to preclude inadvertent overboard discharges of sewage.

2.2.5 Fleet Operations

As soon as results of the Demonstration Project were available, the fleets took actions to control the Navy's plastics waste discharge at sea. In March 1989, fleet commanders instructed ships to minimize plastics waste dumping at sea by making operational changes in the way nonplastics solid and plastics wastes are managed on board. Specifically, all surface ships were instructed to follow the 3-day/20-day procedures that were later promulgated in OPNAVINST 5090.1A. An evaluation of ship operating schedules in 1988 indicated that implementation of the 3-day/20-day policy would immediately reduce Navywide plastics waste discharge at sea by 70 percent.

2.2.6 Crew Education

In conjunction with the new policy of separating and storing plastics waste on board, the Navy developed and sent to all ships an educational package to help ships understand the reasons for the new requirements and comply with them. The education strategy focussed on motivating the entire chain of command, ships' officers, and ships' crews, by providing justification for and useful information about the new requirements.

The Navy's plastics education package includes guidance material, videotapes, posters, and general literature. A ships' guide contains information on the problems caused by plastics in the oceans, pertinent Navy requirements, essential elements of a successful shipboard program, example approaches used on the demonstration ships, and general information about related issues. The guide also includes lists of common plastic and substitute nonplastic items, sample ship instructions to implement the program, and Navy points of contact for further information. To educate and motivate the crew members, the Navy made a 10-minute videotape about plastics waste, the Navy's program, and appropriate shipboard actions. To show support for the program from the top levels of the Navy, the Vice Chief of Naval Operations made a statement on the videotape.

The first educational package sent to all ships was so well received by officers and enlisted personnel that, in 1991, the Navy sent all ships an updated package with a revised ships' guide, new posters, and a new videotape.

Internally, the Navy is making significant progress in changing packaging requirements. Since the program was initiated, changes have been made to reduce or eliminate plastics packaging for over 350,000 Navy-managed items, by eliminating unnecessary plastics, using alternate materials when practicable, and packaging more in bulk. Based on annual demand projections for the items reviewed to date, an estimated 475,000 pounds of plastic will be eliminated as a direct result of these changes.

Examples of other supply initiatives include:

- Naval Supply Centers are reducing the amount of plastic packing and packaging materials they are using by substituting fiberboard boxes, paper cushioning and dunnage materials, paper bags and envelopes, rope and metal strapping, and by maximum use of reusable containers.
- Navy Clothing and Textile Research Facility will revise specifications affecting 500 items to substitute plastic bags with paper bands, tissue/kraft paper sleeves, or eliminate bag totally.
- Navy Publications and Printing Service will specify non-plastic packaging in all new contracts and Navy Publications and Forms Center is experimenting with cold seal paper packaging.

2.2.8 Shipboard Equipment Development

Prior to passage of MPPRCA, the Navy had been researching, developing, testing, and evaluating technologies that could improve shipboard solid waste management. The Navy currently has three pieces of equipment at various stages of development: solid waste pulper, metal/glass shredder, and plastics waste processor.

2.2.8.2 Metal/Glass Shredder

The Navy is developing a metal/glass shredder specifically designed for Navy ships. The shredder will ease handling of routine trash and help ships comply with the Navy's requirement to weight discharged trash for negative buoyancy. It will be used to shred all metal, glass, and ceramic waste into a sinkable form to be packed into a paper or cotton bag and discharged overboard where permitted. The production version of the metal/glass shredder will be installed in operating Navy ships by the end of 1998.

2.2.8.3 Plastics Waste Processor

The Navy is evaluating innovative approaches for processing shipboard plastics waste through a multi-phased research and development program. The primary objective is to densify plastics waste and make it safe for long-term storage on board.

In 1991, two breadboard-level prototypes were designed, fabricated, and laboratory tested by the Navy. In 1992, full-scale development models of the two concepts were designed and fabricated. The production version of the plastics waste processor will be installed in operating Navy ships by the end of 1998.

2.3 Summary of Navy's Accomplishments

Since the passage of MPPRCA, the Navy has made significant progress toward complete compliance with its requirements by taking aggressive actions in the areas of shipboard operations, supply system, equipment development, and education.

Navy ships are presently 100 percent in compliance with the nonplastics waste requirements of Annex V (93 percent of total solid wastes), except in the special areas. Ships are also 100 percent in compliance with the zero-plastics discharge requirement when they are at sea for 3 days or less, and 70 percent in compliance overall.

The Navy achieved this level of compliance beginning in March 1989, when all U.S. Navy ships began retaining all plastics waste on board for at least the last 3 days, and nonfood-contaminated plastics waste for at least the first 20 days they are at sea.

3.

Schedule For Achieving Maximum Compliance

The Navy expects to achieve maximum compliance with all provisions of MPPRCA and Annex V in 1998. Navy ships and submarines have already achieved full compliance with MPPRCA requirements for nonplastics solid waste discharges, but not for plastics waste nor special areas.

Compliance with MPPRCA presents the Navy with an array of problems caused by the different regulations depending on the type of solid waste (plastics or nonplastics solid waste) and geographic location (special areas or non-special areas), and the different types of Navy vessels and their characteristics.

The Navy is giving priority status to the program and is working to accelerate development, procurement, delivery, and installation of solid waste processing equipment. Actions are under way to complete or have in progress installations of the Navy's metal/glass shredder, solid waste pulper, and plastics waste processor by the end of 1998. These actions include:

- Accelerating developing, testing, procurement, and installation of shipboard equipment;
- Programming for hardware production, acquisition, and ship installations prior to completion of hardware development; and
- Assigning priority status to equipment installations at the earliest opportunities including modification of some ships in advance of availability of shipboard solid waste production equipment.

Normally, the development and fleetwide installation of a new piece of shipboard equipment takes 25 years or more to complete because the entire process has prescribed phases and milestones that must occur sequentially. For the PWP, the Navy originally planned to begin research, development, test, and evaluation (RDT&E) in 1990 and complete fleetwide installation in 2001, an 11-year process. The Navy has taken actions that should further accelerate the schedule.

4.

Impediments To Full Compliance By 1994

The Navy cannot fully comply with zero-plastics discharge requirement of MPPRCA and Annex V by December 31, 1993 because:

- 1) The shipboard solid and plastics waste management equipment cannot be developed and installed on all ships by that date;
- 2) Food-contaminated plastics waste cannot be stored on board for more than 3 days without unacceptable odors and potential health, sanitation, and fire risks; and
- 3) Suitable nonplastic substitutes for all plastic items taken on board are not available.

4.1 Availability of Shipboard Solid and Plastics Waste Management Equipment

The Navy cannot develop, test, produce, and install on all ships, the shipboard equipment needed for full compliance by January 1, 1994. The three pieces of shipboard solid and plastics waste management equipment (metal/glass shredder, solid waste pulper, and plastics waste processor) are at different stages of development in a Navy laboratory.

The most important piece of equipment for eliminating the last 27 percent of plastics waste discharges is the plastics waste processor (PWP). The PWP is in the third year of an accelerated development schedule at the Navy's David Taylor Research Center. The planned schedule for completing development and installation of the equipment is presented in Section 3 of this report.

4.2 Inability to Store Food- Contaminated Plastics On Board

Without proper equipment on board to compact and sanitize food-contaminated plastics wastes, Navy ships cannot store such wastes for more than 3 days without causing unacceptable odor problems, increasing risks of fire and pestilence, and exceeding on board storage capacity. The Navy assessed various alternatives to discharging food-contaminated plastics waste, including odor barrier bags, washing and sterilizing wastes, and at-sea waste transfers to garbage

very little personal storage area. Sailors have already given up personal space to store groceries so ships could complete operations without resupply. Now, they are giving up more living space so they can store the trash they once were able to throw over the side.

Odor Barrier Bags

For the past two years, the Navy has been experimenting with different materials for making odor barrier bags and different methods for properly sealing the bags. Navy researchers have identified a plastic resin that can be fabricated into bags capable of containing odors from decaying food wastes for 30 days. However, the bags must be sealed carefully and properly. Two researchers were needed to manually evacuate and properly seal a bag using a portable pump and a hand sealer. The researchers did identify and successfully test a commercial machine (costing approximately \$8,000 each) that allowed one person to evacuate and seal a bag.

The Navy has demonstrated that special odor barrier bags can contain odors under experimental conditions. However, several practical problems have not been resolved yet. First, the bags are not commercially available and would have to be specially fabricated for the Navy's use. Second, handling and storing large numbers of bags for up to 30 days without puncturing some bags may be difficult to achieve in practice. Third, Navy ships do not have sufficient extra space on board to dedicate to waste storage. Lastly, there are potential health and fire risks associated with storing bags of food-contaminated wastes on board for extended periods.

The Navy plans to continue investigating the issues associated with using odor barrier bags to store food-contaminated plastics wastes on board for more than 3 days. If suitable storage space can be found on ships and the health and safety risks are acceptable, odor barrier bags may be an acceptable option.

- Increasing the amount of material transferred by high wire increases the risk of personnel injuries on the sending and receiving ships;
- Extending the "alongside" period of retrograde waste would unnecessarily endanger the sending and receiving ships; and
- Receiving ships would be exposed to unnecessary sanitation risks because the ships do not have on board facilities to properly store the odoriferous and unsanitary plastics waste.

Garbage Barges

Garbage barges are feasible for waste transferred in port and are used by the Navy in foreign ports. They are not suitable for routine at-sea transfers because towing speeds for the barges are too slow to keep up with ships underway. A fleet of special high-speed garbage ships would have to be designed, constructed, and maintained for the Navy to routinely transfer wastes at sea. Such a fleet, again while theoretically feasible, would be costly and its operation would impose the same logistical, sanitation, and safety risks as retrograding wastes at sea.

The potential number and costs of high-speed garbage ships to service the entire Navy fleet throughout the world can be estimated by analogy to the Navy's fleet of oilers (i.e., Navy ships that carry and deliver oil to ships underway). While underway at 12 to 13 knots, Navy ships typically receive fuel every 3 days from oilers. The fleet currently includes 34 oilers to maintain the capability to refuel ships throughout the world's oceans. If a garbage ship were to accompany each oiler as it delivered fuel, 34 high-speed garbage ships would be needed. The annual cost per garbage ship could be approximately \$13 million, which is the annual lease price the Navy currently pays the Military Sealift Command for each high-speed ship that delivers supplies and retrogrades materials from Navy ships at sea. Therefore, a fleet of special garbage ships could cost \$440 million per year (once the ships were designed, constructed, and delivered).

While the Navy is making progress with substituting nonplastic items, packing, and packaging for plastic ones, the prospects for eliminating a significant portion of plastics taken on Navy ships are poor. The prospects are worse for significantly reducing the remaining plastics waste discharges (i.e., food-contaminated plastics) by substituting nonplastic materials. Plastic packaging of foods is so beneficial for food preservation, freshness, and taste, that the adverse consequences of switching to nonplastics may exceed the benefits of reducing plastics on ships.

5.

Navy Ships That Cannot Achieve Full Compliance

At this time, the Navy cannot foresee any technological breakthrough that would allow two categories of ships, submarines and surface ships operating in special areas, to fully comply with MPPRCA and Annex V requirements.

5.1 Submarines

Navy submarines will continue normal waste management practices. Submarines have extremely limited space and an added requirement to store plastics waste would create unacceptable health and safety problems. However, submarines have small crews and generate relatively little plastics waste. The submarine crews currently remove unnecessary wrappings from supplies before the supplies are taken on board. At sea, the solid waste is compacted and placed in sinkable metal containers, which are discharged when the submarine is operating more than 12 nm from shore and in waters greater than 6,000 feet deep. On-board segregation and storage of plastics on submarines is not practicable because of space limitations and the closed environment.

5.2 Ships Operating in Special Areas

Navy ships operating for extended periods in special areas designated by Annex V cannot fully comply with the nonplastic discharge limitations of Annex V because of insufficient storage space for solid wastes. Annex V prohibits the discharge of any solid waste, except for food wastes when beyond 12 nautical miles from shore, in designated special areas (e.g., Mediterranean, Baltic, North, Black, and Red Seas, and the Persian Gulf area). Once shredders are installed, Navy ships will shred trash into sinkable forms, but the ships do not have room to store the bagged trash and must discharge them overboard if operating for more than three days in a special area. Many Navy ships will have a metal/glass shredder, solid waste pulper, and plastic waste processor. Some smaller ships; however, will be able to only accommodate a shredder or a pulper.

6.

Beyond Annex V

6.1 Environmentally Sound Ships

To protect maritime environmental quality, the Navy is taking actions that go beyond MPPRCA and Annex V requirements. The Navy has established the goal of achieving environmentally sound ships of the 21st century that will be able to treat or destroy all wastes on board. The Shipboard Solid and Plastics Waste Program will eliminate floating debris discharges worldwide. The Navy is also investigating degradable materials and plastics waste recycling options.

We expect naval ships operating in the 21st century to meet increasingly stringent environmental regulations. The Navy has a comprehensive shipboard pollution abatement program under way that will enable ships of the 21st century to be environmentally sound. The goal is for ships to operate worldwide without potential for regulatory constraints, inappropriate dependence on shore facilities, or unreasonable costs imposed by environmental regulations. The basic strategy is to:

- (1) design and operate ships to minimize waste generation and optimize waste management, and
- (2) develop shipboard systems that will destroy or appropriately treat the wastes generated on board.

If wastes are unavoidable and cannot be destroyed or retained on board for recycling ashore, they must be sufficiently treated to make all overboard discharges environmentally insignificant. We have not yet achieved the ultimate solution for on-board destruction for any shipboard wastestream, but we have made considerable progress in developing on-board capabilities to treat or process solid waste, oily waste, hazardous materials, and medical waste.

6.3 Recycling Plastics Waste

Ultimately, it may be possible to recycle the plastic that the ships return to shore, rather than dispose of it in landfills. The Navy is evaluating methods and program options for recycling plastics waste in partnership with the Society of the Plastics Industry Council for Solid Waste Solutions. An initial pilot study was conducted in 1990 to recycle plastics waste removed from an aircraft carrier and other ships. The plastics waste from the ships was washed, separated, and baled ashore, and then transported to a commercial recycling facility where it was made into plastic lumber for picnic tables, park benches, fence posts, and pallets.

The next phase of the Navy's recycling efforts is a larger, areawide demonstration project around the Norfolk, Virginia Naval complex. The Norfolk project integrates the plastics waste recycling effort with an overall program to improve solid waste management and disposal costs around Norfolk. If successful, the Navy will encourage other Navy facilities to undertake similar programs.



Pictured above is a bench made from recycled Navy shipboard plastic waste.

7.

Recommendations

The Navy offers the following recommendations to the Congress:

1. Modify MPPRCA to exempt Navy submarines from MARPOL Annex V requirements.
2. Change MPPRCA requirements for surface ships to prohibit discharge of plastics and "floating" debris, rather than the current prohibition of all solid wastes discharges (except food wastes beyond 12 nautical miles) in Annex V special areas.
3. Increase the period for Navy compliance with MPPRCA by 5 years.

The Navy supports a national goal of full compliance with Annex V requirements and is working hard to achieve that goal. Beyond Annex V, the Navy has established an objective of achieving environmentally sound ships of the 21st century. The Navy now is taking all reasonable measures to minimize discharges in special areas and from submarines, and will continue searching for suitable technologies that will treat or destroy all wastes on board. The Navy will report annually to concerned Federal agencies on the discharges not authorized under Annex V from submarines and from ships operating in special areas. The Navy will also submit every 5 years to concerned Federal agencies a report reviewing the latest technologies for solid waste management aboard ships, including submarines, and the suitability of the technologies for Navy ships and submarines.